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Title of Thesis: **OPEN SPACE QUALITY AND SUSTAINABILITY:** The Spatial Aspects of Low Cost Condominium Neighbourhood Open Spaces in Addis Ababa

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ABSTRACT

Urban redevelopment is the effort currently undergoing in the city of Addis Ababa. This research examines a phenomenon currently happening in the open spaces of Addis Ababa condominium neighbourhoods. It focuses on spatial aspect and sustainability of condominium neighbourhood open space. The research investigated the phenomenon through analysing two selected case study areas located in Kirkos and Nifassilk-lafto Sub cities of Addis Ababa. The research method used is a case study method in which both primary and secondary data were collected through qualitative and quantitative technique. The qualitative data analyses are done through discussion, comparative analysis of empirical observation and mapping. Random sampling method is applied to choose households during the survey. This research is carried out from the perspective in which quality and sustainability of open space is viewed as a significant element of organisation. Two categories of activities were used to evaluate the quality of open space and the result shows that necessary activities have been the dominant one, which leads to conclude that outdoor spaces are found in poor spatial qualities. However, most of the times a majority of open spaces is found to be dull and inactive, it was able to identify major uses and activities of open space. The research found a distinguished edge and central space within a defined open space in which the first is most chosen by the residents than the later. The study also found three major approaches of open space management in which the first is run by condominium owners association, the second is by business owners and the third is by self-motivated dwellers. A close connection between pedestrian movement, road hierarchy within the neighbourhood, and provision of commercial services are revealed by this study. Furthermore, lack of proper open space management, inefficient use of existing features and assets, poor arrangement of landscaping elements have heightened the un-sustainability of the study areas in spatial aspects. Finally, based on the findings of the study recommendations are forwarded.

Keywords: Quality, Landscape, Open space, Sustainability, Activity,

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Abbreviations

Co= common

CBE=Commercial Bank of Ethiopia

EEPCO=Ethiopian electric power corporation

IHDP=Integrated Housing development Office

WCED=World Commission on Environment and Development

OECD= Organisation for economic co-operation and development

RHS=Rectangular hollow section

Sc=Scientific

Spp=Species

Local Terms

Kebele=Local Government, the smallest Administrative unit

Meda=open field

Teletafi suk=Small kiosks on streets built in the period of Myer Arkebe

CHAPTER ONE

INTRODUCTION TO THE STUDY AND RESEARCH METHOD

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1. INTRODUCTION TO THE STUDY

The rapid growth of towns and cities in the nineteenth century led to calls for parks to be provided for the health of factory workers and consequently it benefited society as well. This could be seen as an early precedent to highlight the role of open spaces in supporting what we now call sustainable development (Shirley, 2005).

Moreover, over the past decades, changes in the urban environment have attained a new scale and acquired new qualities: today urban landscapes are distinguished by changed lifestyles and rapid expansion of settlement areas (Adam, et al, 2003). This transformation also changes our way of looking at urban landscapes and shaping the pictures we have of them. Our images form the basis for the future design and development of these spaces. In view of the enormous and rapid changes in urban landscapes, assuring a continued good quality of life becomes a prime responsibility. At the same time, these changes provide the opportunity to take an active part in shaping developments (ibid).

Therefore, this study investigates open spaces of condominium housing located on the inner city and periphery of Addis Ababa with the case study areas taken on LEGEHAR-GUMURUK and GOFA-MEBRATHHAIL Condominium neighbourhoods.

The research paper is categorized in to five chapters. The first chapter included motivation of the study, scope and limitation of the research, statement of the problem, the research question and the research method. The research method section discusses the type of research method selected for this study, why it is chosen. The criteria used to select the case study areas are also discussed. In addition, this section explains, the source of data and data collection methods. The following chapter review literatures on the topic of landscape, open space and sustainability. The third chapter presents the contextual background for the study. Under this chapter, relevant issues related to the development of public open spaces in Addis Ababa city like the city's early development and past planning practices and approaches are discussed. The fourth chapter contains analytical framework, description of the two case study areas, and analysis of the research. Chapter five summarizes the research finding .in addition, the research recommendation which is intended to improve the existing

condominium neighbourhood open space and give lessons on the future provisions of open space in Addis Ababa condominium neighbourhoods is forwarded.

1.1. Motivation of the study

The experience of living in different condominium neighborhoods is the main motivation of the study. Living in these housing schemes, which are built as a result of redevelopment of the inner city of Addis Ababa, one can drive in to do something about the open spaces of the condominium housing. The open spaces are non-managed and are seldom. They are not used efficiently and the residents are not getting the benefits of these open spaces; they are just ideal spaces with no proper design and greenery. It seems as if only the building blocks and walkways are the major concern of the projects. As a result major works should be done to make this ideal and dull open spaces a more user friendly, active, pleasing, and at the same time beneficiary; since there are going to be more large development projects in a significant land the problems on the current open spaces needs a solution before it's too late to handle.

1.2. Statement of the Problem and the research question

Addis Ababa, the capital city of Ethiopia and a “diplomatic capital” of Africa, was established in 1886. The city's early development with uncontrolled growth of traditional neighbourhoods around the first urban component are the main features of today's Addis Ababa. However, in order to change these unplanned developments and establish a formalized way of urban development that leads to right growth direction, the implementations of different city scale urban plan have been carried out.

Even though, these efforts have contributed to the provisions of a few urban open spaces that facilitate the social and cultural activities for the city dwellers, yet the city is characterized by poor urban image due to several problems of spatial and environmental.

Urban Open spaces have a wide range of benefits to the economy (healthier, happier, and therefore more productive workers), social interaction (people relaxing and meeting in the parks) and the environment which can be created due to the provision of open spaces along street and different places of urban

areas creating micro ecological sphere (Shirley, 2005). In a similar fashion neighbourhood open spaces are one of the spatial units of a city in which face-to-face interactions exist and personal settings, situations where residents seek to realise common values and maintain effective social cohesion (<http://en.wikipedia.org/wiki/Neighbourhood>).

Similarly, neighbourhood open spaces in Addis Ababa have been contributing a positively for the residents. They function as playing areas; as social areas where residents perform, religious and socio-cultural and customary activities.

The Addis Ababa city administration launched grand low cost condominium housing projects through the Integrated Housing Development Programme (IHDP) in 2006 to minimize housing backlog, slums, and to provide decent shelter to middle and low-income groups. Sites were randomly selected for the projects on open spaces in the inner city and some on the periphery of the city. However, the projects have displayed problems with regard to design consideration after beneficiaries occupy the new houses.

Emaculate, et al (2010) described that these condominium neighbourhoods have shortage of provisions of social spaces, children play grounds, places for traditional activities, spice drying areas and car parking areas.

Moreover, UN-HABITAT (2011) indicated that this condominium neighbourhood project programme lacks systems in place for post-occupancy engagement on issues such as community cohesion, maintenance of communal areas, and the establishment of community groups and community based management of communal facilities.

Therefore, the problems stated above led to a quest for quality and sustainability of condominium neighbourhood open spaces through forwarding the following research questions:

How do the neighbourhood open spaces of Addis Ababa perform in term of social, cultural and economic use?

What kind of activities takes place in the neighbourhood open spaces of Addis Ababa?

To what extent do the open spaces of Addis Ababa condominium sites benefit the dweller?

1.3. Objective of the Study

The main objective of the research is to investigate how the current neighbourhood open spaces are working by raising related issues to draw lesson from it and forward recommendations. In addition to this, the research shall also have the following specific objectives:

- To understand and analyse features of condominiums open spaces in Addis Ababa
- To assess how the residents perceive the open spaces of a condominium neighbourhood
- To forward recommendation, which might help to improve the existing condominium neighbourhood open space in Addis Ababa and also forward important lessons for the future provisions of open space in Addis Ababa condominium neighbourhoods

1.4. Scope and Limitation of the research

The research has limited both in the subject matter and in spatial extent. It focuses on the spatial aspect of neighbourhood open spaces without ignoring the social aspect in the city of Addis Ababa. The case studies for the research are limited to geographic boundaries of the Addis Ababa city and focused on specific neighbourhood open spaces. Accordingly, two neighbourhood sites have been selected to conduct the research. These are LEGEHAR-GUMURUK and GOFA-MEBRATHAIL condominium sites.

There was some limitation during data collection particularly during interview some of the residents were uncooperative assuming the researcher is from government office. The other limitation was that most of the dwellers are tenants whose length of stay in the neighbourhood is for a short period and it was time taking to find dwellers that stayed for a longer time or those are the actual owners.

1.5. Research Method

This research aims to understand and describe the phenomena, which are happening in the open spaces of Addis Ababa condominium housing sites. In addition, these phenomena vary with respect to their context. For the research outcome to be credible, understanding the local context is very essential. Therefore, in order to get a deeper understanding about what is happening in a certain local context, which have its own planning character and peoples who live in the area, case study method is the right choice. In addition to this, Robert.K.Yin(1994), stated in his book that a case study method should be considered when:

- The focus of the study is to answer ~~how~~ ~~and~~ ~~why~~” questions
- Behaviour cannot be manipulated in those involved in the study
- To cover contextual conditions which are relevant to the phenomenon under study
- The boundaries are not clear between the phenomenon and context.

As it is indicated in the above ~~How~~” and ~~Why~~” questions, contextual conditions direct towards using a case study method. As a result, case study method is chosen to do this research.

1.5.1. Choice of method

This research has been conducted on two case study areas, which enables the researcher to see differences between case areas because, comparisons have been drawn. It is imperative that the case study areas are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results.

The other advantage of using more than one case study is to get deeper understanding about the phenomenon without comparison just by extracting diverse or similar evidences from the cases.

Furthermore, The case study method is preferred because it provides much more detailed information and also allow one to present data collected from multiple methods (i.e., surveys, interviews, document review, photograph, and observation) to provide the complete story. In light of the above relationship, case study method is found to be best for this research. On the contrary, the

case study method has disadvantages According to Robert K.Yin,(1994), the case study method has the following drawbacks.

- Possible biases in data collection and interpretation
- Hard to generalize from a single case
- Hard to draw definite cause-effect conclusions

1.5.2. The research approach

This research has mainly focused on describing and analysing the open spaces found in condominium sites with particular emphasis on quality of open spaces and its contribution for the sustainability of the neighbourhood.

The fact that the scale of open spaces in the urban context can range from public urban open space to private residential open space, neighbourhood open space is found between the two extremes, urban and private residential. In this regard, most of Addis Ababa is condominium site open spaces can be best related with the scale of neighbourhood open space.

1.5.3. Selection of cases

In order to get relevant primary data and for the ease of the survey, the author has given priority for the neighbourhood sites where I have been living and individuals in these area whom he can approach. Other case study area selection parameter considered was the temporal dimension by assuming relatively old site, can display the effects of the phenomenon that have happened through time. Furthermore, in order to see different scenarios of open space the first case study area, Legehar-Gumuruk condominium site is selected from the inner city of Addis Ababa while the other study area, which is Goffa-Mebrat Hayil, is selected from the periphery.

1.5.4. Source of Data and Data collection Techniques

Multiple sources of data have been used for the purpose of investigating different dimensions of the research object. Primary data was collected through fieldwork, observation of study area, interview and informal discussion with residents, AAIHDPO officials, condominium owner association officials of the case study areas. In addition, drawings and maps were collected from AAIHDPO. Secondary data were collected from official reports of government institutions, previously conducted studies, journal articles, book publications.

I. Interview

Interview is one of the data collection techniques where questions are forwarded from interviewer to respondent in a face-to-face situation. There are three kinds of interviews: Structured, semi structured and unstructured (Abiy Zegeye,et.al,2009). Further Robert.K.Yin,(1994) described an open-ended form of interview is most commonly used for case study interviews.This research have employed semi-structured interview which is found in between the two extremes, structured and unstructured interviews and open-ended which, allows a large number of interviews.

During the course of interview, there were a pre- determined questions, which were responded to the interview in a particular order and issues to be covered in the course of the interview. This has been giving me the chance to change the sequence and form of question in order to follow up the answer given by the interview. These interviews have been made with concerned stakeholders as residents of the neighbourhoods under investigation, members of the condominium neighbourhood Association and woreda administration.

Furthermore, random sampling method was employed to select the household from which the data to be collected. For instance in case I twenty-eight-sample household has interviewed from all the seven condominium blocks that lay on the study area. Regarding case II 60 sample households are randomly selected for interview. For both case areas, the randomisation was carryout by obtaining the housing number offered by the office of IHDPO.

II. Observation

Data collection through observation is useful for discovering how individuals or group of people behave, act and react. There are two ways of collecting data through observation (a) participant observation (b) direct observation. This research have been used the direct observation. Because, the researcher can simply document the phenomena that he observes like, residents activities both stationary and in motion without taking him into the situation.

During the course of fieldwork, this way of data collection has been helpful in the situation that the residents were not cooperative for interview and difficult to take photographs.

III. Mapping and photograph

The study has extensively employed mapping during the fieldwork which was helpful in documenting people's activities on the selected case areas for a certain amount of time and using this technique, peoples activities on the selected case areas have been studied by documenting both stationary and activities in motion like walking. This technique has been performed at the different hours of the day in the weekdays. In addition, it was worthy in mapping the physical setting of these spaces.

Similarly, photographs have been taken extensively during field survey for gather information about activities of residents through time, how open spaces in the case study areas are used, how the circulation of residents into and through these spaces looks like and for other objectives of the study.

IV. Documents

Secondary data was collected from various organizations for example; maps have been obtained from actors who are involved in the condominium housing project development and implementation, government regulation and strategic documents, condominium owner's association regulation documents have been used for analysing and investigating the phenomena in the case areas.

1.5.5. Data analysis and presentation Techniques

Both qualitative and quantitative data analysis method are used. The qualitative data analyses are done through discussion, comparative analysis of empirical observation and mapping. The quantitative data analyses are done through interpretation of numbers and percentages. Discussions and interviews are summarized and interpreted through tables. Finally, the analysed data are presented with maps, tables, graphs and pictures obtained during field survey.

1.5.6. Reflection on the case study research method

The author found the case study research method allow to explore extensively about the case study areas of my research.in addition the nature of the method is flexible and has helped me to conduct the study guided with what I observe in the field.

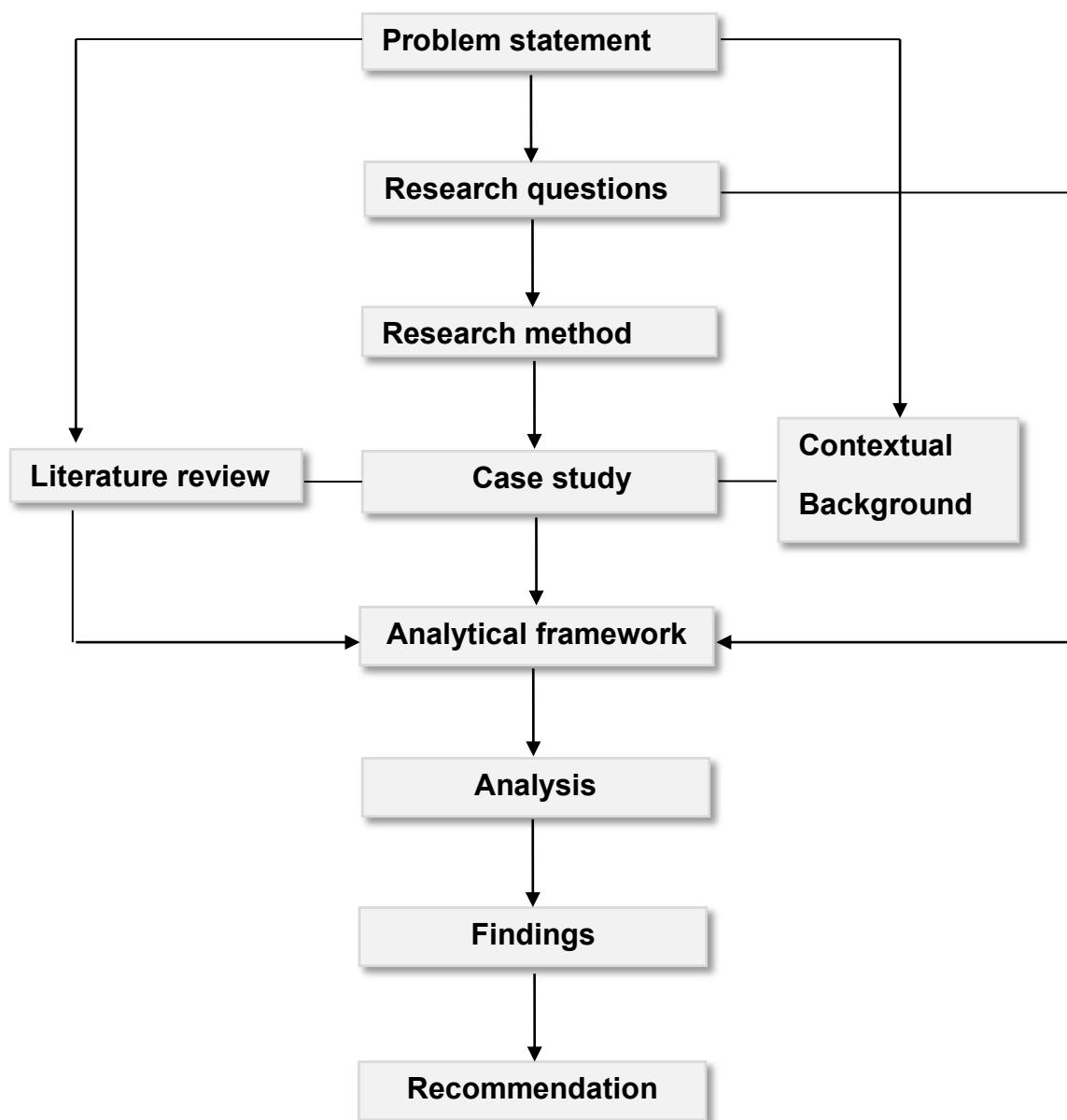


Fig. 1 Schematic diagram showing the research design

CHAPTER TWO

LITERATURE REVIEW

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“The meanings of places may be rooted in the physical setting and objects and activities, but they are not a property of them—rather they are a property of human intentions and experiences”.

Edward Relph

2. LITERATURE REVIEW

2.1. Introduction

As this research tries to investigate the spatial aspects of condominium neighbourhood open spaces literatures, which are highly associated with the subject matter of this research has reviewed. Hence then the literature has included three major areas these are landscape, urban open space and sustainability. Regarding landscape, the literature has discussed with in the context of urban development and the types of landscaping. The primary human needs in urban open space, the social use of space, factors that influence use and experience of space, the type of outdoor activities that determine qualities of open space have been explored under the urban open space section. In addition, Sustainable development and urbanisation, sustainable city region and issues that determine the role of open space in achieving sustainable neighbourhood have been assessed. Based on these literatures, the analytical frame works have developed and gives direction to the analyses and findings of the research.

2.2. Landscape

2.2.1. Meaning

The term landscape is used in a wider sense to mean a tract of land shaped over time by geological and biological processes; by human occupation and agency, and by human imagination. The core and unifying value of the concept is the way in which it signifies and captures natural features, cultural features and values, (Roe, 2007).

According to Laurie Olin cited in Treib, (1995) the meaning of landscape termed as natural or evolutionary: Generally these are related to aspects of the landscape as a setting for society and have been developed as a reflection or expression of hopes and fears for survival and perpetuation. More simply stated significance that grows through use and custom.

Moreover, Treib classified the meaning of a landscape with five approaches. These are the Nearchaic, the Genius of the Place, the Zeitgeist, the Vernacular Landscape, and the Didactic.

- The Neoarchaic: it is the approach that links the past and the present. If a landscape design meant something in the past of course with appealing form, then it will mean something again to us today.
- The Genius of the Place: it is the approach of shaping a landscape with the belief that reflecting a pre-existing condition creates a design more meaningful to the inhabitants
- The Zeitgeist approach: which stresses the spirit of the time as a Determining force for any aspect of contemporary culture, For example a landscape designed with contemporary art-like elements share the significance of zeitgeist approach.
- The Vernacular Landscape: it is the approach which landscapes design uses the vernacular as a source of material and form.
- The Didactic approach dictates that forms should tell about the natural workings or history of the place so as to give result based on the analysis of what the genius told

However, the term landscape has varied definitions. In some places, landscape meant an expanse of scenery of a particular type especially as much as can be seen by the eye; in others, a tract of land with distinguished characteristics and features, especially considered as a product of shaping processes and agents. (Burchfield,1976);in others, it is the world around us and everything that we see or feel wherever we go; its limits are those of human vision and motion, and such physical obstacle as may exist ;in others, a compositional element of Landform, Vertical Structures, Horizontal Structures (paving),Vegetation, Water and Climate(Dee,2001); in others it is one continuous experience in time and space throughout the life of every human being

Generally, Eckbo (1964) summarizes the landscape, as it is continuous visually as far as we can see from where ever we are and continuous physically as far as we can go from wherever we are. These two factors, working together, are the basic design controls for the humanized landscape.

2.2.2. Landscaping

According to Carmona (2003), Landscaping is frequently an afterthought in urban design, something to be added if the budget allows and once the major decisions have been taken, to hide poor quality architecture; and as a way of

filling left-over space. Carmona also indicated that well-designed landscaping adds quality, visual interest and colour, poorly designed landscaping detracts from otherwise well-designed developments. The broader landscape and, by inference, landscape design involves not only visual aspects, but also fundamental concerns for ecology, hydrology and geology.

Carmona further clarifies that: greening of towns and cities represent a key sustainability objective. Trees and other vegetation can be particularly effective in reducing carbon dioxide build-up and restoring oxygen; reducing wind speeds in urban spaces; acting as shelterbelts; and filtering dust and pollution. Similarly, in this book “The Dynamic Landscape” Dunnett and Hitchmough (2004) describes that: there is mounting evidence that environmental quality is one of the factors that has a direct effect on the health and well-being of people in urban areas; This goes much further than a simple feeling of uplift at the sight of colourful flowering vegetation.

Therefore, a positive approach to landscaping is needed, in which its contribution to the totality of the urban environment is considered. Hence, landscape design strategies should be developed before or in parallel with the building design process and play an integral part in all embracing urban design framework.

2.2.3. Urban Landscape

There are two main types of flooring in the urban landscape. These are hard and soft landscaped surfaces.

I. Hard landscaping

In urban contexts, the ground plane often needs a built surface. Floors and the quality of pavements have a strong influence on the daily experience of city dwellers. The importance of surfaces in contributing to good landscapes is often underestimated. Materials used for floors and their composition in design are extremely diverse (Dee, 2001).

Floor scape is an important part of a harmonious and integrated whole. A floor scape’s character is substantially determined by the materials used, the way they are used, and how they interrelate with other materials and landscape features.

According to Carmona(2003), the patterning of the floor of urban spaces results from utilitarian considerations, which may also have an aesthetic effect, and from attempts to organise the space aesthetically. However, the primary function of any paved area is to provide a hard, dry, non-slip surface to carry the traffic load. Different traffic loads can be reflected in different flooring materials and construction methods, which also indicate where different types of traffic should go. Floor scape patterns often perform the important aesthetic function of breaking down the scale of large, hard surfaces into more manageable, human proportions. (See fig.2 below).



Fig. 2 A vibrant street floor pattern, street furniture and landscaping elements.
Source: Carmona, et al. (2003) and PPS (2005)

II. Soft Landscaping

Soft landscaping can be a decisive element in creating character and identity. For instance, a street side planted with by Oak vegetation gives a different character to Pine Street. Trees and other vegetation express the changing seasons, enhancing the temporal legibility of urban environments.

Thus, if deciduous trees are used, the containment and character of the space will change with the seasons. Landscaping also often plays an important aesthetic role in adding coherence and Structure to otherwise disparate environments. Much of the appeal of mature garden suburbs, for example, derives from the continuity of the landscape structure, which enables a diversity of architectural treatments to work harmoniously. In this context, the landscaping plays a crucial role in joining up the environment. Trees and other vegetation provide a contrast with, and a foil to, hard urban landscapes, and add a sense of human scale. In some streets, trees reinforce or provide a sense of enclosure and continuity, but in all urban environments trees need to be sited positively.(carmona,2003)

Theory of visual composition and making spaces with plants that is as sophisticated as that associated with buildings and urban space. Given a formal setting, siting may involve a degree of regimentation, with trees planted in straight lines or formal geometric patterns rather than picturesque groups(Robinson ,1992, cited in Carmona, 2003)

Soft landscaping in urban areas can be selected and designed according to a special theme for each area. It provides a sense of place in addition to its other amenities. Therefore, planting in a certain landscape should be carried out taking account of themes; the climate of the locality; and also soft landscaping of a type and size appropriate to the area should be used(see fig.3 below).

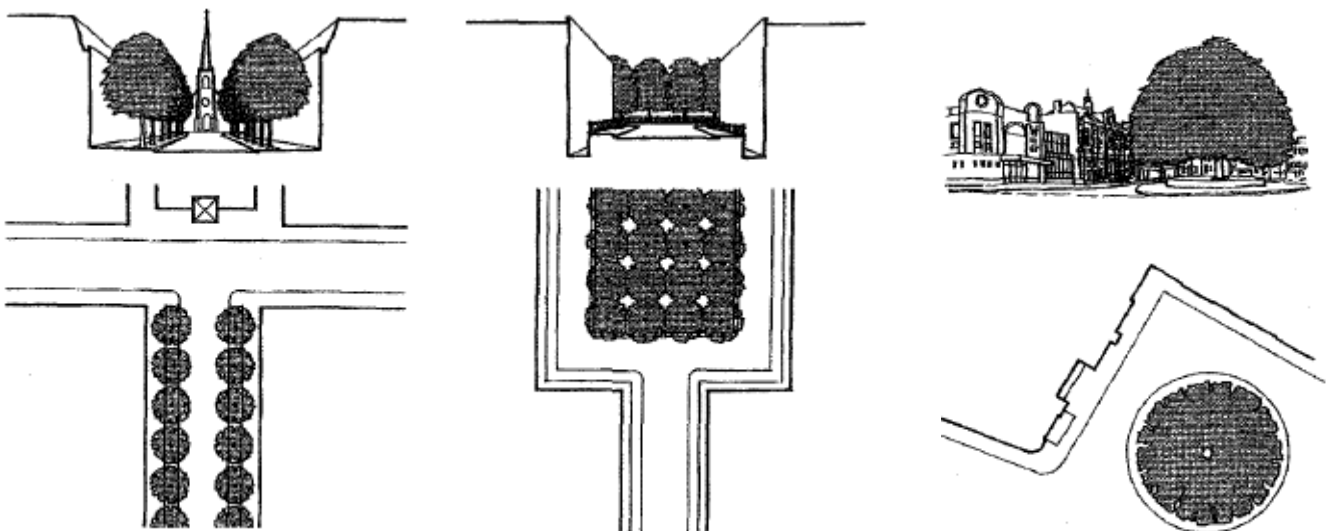


Fig. 3 Soft Landscaping in urban areas,
Source: Carmona, et al. (2003)

2.3. Urban Open space

Urban open space can be defined without imposing aesthetic criteria as space between buildings in urban area that is geometrically bounded by a variety of elevation. However, the aesthetic quality of each element of urban space is characterised by the structural interrelation of detail, Krier (1979).

Krier, further described that: street and squares are the two basic elements of urban space. In terms of interior space, street can be related with corridor and square is related with room but the geometrical characteristics of both spatial forms are the same.

Subsequently, regarding urban space, Trancik (1986) cited in Carmona, et.al, (2003), has made a clear distinction between "hard space", on one hand which is principally bounded by architectural walls, the floor and the imaginary sphere of the sky overhead and on the other hand "Soft space" of parks, gardens and linear green ways, which have less enclosure or defined boundary and are dominated by the natural environment.

Outdoor open spaces can be considered in terms of positive space and negative space. Further, Carmona, et.al. (2003) argued that positive urban space is relatively enclosed, outdoor space has a definite and distinctive shape. It is conceivable, measurable and has definite boundaries. Although positive urban spaces come in a variety of different sizes and shapes, there are two main types: 'streets' (roads, paths, avenues, lanes, boulevards, alleys, malls, etc.) and 'squares' (plazas, circuses, piazzas, places, courts, etc.). In principle, streets are 'dynamic' spaces with a sense of movement, while squares are static spaces with less sense of movement.

In addition, Trancik, (1986) cited in Carmona (2003) argued that the open spaces in urban area can be termed as "urban void". Subsequently, Trancik classified these urban voids into five; based on the role they play in the urban environment. These are

- The entry or foyer space that establishes the important transition, or passage from personal domain to common territory. In form this type of urban space can be fore court; mews; niche; lobby or front yard;

- The inner block urban space- a semi private space for leisure or utility or a mid-block shopping oasis for circulation
- The streets and urban squares are the third types and this category corresponds to the predominant field of blocks and it contains the active public life of the city;
- Public parks and gardens are the fourth ones and they help to create a contrast with architectural urban forms. Acting as nodes for the preservation of nature in the city, they are incorporated into the urban grid to stimulate rural settings, to provide both relief from the hard urban environment and accessible recreation; and
- The linear open space system commonly related to major water features such as rivers, waterfronts, and wet land zones. These formal and informal greenways slice through districts, creates edges and link places.

2.3.1. Traditional city spaces

From the historical perspective, city space has served mainly for three functions. These are as meeting place, marketplace and connection space. As a meeting place, the city was the scene for exchange of social information of all kinds. As a market place, the city space served as venues for exchange of goods and services and the city streets provided access to and connections between all functions of the city. Gehl and Gemzoe, (2001) cited in Thompson and Travlou,(2007).

Apparently, activities of a town take place in public and private sphere .the behavioural patterns of people are similar in both. The result is that the way in which public space has been organised has an influence on the characteristic of private space.

According to Carmona, et al, (2003) Reacting both to Modernist approaches and to contemporary development patterns, interest in the relationship between built space and open space are increasing which has led to attempts to organise the parts so that the whole is greater than the sum of its individual buildings and developments. Such approaches have often taken reference from the traditional urban space of blocks formed by the connected mass of individual background buildings defining or defined by positive spaces .

As well as being a reaction to the Modernist attitude to the past, this also demonstrated a new interest in and concern for the continuity of places.

2.3.2. The primary needs of peoples in the urban space

Urban open spaces should be designed and managed to serve the needs of their users.

A successful place supports and facilitates activities. According to Carr et al. (1992) cited in Carmona(2003) argued that, there are five needs that people seek to be satisfied in public space these are 'comfort'; 'relaxation'; 'passive engagement with the environment'; 'active engagement with the environment'; and 'discovery'.

- **Comfort:** - Comfort is a prerequisite of successful public spaces. The length of time people stay in a public space is a function and an indicator of its comfort. The dimensions of a sense of comfort include environmental factors (e.g. relief from sun, wind, etc.); physical comfort (e.g. comfortable and Sufficient seating.); and social and psychological comfort which is related to sense of security. However, the physical design of the space and its management strategy can enhance the sense of comfort
- **Relaxation:** - regarding the need of relaxation in open space Carr et al., (1992) cited in Carmona (2003) described that a sense of psychological comfort may be a prerequisite of relaxation, relaxation is a more developed state with the body and mind at ease. To this point Carmona further states that natural elements trees, greenery, water features and separation from traffic help accentuate the contrast with the immediate surroundings and make it easier to be relaxed.
- **Passive Engagement:** - While passive engagement with the environment can lead to a sense of relaxation it also involves ~~the~~ need for encounter with the setting, albeit without becoming actively involved” Carmona ,2003 from Carr et. al.).perhaps the prime form of passive engagement is people watching. Carmona added that what attracts people is other people and the life and activity that they bring.

- The most used sitting Places are generally adjacent to the pedestrian flow, allowing observers to Watch people while avoiding eye contact. Opportunities for passive engagement are also provided by fountains, views, public art performances, and so forth.
- **Active Engagement:**-Active engagement involves a more direct experience with a place and the people within it. Carmona (2003 from Carr et. al, 1992) noted that, although some people find sufficient satisfaction in people watching, others desire more close contact, whether with friends, family or strangers.

According to Whyte (1980) cited in Carmona (2003)found that public open spaces were no ideal places' for 'striking up acquaintances', and that, even in the most sociable of them, there was 'not much mingling'. The coincidence of people in space and time does. However, in the same book Carmona argues that public open space can furnish opportunities for social interaction among peoples.

Furthermore, Carmona describes the design of public spaces can create or inhibit opportunities for contact. Unusual features or occurrences can result in what Whyte (1980)calls "triangulation": the process by which some external stimulus provides a linkage between people and prompts strangers as if they know each other to talk to each other. In this regard, the project public space (1999) observes how triangulation occurs spontaneously where there is something of interest, such as the life size fibre glass cow in Chicago (see fig 4 below).



Fig. 4 When art helps the process of triangulation in public open space.
Source: Carmona, 2003

- **Discovery:** -Representing desire for new spectacles and pleasurable experiences, discovery depends on variety and change. While these may simply come with the march of time and the cycle of seasons, they may also result from the management and animation of public life. Discovery also might involve programmes of animation. Involving for example lunch time concerts, art exhibitions, street theatre, festivals. Parades, markets, society events and trade promotions, across a range of times and venues.

2.3.3. The social use of space

The study made with regard to how people use public space considered off-peak use provided the best clues to people's preferences. When a place was crowded, people sat where they could rather than where they most wanted to. Later, some parts emptied while others continued to be used. The study also found that most spaces contained well-defined sub places - often around the edge - where people preferred to be, and arranged to meet. Whyte, (1980, 1988) cited in Carmona (2003). In addition Whyte noted that, the most sociable spaces usually possessed the following features:

- A good location, preferably on a busy route and both physically and visually accessible.
- Streets being part of the 'social' space - fencing off a space from the street isolated it and reduced its use.
- Being level or almost level with the pavement (spaces significantly above or below this were less used).
- Places to sit - both integral (e.g. steps, low walls); and explicit (e.g. benches, seats, etc.).
- Movable seats, enabling choice, and the communication of character and personality.

2.3.4. Factors influence People use and Experience of Space

According to Dee,(2001), a wide range of factors influence people's use and experience of spaces and therefore determine how they might be designed. Children, adults, elderly people, different ethnic groups and cultures, men and women all experience and use places in different and distinct ways, as well as

in similar ways. The design of spaces should always be informed and underpinned by an understanding of different people's needs and activities and experiences of landscapes.

Public space need to function for an extremely wide range of uses including.

- social and recreational purposes, for example, gathering eating, dancing
- work, for example, buying, selling, mending, studying
- health and fitness
- aesthetic and cultural purposes (linked to social and recreational)
- Ecological and environmental purposes.

Dee further noted that the human use and experience can be affected with the following factors. These are form, character, proportion, scale and microclimate of spaces, and their relationship to other spaces.

- **Form of Space:** - Space design involves the generation of specific forms or shapes for places. There are many ways of doing this, but some common methods by which designers create and articulate form are through the use of: interpretation of existing site forms, geometry, metaphor, symbolism, abstraction and use of natural forms, archetypes, vernacular, and historic paradigms.
- **Space enclosure:**-In design, enclosure by vegetation, landform, structures or water in wall planes enables the definition and separation of spaces and their related human activities. The type and degree of enclosure affects human experience and use, microclimate and character.
- **Scale of Space:**- Scale refers to the perceived relative size of parts of the landscape to each other, to human size and to the emotional effect of this relative size. Hence, judgements can be made about scale. 'To large or small in scale' can refer to relationships of parts of a landscape or to the size a person feels in relation to a landscape. Scale can also refer to size in relation to human activity.
- **Proportion of Spaces:**-Proportion refers to the relative dimensions of parts of a three-dimensional form or space. The designer adapts and

composes the relative length, width and height of a space or series of spaces and so decides on proportions.

- **Space relationships:**-The design of landscapes involves not only the design of single spaces but deciding how different spaces should be related to each other. The designer can organise space relationships by thinking about how places might be experienced and used.
- **Microclimate of Space:**-Enclosure substantially affects microclimate and therefore human comfort and use. In temperate climates, warm south-facing walls ripen fruit and enable tender plants to be grown. A south-facing bank is good for basking in the sun. Broad trees provide dappled shade, cooling the air and making sitting spaces. Pines and dunes protect places from coastal winds. Open valleys channel cooling winds into hot cities.

2.3.5. Neighbourhood open space

According to Farr, (2008) Neighbourhood open spaces such as parks and plaza are among the neglected public realm in town planning. Quality of neighbourhood life can be greatly enhanced just by prime location, which is a short walking distance from a large population and provision of neighbourhood parks. Further, he noted that in master planned development, a network of new smaller parks is relatively easy to plan and can be built over time, phased in with the surrounding developments. Small parks are amazingly difficult to develop in existing cities, despite their important contribution to liveability. Before a neighbourhood development implemented, on planning stage, the issue of liveability in any way should be ensured perhaps with the provision of open spaces.

2.3.6. Open Space Morphology of Neighbourhoods

Open spaces in neighbourhoods are defined as any un built land within the boundary or designated envelope of a neighbourhood which provides, or has the potential to provide, environmental, social and/or economic benefits to communities, whether direct or indirect. (Campbell, 2001 cited in Khalid, 2008). He differentiated vegetated from non vegetated open space which leads to the following typological classification.

- I. **Green space:** - a sub-set of open space, consisting of any vegetated land or structure, water or geological feature within urban areas
- II. **Grey space (sometimes referred to as “civic space”):-** a sub-set of open space, consisting of urban squares, market places and other paved or hard landscaped areas with a civic function.

Moreover, he classified in to seven distinct sub-sets of publicly accessible green spaces based on a specific and distinct primary function. These are

- **Parks and gardens:** areas of land, normally enclosed, designed, constructed, managed and maintained as a public park or garden. They can be either urban parks or country parks depending primarily on their location. They often incorporate other types of green space, such as children’s play areas and sports facilities, but their primary function is for informal activity or relaxation, social and community purposes. Some parks and gardens may also be designed landscapes of historical importance, where they are of national significance.
- **Amenity green space:** Managed and maintained landscaped areas with no designated specific use by people, but providing visual amenity or separating different buildings or land uses for environmental, visual or safety reasons. They may also be used, incidentally, as wildlife habitats.
- **Children’s play areas:** Designated and maintained areas providing safe and accessible opportunities for children’s play, usually linked to housing areas and therefore normally set within a wider green environment of amenity open space. The primary function of these areas is to provide safe facilities for children to play, usually close to home and under informal supervision from nearby houses.
- **Sports facilities:** Designed, constructed, managed and maintained large and generally (although not always) flat areas of grassland or specially designed artificial surfaces, used primarily for designated sports. The primary function of these areas is to accommodate practice, training and competition for recognized outdoor sports.
- **Green corridors:** Routes linking different areas within a town or city as part of a designated and managed network and used for walking, cycling or horse riding or linking towns and cities to their surrounding countryside or country parks. The primary function of green corridors is to allow safe, environment-

friendly movement within urban areas. Moreover, they support wild life colonization and therefore habitat creation.

- **Natural/ semi- natural green spaces:** undeveloped land with little or only limited maintenance which have been planted with wild flowers or colonized by vegetation and wildlife. They also include woodland, railway embankments, river and canal banks and derelict land, which may in some cases be thought of as temporary natural green space. The primary function of natural green spaces is to promote biodiversity and nature conservation.

2.3.7. Construction of places

The genius loci or spirit of place often persists in spite of profound changes. Many cities and countries have retained their identities in the face of significant social, cultural and technological change (Carmona et.al. 2003).

The sense or spirit of place to a brand that connotes certain expectations of quality, consistency and reliability: 'Every place is potentially a brand. (Sircus, 2001 cited in Carmona,2003)

Furthermore, Rulph (1976) cited in Carmona (2003) argues that 'physical setting', 'activities', and 'meanings' constitute the three basic elements of the identity of Places. Sense of place does not, however, reside in these elements but in the human interaction with these elements (See Fig.5 below).

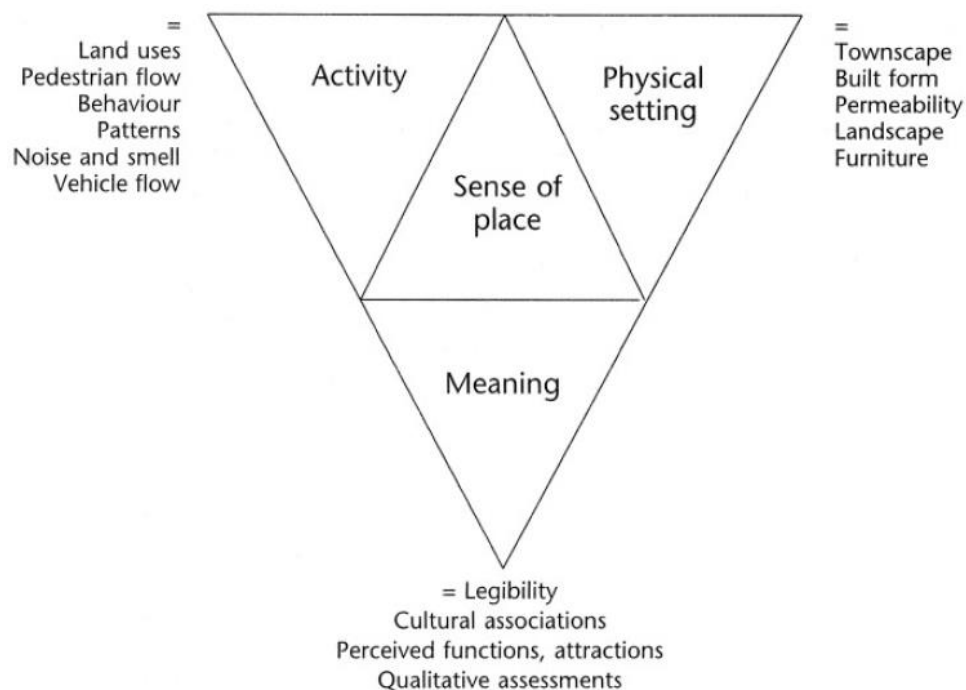


Fig. 5 How urban design actions can contribute to and enhance the potential sense of place

2.4. Quality of open space

The quality of public open space depends on the type of user activities (Gehl, 1980). These activities further categorized in to three: **necessary activities**, **optional activities** and **social activities**. Furthermore, findings of several researchers regarding the success and failure of public open space shows three key qualities these are, **use**, **activity** and **circulation** (project for public space,2005).

2.4.1. Space use

The modern development planning uses the road network as the key structural element, a sustainable design takes the circulation of people on foot and bike and the effectiveness of public transport as starting points (Barton, 1996 cited in Khalid, 2008). However, creating neighbourhoods where walking is the natural and pleasurable means of access between activities achieves much of sustainability goals and objectives (National Neighbourhood Coalition, 2005cited in Khalid, 2008). Moreover, it becomes a social activity in its own right. Thus the number of people on the streets and paths itself provides security

2.4.2. Activities on the open space

Among the outdoor activities, pedestrian pass on the sidewalks, children play near to front doors, people sit on benches and steps, passengers greet on the sidewalk, group engaged on conversation. A number of conditions influence this mix of outdoor activities. Physical environment is one of the factors that influences the activities to a varying degree and in many different ways (Jan Gehl, 2001, cited in carmona and Tiesdell, 2007)

Outdoor activities in public space can be divided into three categories, each of which places very different demands on the physical environment necessary activities, optional activities, and social activities (see fig.6 below).

I. Necessary activities

Necessary activities include those that are more or less compulsory these are going to school, work, shopping, waiting for a bus or a person running errands, distributing mail in other words, all activities in which those involved are to a

greater or lesser degree required to participate. In general, everyday tasks and pastimes belong to this group. Among other activities, this group includes the great majority of these related to walking.

Because the activities in this group are necessary, their incidence is influenced only slightly by the physical framework. These activities will take place through the year, under nearly all conditions, and the more or less independent of the exterior environment.

II. Optional activities

These activities are possible if there is a wish to do so and if time and place make it possible. This category includes such activities as taking a walk to get a breath of fresh air, standing around enjoying life, or sitting and sunbathing. These activities take place only when exterior conditions are optimal, when weather and place invite them. This relationship is particularly important in connection with physical planning because most of the recreational activities that are especially pleasant to pursue outdoors are found precisely in this category of activities. These activities are especially dependent on exterior physical conditions. When outdoor areas are of high quality, necessary activities take place with approximately the same frequency though they tend to take a longer time, because the physical conditions are better. In addition, however, wide range of optional activities will also occur because place and situation now invite people to stop, sit, eat, and so on.

When the quality of outdoor space is good, optional activities occur with increasing frequency. Furthermore, as level of optional activity rise, the number of social activity usually increases substantially (See Fig.6below).

| Category | Open space quality | |
|---|--------------------|------|
| | Poor | Good |
| Necessary activities | ● | ● |
| Optional Activities | ● | ● |
| “resultant” activities (Social activities) | ● | ● |

Fig. 6 Graphic representation of the relationship between the qualities of outdoor space
Source: Jan Gehl, 2001, cited in carmona and Tiesdell, 2007

III. Social activities

Social activities are all activities that depend on the presence of others in public spaces social activities include children at play, greetings and conversations, communal activities of various kinds, and finally-as the most wide spread social activity passive contacts, that is simply seeing and hearing other people.

Different kind of social activities occur in many places: in dwellings; in private outdoor spaces, gardens, and balconies; in public buildings at place of work. And so on. These activities could also be termed resultant activities, because in nearly all instances they evolve from activities because people are in the same space, meet, pass by one another, or are merely within view.

2.4.3. Circulation

One can judge the accessibility of open space by its connections to its surroundings, both visual and physical. A successful public space is easy to get to and get through; it is visible both from a distance and up close. The edges of a space are important as well: For instance, a row of shops along a street is more interesting and generally safer to walk by than a blank wall or empty lot. Accessible spaces have a high parking turnover and, ideally, are convenient to public transit.

2.5. Sustainability

2.5.1. Historical development of sustainability Concept

Late nineteenth and early twentieth century social reformers sought to draw attention to the deterioration of urban conditions and the need for alternative living environments. One of the most influential of these writers was Ebenezer Howard with his book called “garden cities” published 1898 have inspired generation of urban planners and designers (Wheeler and Beatley, 2009).

Howard grappled with issues of urban sustainability more than a century earlier and he developed his argument around the now famous diagram of three magnets (See Fig.7 below).



Fig. 7 Howard's Diagram of the "three magnets"
Source: Wheeler and Beatly ,2009

The late Victorian city offered social and economic opportunity but those who moved from the country to seek this, encountered overcrowded slum housing and a polluted and unhealthy environment. They left behind a countryside of open fields and fresh air but a place with few jobs, little scope for social interaction and often, equally squalid housing conditions. Howard envisioned a third town and country magnet, which sought to combine the strengths of town and country (Handley et al., 2007).

Apparently, Howard's search for a balance between city and country life is still central to the task of creating more sustainable communities.

2.5.2. Sustainable development

The most widely known definition of sustainable development is that of the World Commission on Environment and Development(1987), also known as the Brundtland Commission: Sustainable development is development, which meets the needs of the present without compromising the ability of future generations to meet their own needs.

According to OECD, (2008) at the core of sustainable development is the need to consider "three pillars" together: society, the economy and the environment. No matter the context, the basic idea remains the same – people, habitats and economic systems are inter-related. We may be able to ignore that interdependence for a few years or decades, but history has shown that before long we are reminded of it by some type of alarm or crisis.

Furthermore, Haughton and Hunter, (2003) there are three basic principles for sustainable development

- **Principle of inter-generational equity:** In considering any human activity, the effects on the ability of future generations to meet their needs and aspirations must be considered. Also sometimes called the principle of futurity.
- **Principle of social justice:** This is concerned with current generations, where poverty is seen as a prime cause of degradation. Sustainability requires that control over distribution of resources be more evenly exercised, taking account of basic needs and common aspirations. Wider participation in environmental strategies and policies is an integral element of achieving this aim, sometimes also known as intra-generational equity.
- **Principle of Trans frontier responsibility:** At the broad level, stewardship of the global environment is required. More specifically, trans frontier pollution needs to be recognised and controlled. Where feasible, the impacts of human activity should not involve an uncompensated geographical displacement of environmental problems.

Furthermore, Haughton and Hunter noted that, the essential defining characteristic of sustainable development is its emphasis on futurity or inter-generational equity in terms of access to beneficial aspects of the environment. Such inter-generational equity requires that natural capital assets of at least equal value to those of the present are passed on to future generations

2.5.3. Sustainable city region

Century ago the notion of sustainability had been captured in the town planning principles. According to Handley et.al (2007) Citing hall and ward, (1998), in reality there is third alternative of life beyond “town life” and “country life”. in which all the advantages of most active and energetic town life ,with all the beauty and delight of the country ,may be secured in perfect combination and the certainty of being able to live this life will be the magnet which produce the effect for which we are all striving. The spontaneous movement from our crowd city to the inspirable earth at once the source of life, of happiness, of wealth and power.

The way to achieve this, Howard argued, was to create a very new town in the middle of the countryside, beyond the sphere of influence of the city, where land could be bought at depressed agricultural values. The benefit that urbanisation should bring would be captured to create a common wealth of opportunity with in the emergent town.

Furthermore, hall and ward explained that the 1990s term sustainability worked out was what garden city all about. They further explained about the astonishing fact of Howard’s plan. how faithfully it follows the precepts of good planning a century later that is a walking scale settlement, within which no one need a car to go anywhere; the densities are high by modern standards, thus economising on land; and yet the entire settlement is suffused by open space both within and outside sustaining a natural habitat.

As the garden city approached its planned limit of 32,000 people, another city would be created close by, and then others, with a rapid transit system to connect them eventually the whole forming a cluster of settlements which Howard called the social city. The notion of the social city lives on spatial development perspective that advocates a poly centric and more balanced

system of metropolitan regions, city clusters and city networks (European Commission, 1999, cited in Benson.J and Roe.M, 2007)

2.5.4. The contribution of urban landscape for sustainability

The design of local landscapes, with in the urban area should always be considered in the context of the global environment. This is of particular importance in relation to sustainability and the need to protect natural places, systems and resources. Landscapes are part of natural systems, which support life. Design can contribute to or detract from these systems.

The primary natural systems and elements, according to Dee (2001), that form the context for, and may be altered in, landscape design are local climate, Local hydrology, Local geology and geomorphology, Local soils, Local vegetation, Local air, Local fauna, Local ecosystems.

All of these aspects need to be surveyed and evaluated before landscapes can be changed in design. Dee further describes that: the natural elements of water, topography and vegetation in the urban areas are the ‘material’ of design along with processed substances. Similarly, Handley,et.al. (2007) citing Hall and ward,(1998) discuss other aspect that can affect the contribution of urban landscape for sustainability. Which says, the provision of high quality public realm with in towns and cities with an accessible and well managed open space network are an essential component for sustainable city.

The other point to be discussed here with the aspect that can affect the contribution of urban landscape for sustainability. in this regard, Dunnette (2007) further elaborates that: Open spaces in the urban area is one of the vital component of urban landscape, it is also defined as part of the urban area that contribute to its amenity, either visually by contributing to the urban landscape, or by virtue of public access. Open space and particularly the parks and green space within it confer two important benefits on city living. They have an existence value, which people recognise because the spaces are there and contributing to the urban landscape, and a use value for recreation and enjoyment. (See fig.8 below)

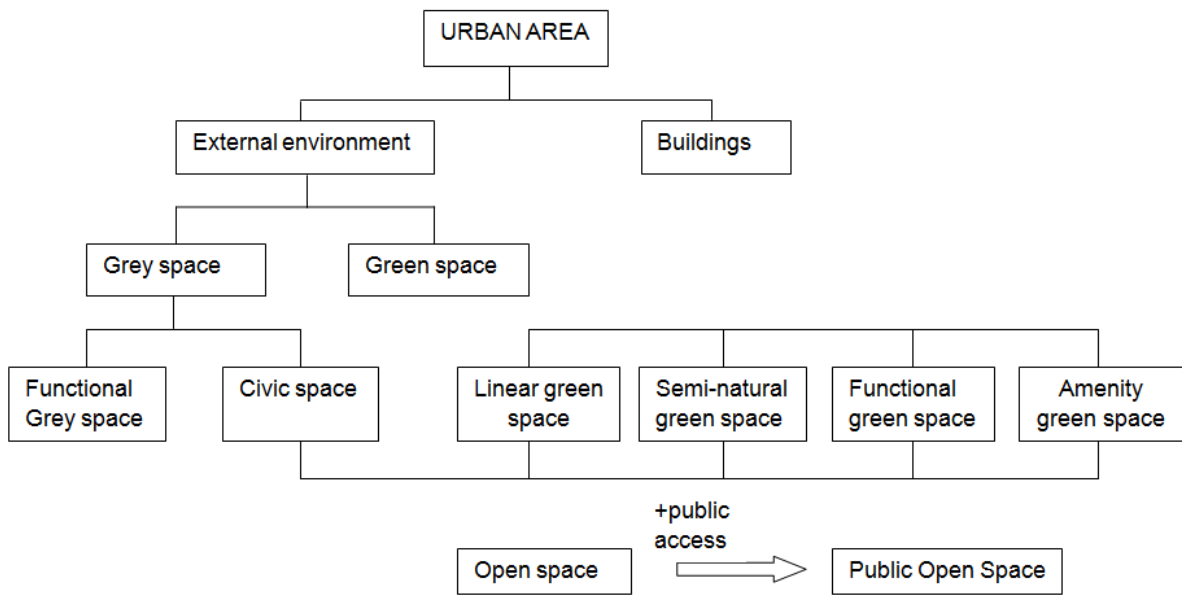


Fig. 8 A classification scheme for urban open space.
 Source: Benson and Roe, (2007)

2.5.5. The Role of Open Space in Achieving Sustainable neighbourhood

The role that is assigned to open spaces to play within the neighbourhood structure, to achieve sustainability goals and objectives, is formulated in three key issues; open space management, space use; circulation of people; permeability, and the role of landscape elements within space (sustainable landscape) (Campbell, 2001, et. al, cited in Khalid, 2008). Furthermore, detail studies made on the above three core issues have listed as follows

I. Space Management

Space management is a key issue to be taken into consideration. As in open space terms, sustainability is a function of the interrelationship between design and management .according to Campbell, 2001 and Ironside, 1999 cited in Kahlid,2008 it includes encouraging sustainable lifestyles, for example by providing paths and cycle routes, making maximum use of existing features and assets, strengthening the sense of place, incorporating local or recycled materials, encouraging community participation and involvement, reducing inputs of non-renewable resources during construction and subsequent maintenance, eliminating or reducing the use of herbicides and resources that affect other ecosystems, encouraging habitat creation and native planting

III. The role of Landscape elements within space

Landscaping elements are the basic constituent of any open space's structure. They have to be utilized to achieve sustainability goals at the micro level. Accordingly, Janis Birkeland 2004 cited In Khalid draws a framework for sustainable landscaping elements that point out as follows

- The landscape elements should respond to the site, designing in harmony with its distinctive character to enable the unfolding of the landscape's ecological potential over time. This involves creating connections and themes (functional and perceptual as well as spatial) within and across sites while defining and delineating boundaries, transforming site constraints into environmental opportunities.
- maximizing the diversity of landscape elements and the diversity of relationships between elements,
- Creating opportunities for the emergence of self- sustaining and self-regulating systems in the landscape.

2.6. Summary of literatures

As a whole, the literatures incorporated in this study were relevant and directly related with title of this research. The literatures reviewed are generally deal on, landscape, urban open space and sustainability. Urban open spaces can be described as a sub set of urban landscape, therefore; literatures discussed about landscape addresses the issue of open space in its own right. In addition, type of user activities and three key qualities: use, activity and circulation, which show the success and failure of public open space has covered.

Furthermore, the issue of sustainability, which has been grappled by scholars' century earlier, the three pillars of sustainability, and issues on Open Space in achieving sustainable neighbourhood have been reviewed.

CHAPTER THREE

CONTEXTUAL BACKGROUND

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It is worth mentioning that the concept of reserving areas in a city for parks is rather alien to Ethiopian culture and history. Thus, it is as significant to not find parks in the city, as it is to find a few parks introduced through outside influences, as in the case today. However, functional gatherings of people are common in many places.”

Johnson Martin Eric

3. CONTEXTUAL BACKGROUND

3.1. Introduction

Ethiopia, found in the northeast of Africa (horn of Africa), is the second most populous country in the Africa after Nigeria with 79 million (UN- Habitat, 2011) the project population in 2007) with an area of 1,128,176 sq.km. it is located between 3 and 5 degrees north latitude and 33 and 46 degrees east longitude. The country is bordered on the northeast by Eritrea and Djibouti, on the east and southeast by Somalia, on the southwest by Kenya, and on the west and northwest by Sudan.

Ethiopia has an elevation ranging from 500m to 3,700m above sea level. because of its location near the equator, elevation has a very strong influence on temperature and, to a lesser extent, on rainfall. The altitude difference is the basis for the existing six ecological zone divisions called bereha,kolla,Woina Dega,Dega,wurch and Kur.

In the bereha zone, the terrain is below 500 meteres in elevation, is referred as hot low land of the country. Kolla refers low lands with an elevation between 500 and 1,500 meters with average annual temperature of 27 degree Celsius and its annual rainfall is less than 510mm.parts of the county with elevation between 1,500 and 2,300 meters above sea level refered as the woina Dega zone. it covers the lower area of the plateau and has an average temperature of about 22 degree Celsius with annual rainfall rages from 510 to 1,525 mm. the rest ecological zones are wurch and kure ,both refers the highlands areas with an altitude of 3,200 -3700 meters, above 3,700m respectively.

Urbanisation in Ethiopia goes as far back as fourth century AD during the Axumite kingdom but it has slow development history (Yonas,2003).However, other urban formations was noticed during 9th. 12th in lalibela (Yonas,2003) , 16th and 17th century in Gondar (Mihiretu,2005). Generally, reasons for the limitation of the urban development process in the ancient Ethiopia was frequent wars, limited trade, constant change of military headquarters of kings and nobility (Mihiretu.2005).

According to UN-HABITAT (2007), the recent urbanization in Ethiopia is about 17% which is less by far from the average 38% urbanization of Africa continent

(UN-HABITAT, 2001 cited in Elias, 2008).currently urbanization in Ethiopia is one the phenomenon moving at alarming rate with high population growth which is estimated at 5-6 % per year (Elias,2008). According to the UN-HABITAT (2007) urbanisation rate was 5% in most central areas and roadside settlements.

Ethiopia has passed four ruling classes during the past hundred years. Currently the country is following a federal system of administration and divided in to fourteen regional states. Two of them are city-states, Addis Ababa and Dire Dawa. Addis Ababa is the capital city of Ethiopia and seat of various international organisation headquarters. It covers 54 ha of land with population size of 3, 200, 2000(Elias, 2008) which consists 29% of the country urban population (Ashenaffi ,2001). (See fig.9).

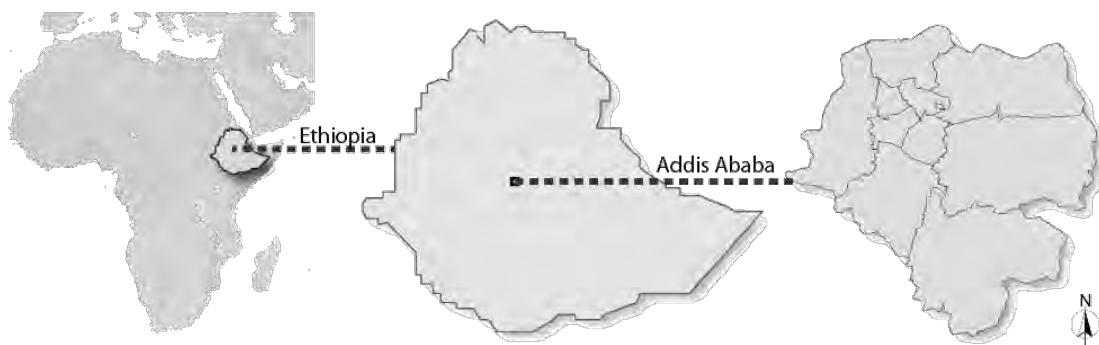


Fig. 9 Location of Ethiopia and its capital city Addis Ababa
Source: developed from Encarta (2009) and Line map of Addis Ababa (2001)

Addis Ababa is located at 9°2' North of the equator and at 38°34' East of the Greenwich line, nearly at the geographic centre of the country. Part of the shewa plateau of the central highlands, which is located west of the Great Rift Valley covers Addis Ababa and the altitude ranging from 2,000 up to 2,500 meters above sea level is where most of the city built up area found (Ashenaffi ,2001). Addis Ababa is bounded by hills and mountains in four directions , entoto hill from north, Mount wechecha, repi and furi from the west and south west and yerer mountain and other volcanic cones from east and south. The entoto high land found at the north of Addis Ababa is the place where four main streams, Qabama,kachene,Qurtume and Akaki ,emerging and drain mist of the city area. These landforms and rivers are the major landscape elements that have played a great role in guiding the urban growth as well as structure and form of the city (Ashenaffi ,2001).

3.2. The Formation of Addis Ababa

Addis Ababa is founded in 1886 by emperor Menelik II up on his desire to have a strong and modern capital. Initially the city was established on “Entoto” which is the mountain currently found at northern part of Addis Ababa, later the Emperor went down to “*finfine*”, southward from the mountain (Kumlachew, 2007). The strategic location, the availability of favourable climate conditions, adequate water supply was some of the primary reasons for selection of Addis Ababa site as the capital city by the emperor (Ashenaffi, 2001).

The city is formed spontaneously, without prior thought. The first settlement plan for Addis Ababa was prepared Emperor Menelik and empress Taitu, which allocates land for the nobility, the military, and church. Eventually, newcomers begin to attach to the immediate vicinity to the encampments creating *sefer* that is now called neighbourhood (Ashenaffi, 2001) (see fig. 10 below.).

Moreover, Lord Edward Gleichen, who was in Ethiopia in 1897 with a British diplomatic mission to Ethiopia, explained the early development of the city as: at the beginning when viewed from the dominating Entoto Mountain, the town landscape showed clusters of huts surrounded by fences and, overall, a large number of white tents spreads everywhere, particularly at the fringes, this gave the town the appearance of gigantic camp (Kumlachew, 2007).



Fig. 10 The Taitu-Menelik development plan showing the spontaneous *sefer* (neighbourhood)

Source; Elias, 2008

3.3. Historical development of open spaces in Addis Ababa

The early spatial organisation of Addis Ababa has greatly influenced the current form of open spaces of the city. The early settlement pattern of the city was formed based on the traditional layouts of feudal power (Kumalachew, 2007 cited from Dendena, 1995). Moreover, during the first year of the city's life, Emperor Menelik granted land to the noblemen of his court for residential purpose, competent lords in order to control them and prevent their conspiracy and almost every chief of the province of Ethiopia has his compound in Addis Ababa (Cultural Heritage Promotion, 2005).

This can be noticed as the formation of the first outdoor open spaces within residential compounds of the city which can actually be considered as plots within the old unplanned neighbourhood. After a particular period, these settlement areas developed to a number of residential clusters, in its own right creating territory that separate from one another by natural barriers like shrubs and ravines. As the increase of population and expansion of clusters, the need of other larger common meeting places began to be formed. The "Ghibi", where currently it is found around the grand palace area, the churches, and the Arada market area were those common meeting places.

Moreover, Johnson explains the city's evolution in his PhD. thesis as follows "People, to pay homage to the king promoted the development of commercial services around the Ghibbi and it made the Ghibbi an important place of public meeting and gathering. Arada became more important because of the increase of regional supply of basic items to the city and its being centre for the surrounding areas as well as other regions. The services of commercial activities make Arada the most popular fabric of the city with its scene of varied life of the people". (Kumalachew, 2007). Increase of population and the coming and going of regional governors and other

In related situation, "Jan hoy Meda" which is currently known as "Jan Meda" was another open public space used for social gathering and race course for horses in the early development period of Addis Ababa. (Kumalachew, 2007). Currently "Jan Meda" is working as important open public spaces of the city, which functions as: a festival ground for the citywide "Timket" celebration-(Feast of the

Epiphany) and a site for sport activities such as horseracing, athletic tournaments, and football.

Additionally, in 1903 a huge open area called “Jan hoy Meda” was established. This Popular area was used as a race course for horses as well as a place for state and social gathering.” (Kumlachew,2007 cited from Johnson, 1976).

In light of the above, open spaces in the early development of the city have been playing a great role in creating opportunity for social and cultural development. The city early lay out was developed without any use of formal plan. The forms of its urban open spaces come out as the builders built houses and street.

However, Kumlachew noted in his MSc thesis, that the quality of their physical and spatial development as an urban space was very poor and characterized by spontaneously grew and fragmented spaces. The obstacles was the built up spaces in Addis Ababa by the early development were the results of strong territoriality tradition between individuals that influence the land occupation and location of individual houses; absence of the tradition of city building; and giving strong emphasis on domestic life rather than public life.



Fig. 11. “Gibbi” one of the early urban open space of Addis Ababa
Source:Kumlachew,2007



Fig. 12 “Arada” one of the early urban open space of Addis Ababa
Source: Kumlachew, 2007

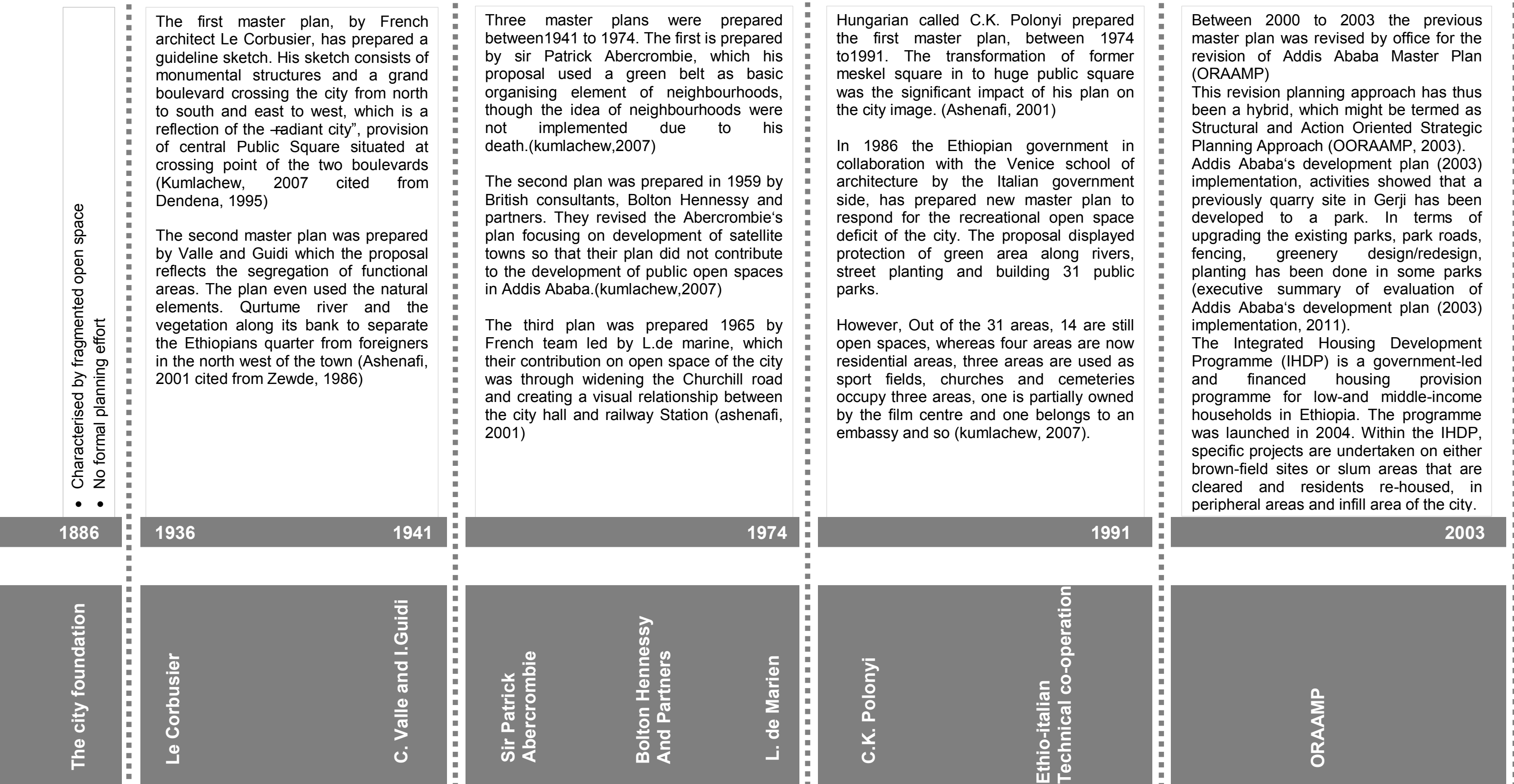
Another example of open space that have been emmerged between the establishment of Addis Ababa and the italians occupation ,which served the city as social gathering place,ceremonial gathering and recreation was St.George node which currently known as the piassa area .

In this regared,Johnson (1976) has explained the place as follows:

“It is worth mentioning that the concept of reserving areas in a city for parks is rather alien to Ethiopian culture and history. Thus it is as significant to not find parks in the city as it is to find a few parks introduced through outside influences, as in the case today.However, functional gatherings of people are common in many places. Areas such as the St. George node do serve as a place of rest, social gathering, and ceremonial activities and even for recreation. First, of course, the forested spacious church area itself is a gathering place for thousands of people at frequent occasions. Secondly, there is a small triangular area southwest of the church that has been made into the beautiful small municipal park that serves as the setting for the monument of Meneilik II, founder of the city and of modern Ethiopia, is located just outside the main gate of the church. Third, a place with a huge tree served as a central place for administering of justice. Here courts were held and judgements were meted out including using branches of the tree to carry out the death sentence by hanging. The fifth function of St. George node was terminated in 1960.Previous to that date the large open paved space near the main gate served as the main focus for the city wide Maskal celebration which is climaxed by the burning of a 30-40 feet high tepee shaped cluster of poles decorated with Maskal flower.This ceremony, celebrating the finding of the true cross (Maskal) is also a spring festival coinciding with the end of the main rainy season “kiremt”. (Johnson, 1976 cited in Kumlachew, 2007)

3.4. Review of planning efforts and open space in Addis Ababa

In the history of Addis Ababa about eight formal master plan were prepared with in about the past 70 years



3.5. Condominium housing process in Addis Ababa

3.5.1. Site selection

Initial site investigations are based on the 1997 Addis Ababa master plan, where potential sites are considered in terms of providing suitable settings for the construction of new buildings and analysis of the existing green- and brown-field sites (UN-HABITAT, 2011). Consultants are hired to conduct a series of detailed studies on the area including the carrying capacity of the site; the local environmental aspects; the existing water supply and access roads; any existing pollutants and their potential relocation; the community's desire for condominiums; and the physical and economic frameworks that exist. Consultants also look at the impact a large-scale residential development would have on the existing social structure of the area. If the studies conclude the site is suitable for condominium development, a request is forwarded to the Land Board, headed by the Mayor of Addis Ababa, to secure the land for a condominium project. Despite one of the IHDP's main objectives which is carry out slum upgrading, so far the implementation of the programme in Addis Ababa as much as possible has been carried out in open spaces or on grounds up to then reserved for purposes other than housing. The major reason for this approach has been to avoid the social costs and resistance from residents due to slum clearance inflicted on residents.

3.5.2. Neighbourhood design and implementation

Each condominium project follows a similar process. A generalised overview of project design and implementation steps for projects in Addis Ababa is provided below. The length of time each stage takes varies greatly across condominium sites.

1. Addis Ababa City Administration selects and surveys potential site
2. Request for approval put forward to the Land Board
3. Apply for Government bonds from CBE
4. HDPO competition released for site master plan
5. Shortlisted entrants develop design
6. Presentation of designs to stakeholders

7. Design amendments made by HDPO
8. Construction contractor vacancies released
9. HDPO hires contractors and sub-contractors
10. Condominium construction commences (first construction of houses, then infrastructure)
11. When construction is 80 per cent complete, lottery registration opens
12. Lottery draw and results dissemination
13. Winners have one month to claim condominium units
14. They then pay down payment to CBE and sign General Agreement with HDPO
15. General Agreement sent to CBE and Land Authority
16. Construction complete
17. Key is given to beneficiaries

CHAPTER FOUR

CASE STUDIES

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4. CASE STUDIES

4.1. Introduction

Two case areas are discussed in this chapter of the research. The case areas are LEGEHAR -GUMURUK condominium Site and GOFA- MEBRAT HAYIL Condominium Site. As it is described on the neighbourhood planning and design manual prepared to achieve the goals of condominium housing development program, there are four major categories of project sites these are inner city site, expansion (peripheral) site, sloppy site, level or flat site. Accordingly, the research selected the sites from the four major site locations: Legehar Gumuruk condominium site can be expressed as a neighbourhood found within inner city site and developed in the urban infill scheme; and while the GOFA- MEBRAT HAYIL condominium site is developed on the peripheral area.

The city Addis Ababa is divided in to ten administrative kifle ketemas. Kirkos and Nifas silk-lafto are among the sub cities, where LEGEHAR- GUMURUK and GOFA -MEBRATHAYIL sites are located respectively (see fig.13 below).

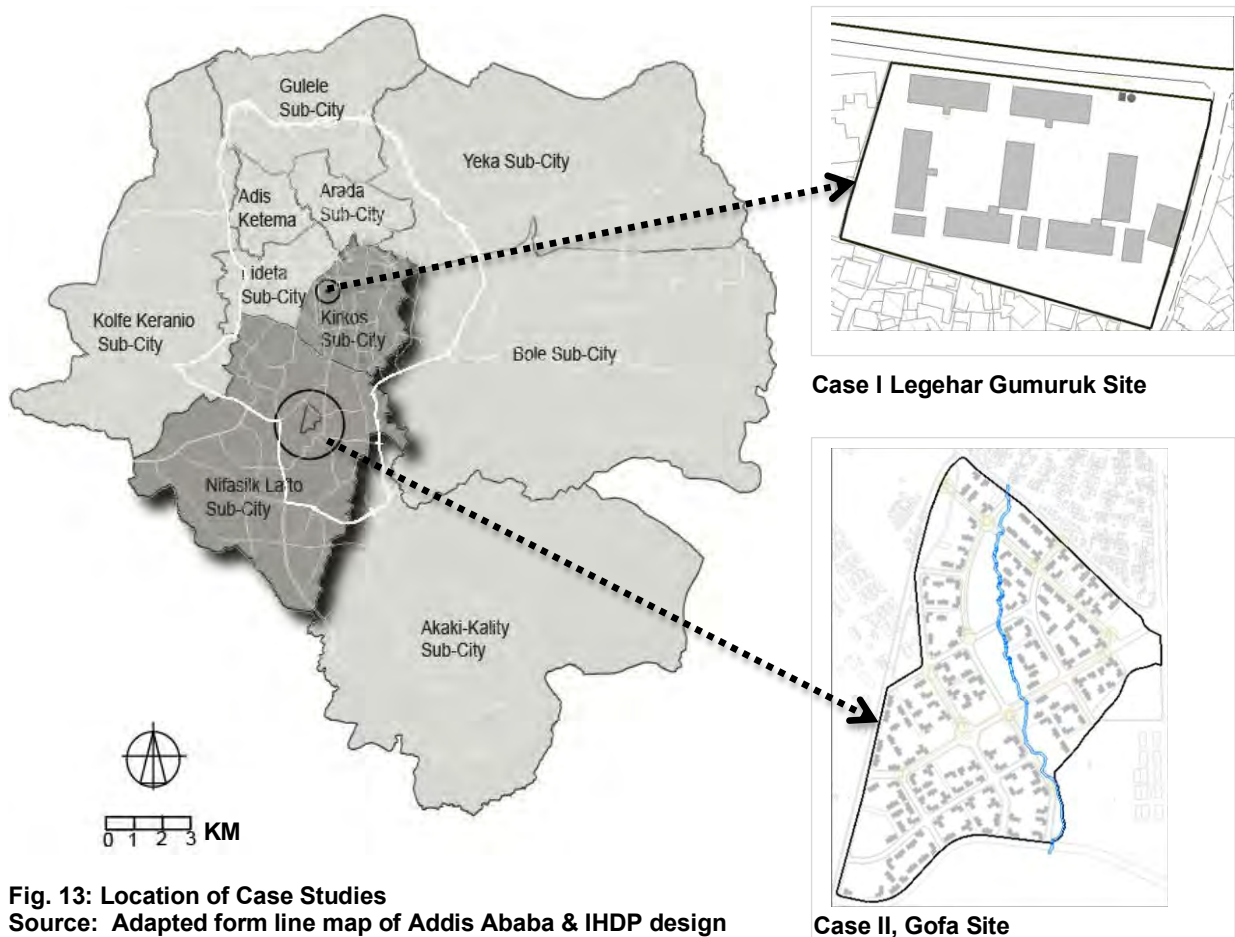


Fig. 13: Location of Case Studies

Source: Adapted form line map of Addis Ababa & IHDP design

The two case areas have both similarities and differences. The sites are completely different in terms of size and location, which will be helpful to see the effects on the two extremes. As it is described above Unlike GOFFA - MEBRATHAYIL site, the LEGEHAR- GUMURUK Condominium site were built in pocket area found in the inner city of Addis Ababa and it is noted as it is one of the fenced and gated neighbourhood. The dwellers were not the original settlers that are resettled due to the renewal projects; rather they are renters and owners through lottery from a different location. While in Goffa, the dwellers are composed of renters, owners and those resettled due to Lideta and Sengatera sites renewal projects of the city. Regarding the temporal dimension of residents in both cases, it can be generalised that residents of Goffa Mebrat-hayil have lower length of stay relative to those that resided in Legehar site. Hence, the Goffa Mebrat-hayil Neighbourhood houses are delivered to owners two years after Legehar Gumuruk.

4.2. Case I: Legehar Gumuruk Condominium site

4.2.1. Location

Legehar Gumuruk condominium site is found in Kirkos Sub City particularly known as Woreda 21, spread on 0.96 he.of land,which can be accessed from two directions; from the access road begins at newly constructed over pass at Meshualekia area runs between the Arategna Military Camp, on the left, and a row of temporary shops (*teletafi suq*) to the right. Moving about half a kilometre the road is torn apart to the right and left .The right road runs between the case area and rail way station.

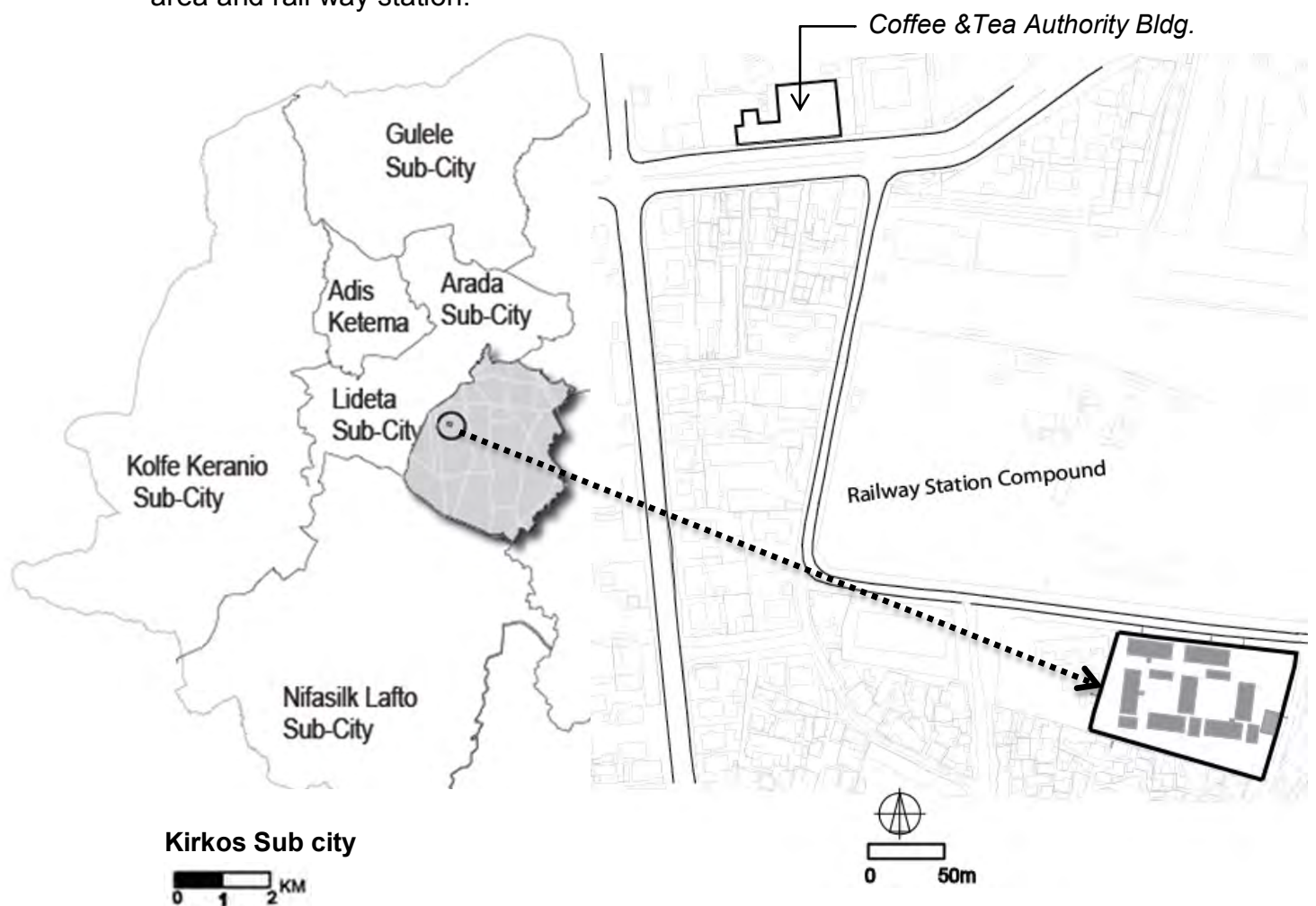


Fig. 14 Location of case I (Legehar Gumuruk)

Source: Adapted form line map of Addis Ababa & IHDP design

The second is the access road branching from the main street from Legehar to Mexico that leads to the case area run between railway station to the left and home based commercial activity such as restaurants and shops to the right. Moving about 150m the road turns to left and passes between the case area to the right and the fence of the rail way station to the left.

4.2.2. The surrounding features of the case study area

The Legehar Gumuruk condominium site is built within one of the oldest settlements in the city. It's surrounding has a typical inner city character in that it is in possession of a community that has live on for many years and as many of the inner city residential neighbourhoods within Addis Ababa have similar characters as most of them date from the imperial period.

Looking at the immediate surroundings of the case area to the east, west and south, one can observe the very dense settlement. According to the interview made with one of the tenants of condominium unit at the second floor level in the case area, -if I throw a small stone down to the roof of the surrounding settlement, it will not reach the ground” trying to explain the lack of open spaces within neighbouring settlement and density. The other interviewee said, -Whenever I wake up early in the morning and open my bed room window, I always see chocolate colour roof” indicating the view through his bedroom window down to the surrounding decayed roof of aged houses.(see fig,15).



Fig. 15: aerial view of case I
Source: Google earth image, 2012

The open storm water channel straddling the more accessible part of the surrounding along the asphalted side of the case area conversely, it holds stagnant water and disposed solid waste.



Fig. 16 photo along the asphalted side of the case area
Source: photo by the researcher

Over flowing dirty bins laid in row along the road close to the site that diffuses a bad smell.



Fig. 17: photo along the asphalted side of the case area
Source: photo by the researcher

Street dwellers are scattered along the asphalt road with their temporary plastic homes adjacent to railway station fence as well as the fence to its opposite side across the asphalt road.

Vegetation cover of an area is one of the determining factors for the local environment. It ensures the amount of rainwater that could potentially infiltrate the soil and thus allow maintaining the water table; on the other hand, it reduces surface runoff.

Based on the observation made on the nearby surroundings of the case area where Eucalyptus species. Shrubs and bushes are found along the railway station fence and other individual compounds. The other rarely available species are acacia, cupresus, grass spp, Different herbs spp., climbing plant spp.

4.2.3. Previous form of the case area

During the survey, the case area was defined by asphalted road along north of the case area, narrow paved road branching from the asphalt. Another boundary is dilapidated houses by the west and south direction.

According to the interview made with Kebele officer Ato Wondosen Demise this kebele including other neighbouring Kebeles are known as *cherkos sefer*. The naming was given after the St.Cherkos Church. Despite the fact that the church is found at a walk able distance from the case area and people are going there for a religious purpose. Beside the church has a large open space with trees defining its boundary that serves the nearby residents as a breathing space beside the environmental and ecological purposes.

From the same interviewee mentioned above, I have known that: previously the study area was open football field owned by kebele 10 administrations and named as *kebele 10 meda* by the localities. Accordingly, young football team players used to have trainings and match games on the field with other kebele's football players representing their localities of kebele 10. similarly, children of the neighbourhood were play different games and hang out. It was also serving as temporary election place where people stood for voting the candidates (see fig.18 below).

In light of the above one can understand that: previously the case area was significant for the locality as resilient open space that accommodates multiple activities

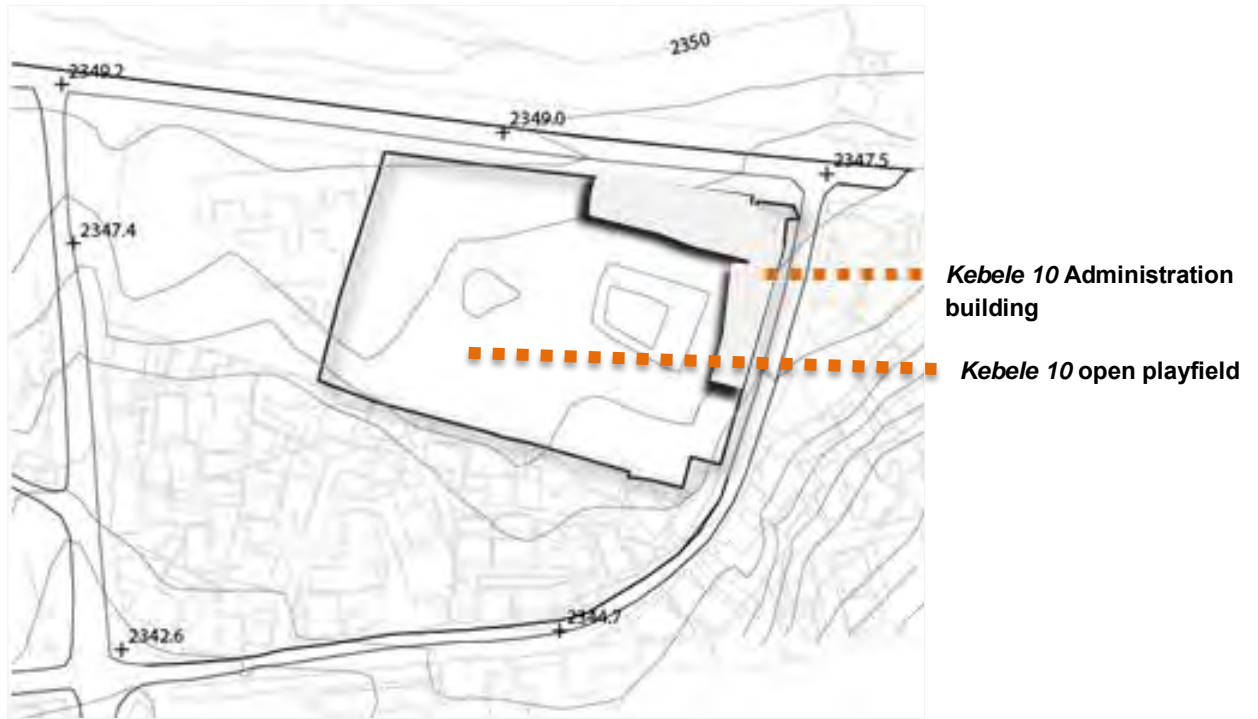


Fig. 18: Previous form of the case I (Legehar Gumuruk)
Source: Adapted from Line map of Addis Ababa

4.2.4. The Existing situation of Case I: Legehar Gumuruk

Various parts of the open spaces in the case area were covered during the survey. These includes the two central garden labelled as (A) which is defined by block (3, 4, 5, 6, 7,) (see fig.19). The linear edge space along the entire block labelled as (B).

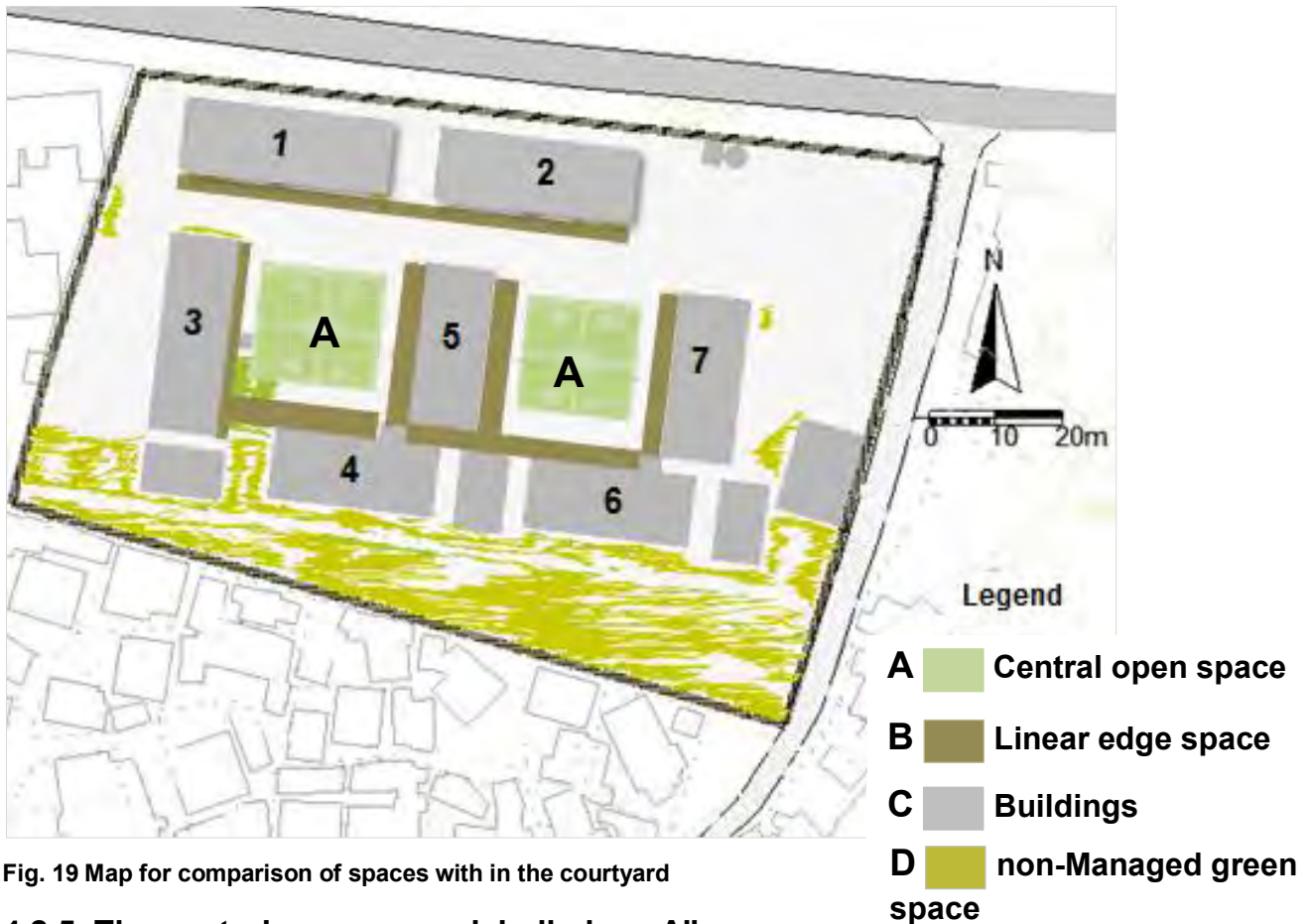


Fig. 19 Map for comparison of spaces with in the courtyard

4.2.5. The central open space labelled as „A“

The central space is one of prominent place in the compound of the case study area creating a focal space that one can access visually. It is also working as a centrally organizing space that the blocks face towards and arranged around it. As a result, majority dwellers of the neighbourhood from different part of the compound space: from path, balcony, staircase, Corridors of in all floors has a visual connection to the space.

The space is clearly defined by the blocks and bounded by RHS metal fence forming a rectangular shape that can only be physically accessed from one side. In addition, it is introduced with footpath that simply cut the space into four sub divisions and planted with ground cover of different colours and grasses

During this study 28 dwellers were interviewed as to what kind of activities they can do in the central open space (see Table 1).

| activities in the open space labelled as (A) | Frequency | percentage | Time |
|--|-----------|------------|---|
| No activity | 21 | 75 | |
| Taking Photograph | 2 | 7 | At birth days and holidays |
| To supervise their babies | 2 | 7 | Intermittently At evening time |
| For recreation and Sunbathing | 2 | 7 | Intermittently during weekends and weekdays morning time. |
| Maintenance and cleaning | 1 | 3.5 | |

Table 1: activities on the open space labelled as (A) on fig 15 by interviewed dwellers

- 21 out of 28 said they do not use the open space for any activity,
- 2 out of 28 accessed occasionally in birth day and Holly days to take photograph into the space,
- 2 out of 28 responded to supervise their children and protect the plants from damage when their kids travel inside the open space levelled as A.
- 2 out of 28 uses the open space for recreation and sunbathing intermittently during weekends and weekdays morning time.

One out of 28 respondent that weekly she access the open space levelled as A” since she is employed by the neighbourhood association, for watering, maintaining and cleaning plants.

According to the interview, the children are not allowed to access alone the space because, it is understood by the neighbourhood association that they could miss use the open space or destroy the plants.

As table1 indicates, only 7 out of 28 residents were accessed the space and all these seven interviewee are living in the ground floor level of the condominium houses and 3 out of 7 were living in the three-bed room type unit, 2 out of 7 were living in the one-bed room type of unit , 1 out of 7 was living in two bed room type and 1 out of 7 was living in the communal building.

Majority of residents living in the upper floors have responded that they do not use the open space levelled as „A” for any activities. However, they have admitted that they like to enjoy visually from the upper corridors.

4.2.6. The Linear edge space labelled as „B”

The space along the edge covers the interface between condominium block and the gravelled footpath laid at the frontages of the blocks. Particularly at ground level, exists as a boundary and creating a blurry space between the ground floor corridor and semi- public footpath (see fig19 above).

Following each visit in the study area it is found that, relative to the central open space discussed above, spaces along the edge is more exposed for activities. These areas are close to the houses at ground floor level, as a result the degree of human intimacy is higher to the area. In contrary, those dwellers living in the upper floors have a low connection to the edge space. Similar to many traditional private open spaces, the dwellers living on the ground floor of the case area use these spaces for different activities: close washing, blow-drying, children playing games, sun bathing, for seating, coffee grinding.

During the interview made with Ato Luelseged Birhan, the manager for the Neighbourhood Residents Association of the case area described that: initially specially designed G+0 communal building were constructed but their cost was not included in the unit purchase price. Therefore, we made an agreement with the government and residents that some part of the communal building area to be rent for residential purpose and use the income for paying the cost of communal buildings. While the rest of the communal building area including concrete cloth washing stand remain unusable due to the municipal water line is not connected.

Furthermore, the neighbourhood association made an agreement with different meeting to the neighbourhood residents about allocations of the open space regarding where and how to use close washing stand and satellite dishes.

Hand Washing laundry Stands

Accordingly, space for common cloth washing stand was allocated for all neighbourhoods along the edge (see Fig.20 below.).Therefore, one washing stand is intended to reach three housing units; one satellite dish is connected to three lines from three houses.

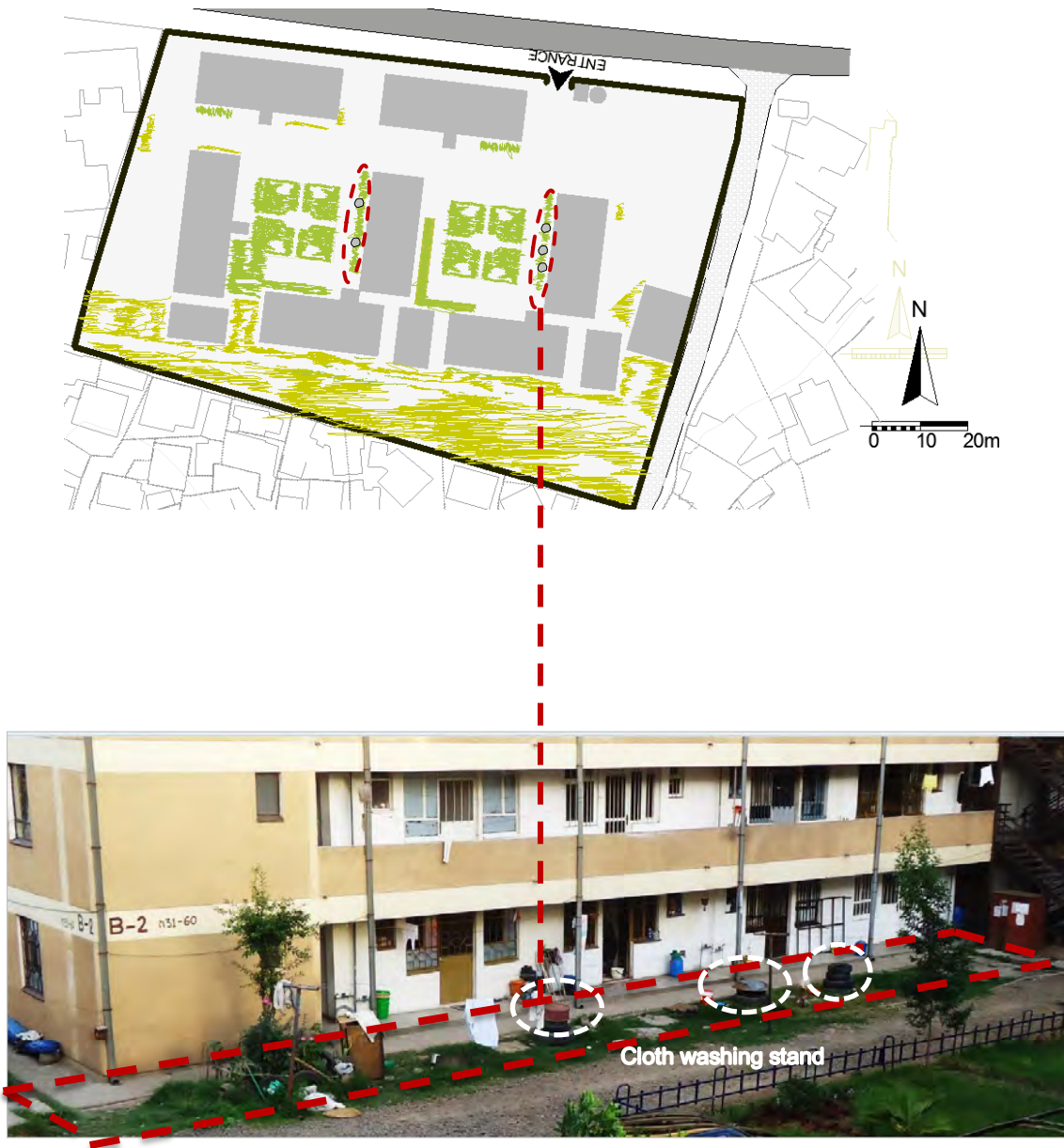


Fig. 20 Cloth washing stands along the edge

Source: Photo by the researcher

Even though the condominium neighbourhood manager said so, most of the dwellers of the upper floors are not willing to use the space allocated except for satellite dish.

During the data collection, the residents were asked with an open-ended question about where they wash their cloth and the interview revealed that:

- 46% of the interviewed resident responded that they use their own washing machine in their house
- 25% of the interviewed resident responded that they wash on floor corridor
- 29% of the interviewee replied that they use the allocated space on the ground

However, all the residents who uses the area provided by their association for cloth washing are located on the ground floor and the remaining are located at the upper floors (see Table 2 below).

| Locations of hand washing laundry area | Frequency | percentage |
|--|-----------|------------|
| In the house using washing machine | 13 | 46% |
| On floor corridor using Hand washing laundry stand | 7 | 25% |
| On the area provided at the ground floor | 8 | 29% |

Table 2: Locations of Hand washing laundry area by interviewed dwellers.

Children Activities at the linear edge space

The other activities seen on the corridors and within the edge near to buildings during the survey was that, children with age ranges from 2-12 year old. Who play game, climb on tree, roll obsolete car tire, sitting, walking in-group to various directions. It has been seen that usually these type of activity took place within the time between 3:30-6:30pm, on the weekdays while on Saturday and Sunday they are seen doing the same intermittently throughout the day.

Informal interview with the children indicate that they choose these areas because, it is close to the building they are living in, they do not have alternative playing area, they want seat under the building shade. The mentioned age group are most likely to be found in large number.

Furthermore, the interview reveals that the maximum percentage of the children that come to the ground for the mentioned activities are from the first floor residing in one bed room type unit while the children from fourth and third floor and live in three bed room type unit represent minimum per cent (See Table.3 & Fig 21 below).

| Unit type | Floor level | Frequency | Percentage |
|----------------|-------------|-----------|------------|
| Three bed room | Ground | 1 | 10% |
| | First | - | - |
| | Second | 1 | 10% |
| | Third | - | - |
| | Fourth | - | - |
| Two bed room | Ground | 1 | 20% |
| | First | 2 | - |
| | Second | - | - |
| | Third | - | 10% |
| | Fourth | - | - |
| One bed room | Ground | 1 | - |
| | First | 3 | 50% |
| | Second | 1 | - |
| | Third | - | - |
| | Fourth | - | - |
| studio | - | - | - |

Table 3: Percentage of children playing around the edge vs. Housing type and floor level by interviewed Children



Fig. 21 Children playing Activities along the edge

Children with age ranges 13 to 18 year were not seen in these open spaces doing optional activities rather, they are observed in most of the time doing activities related to walking such as: going to school caring their bag during the morning time and coming back to home in the afternoon, going to shopping, which can be categorized under the necessary activities.

Adult's activity at the linear edge space

Adult residents with age greater than 18 have been seen engaged in compulsory activities. Unlike any other traditional neighbourhood only few number of, women, young girls, house med were observed on the communal corridor of each floors and edge area close to building at ground level. Especially during the morning time, they are mostly engaged in; cleaning the corridors, lifting washed laundry on the stretched string provided for blowing drying. Even though, all the housing types have kitchen sink facility, it was common phenomenon to observe some women washing serving dish on the communal corridor. Others were pounding coffee, women bathing her infant baby with morning sun.



Fig. 23. Adult Activities in the open space
Source: Photo by the Researcher
OPEN SPACE QUALITY AND SUSTAINABILITY

Activities related to walking were observed relatively high during the midday between 5:30am and 2:00pm. Residents with different age group are seen passing through the edge space directly to their houses located on ground floors levels and the staircase to reach the upper floors. Some of them are walking faster as the weather is not comfortable. The narrow corridor and the staircases were observed busy with peoples going up to the upper floor and down to the ground level.

In addition, during the time between 5:00pm and 6:30pm some residents are seen involving in the activities that can be categorised within optional activities; women seating in-group on the ground level corridor while looking the greened area within the edge near to the building, Parents looking the children under their caring eye, grandparent watching others people life and activities from corridors of the building Floor (see fig.24 below)



Fig. 24 Optional activities Along the corridors
Source: Photo by the researcher

Generally, space found within the edge of the case study area is in favour of serving residents found in the ground floor level. In contrary the upper floor residents can benefit from the edge space is mostly due to the visual connection otherwise activities are bounded within the corridor at their floor level. During the data collection, I have made an open-ended interview with 28 residents. These residents were from all 7 condominium building in the case study area distributed at various floor level and unit type. Accordingly, they were asked that the use of the space found within the edge and the result asserts that, necessary activities such as: cloth washing, blow drying, corridor cleaning, grain drying, pounding coffee, pounding grain, passing through were the dominant use of space within the edge whereas taking a walk to get a breath of fresh air, playing, standing around enjoying life, sitting and sunbathing and similar activities were given low priority

4.2.7. Life story

W/ro Senait Asnake

Senait Asnake, 47 years old, was born in Kesem woreda, Bulga live with her four family members in med house. There is a traditional school called "kes" school but she never went there, because it was allowed only for boys. After 16 years in bulga she left for Addis Ababa with her cousin and rent kebele house around kolfe particularly called Fetno Camp area. After living in Addis Ababa for about two years, she went back to bulga due to her sister death and one year later, in 1976 she came to Addis Ababa to reside in her uncle's private house around casanchis, particularly called hizbawi nuro edget area. The house had eight rooms with a total plot area of 1500m²; she was married in this house at the age of twenty-three. After living about one year, the couple left this house and rent kebele house where they reside from 1982-2000. (see fig.25 below)



Fig. 25 W/ro Senait Asnake's house rented from kebele

Originally, the house had single room with about 10m² floor areas and open space about 16m² defined by the fence and house wall. Both the husband and wife are working for generating income. Therefore, both spend most of their time outside the house. In addition, senait involves in various activities for social reasons these are edir, funerals visiting sick peoples.

One-year later senait gave birth to their first child. Within eleven years range, the family size has increased from two to six. Now the youngest child is seven year old while the oldest is twenty-one. Eventually the changes in the size and age composition of the family have created new spatial demand. Due to these reasons, the horizontal extension of the house was the only option that the family had in order to increase usable floor area. Now the house has extended additional two rooms. Consequently, the open space diminished by about 10m². thus, 6m² Open space has yet used for various purposes: for front garden, outdoor kitchen, grain drying, and laundry stand. (See Fig, 26 below).

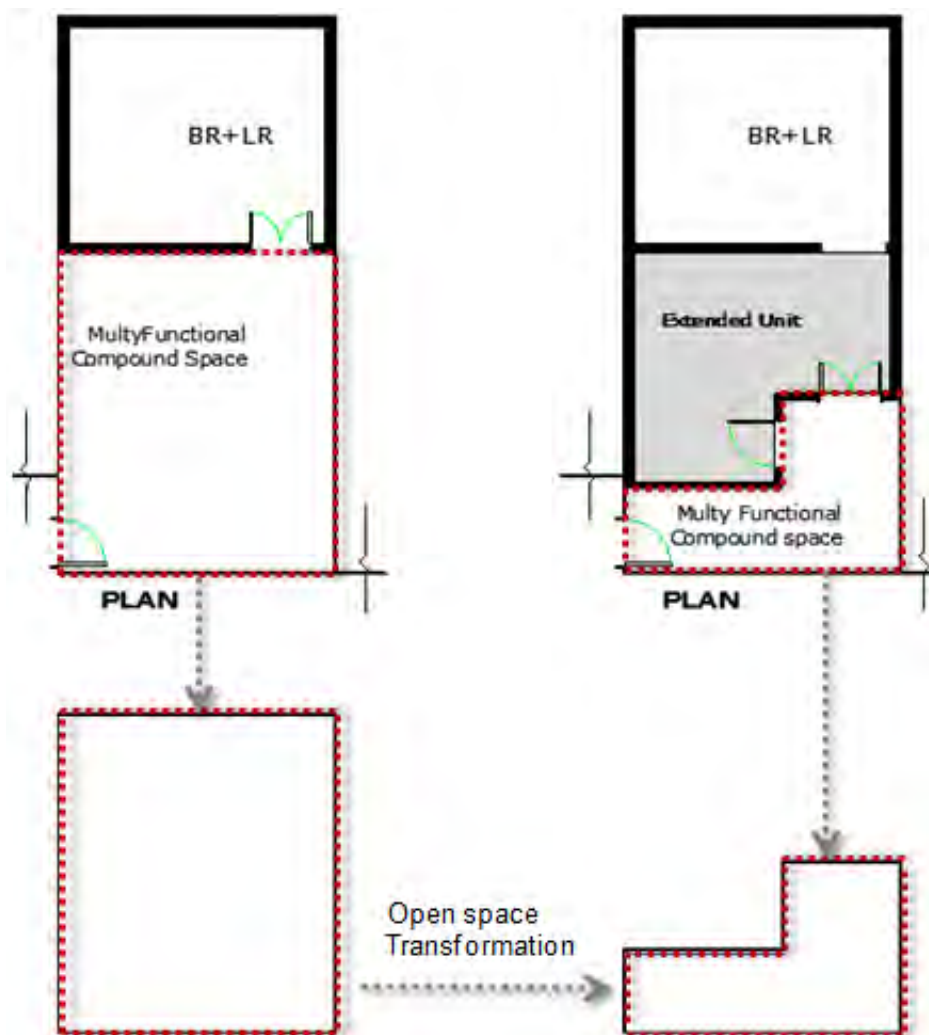


Fig. 26 Floor plan showing open space transformation by w/ro senait during her stay in the kebele house



Fig. 27 w/ro senait using the street side for market

Senait's daily activities and open space strongly connected as it is today she was selling some grains, incense and charcoal around the nearby open market. (see fig.27)

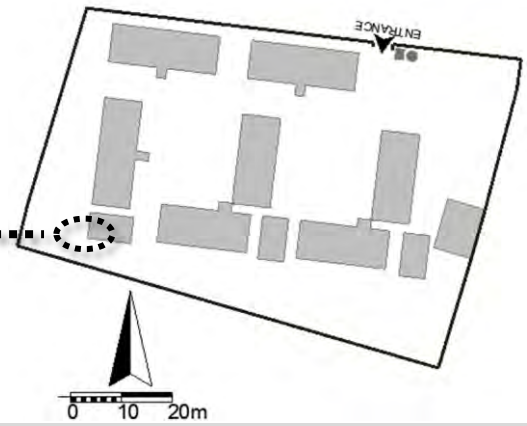
In 1999 her husband has gone away, therefore she took all responsibility of the family; obviously, it was very tough period and the entire burden was up on her, which includes covering family's total expenses. Few times later, in 2000 Senait got the chance to own a condominium house. It was coincidental that the condominium site is located within the range of 2-3km distance from where she was working. Accordingly, the first payment for the house about 15000 birr was what she cannot afford. However, in collaboration with loan Association and using condominium unit as collateral, the first payment has executed thus, the house handover to Senait.

Consequently, The city administration forced her to leave the Kebele house because, it was banned to own condominium house as at the same time reside in kebele house. Therefore, renting the condominium house were the only option available to increase her income and pay for the loan association.

Even though, Senait has rent out her condominium house, she is still living in the same compound. The Legehar site, in addition to the main condominium block it has G+0 block that originally constructed for service. However, the condominium association has decided to rent the service units in order to use the income for various maintenance works in the site. Unfortunately, Senait rented one of the service units they are residing now. Now Senait is working in Legehar condominium site as a cleaner. She cleans the compound three days in a week at morning.



Location of communal unit rented to w/ro senait



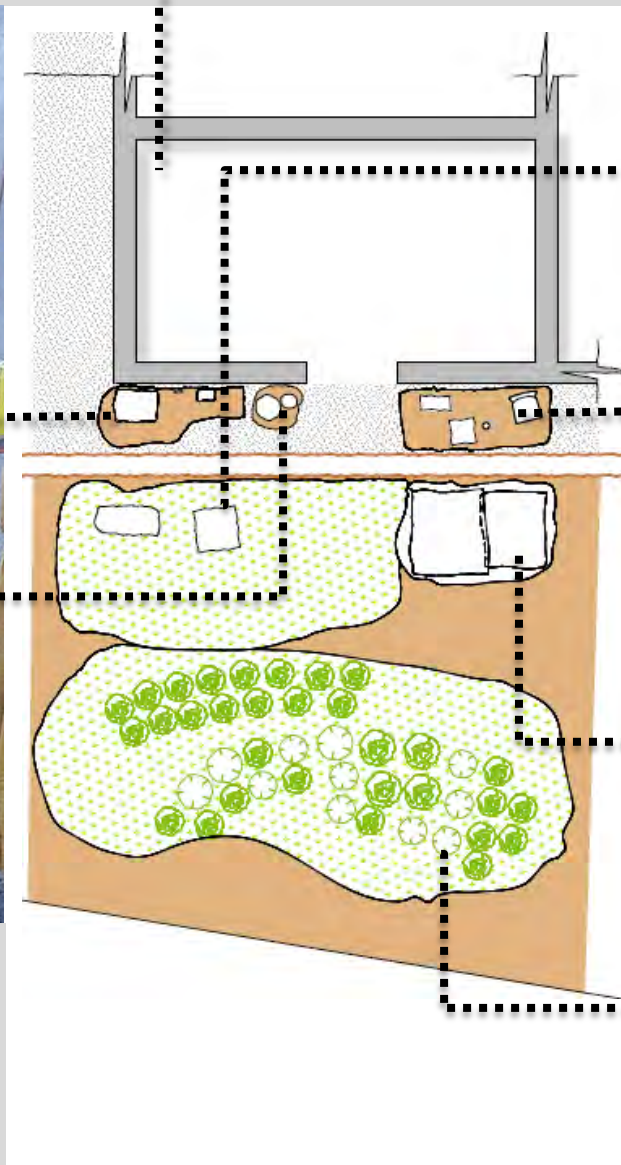
1



2



- 1. Temporary storage
- 2. Storage
- 3. Grain Drying place
- 4. Seating
- 5. cultivated cabbage for own consumption



3



4



5



Fig. 28 out door open space utilization by w/ro senait

4.3.2. The Surrounding features of the case study area

As it is observed, the surroundings of the case area shows different features. Along the north of its side, the immediate surrounding settlement reflects images of deteriorating structures and congestion of all kinds. The area has an intimate mix of uses with low open spaces. Along south of the site, the nearby area is covered with a natural amenity as small *Akaki* river , sparsely grown trees, Shrubs and foot paths have observed. Urban agriculture also noted as the dominant feature along the riverbank.

It is also observed that there is a tangible presence of small businesses such as retail shops, boutiques, butchery, and others. These are to be found straddling the more accessible collector street, branching from the primary arterial street, which leads to study area (see fig.30). Having these commercial activities along the way to the case area becomes a social activity in its own right. Thus the number of people on the streets itself provides security.



Fig. 30 Business along the street, which leads to the case area

Source; Photo by the researcher

Moving closer to the case study area, following this recently developed neighbourhood site, it is interestingly noted that, similar to other inner city settlements, informal economic activities : open market, street vendors and other items have laid by one side of the street (see fig. 31).



Fig. 31 Street market along the way to the case area

Source: Photo by the researcher

4.3.3. Previous form of the case area

According to the survey made for this research, previously the area was part of a military camp where damaged military trucks, tank, and other type of damaged military weapons scattered over the compound.

As the city administration demanded land for the condominium housing development, part of the military camp to the east had given to IHDPO.

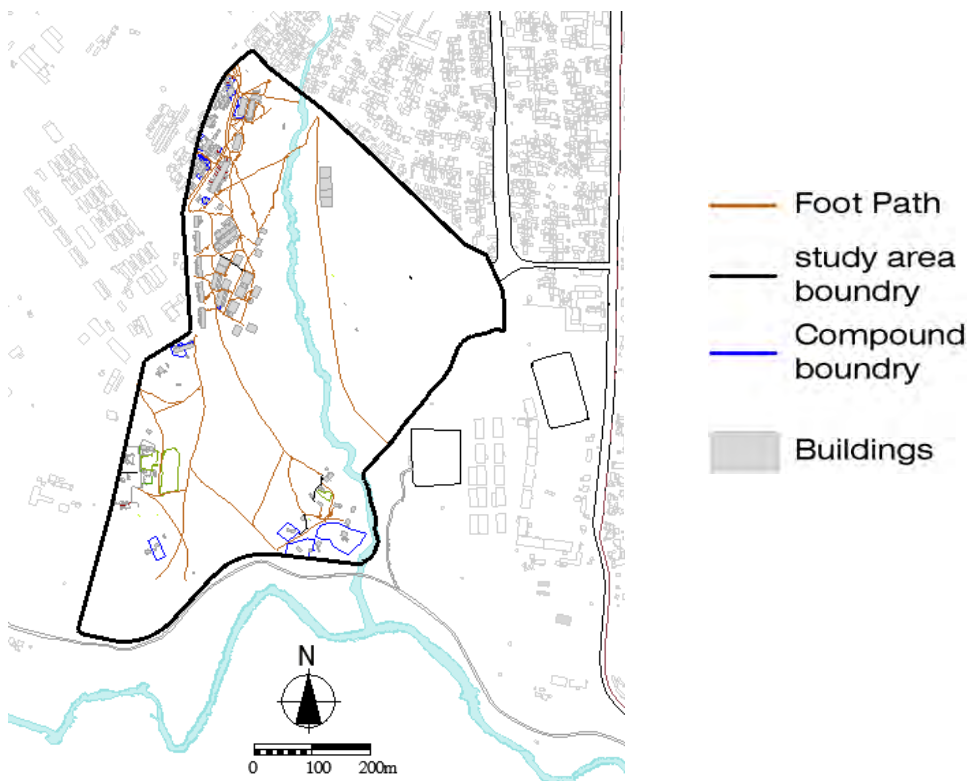
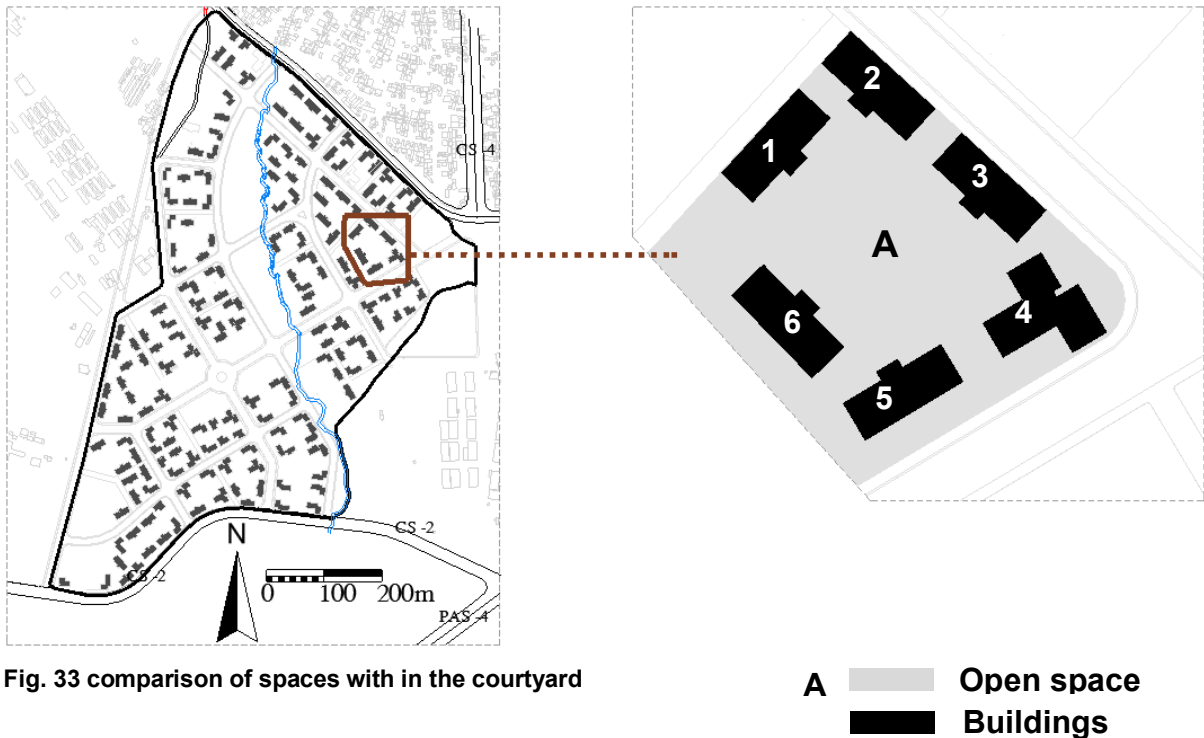


Fig. 32 Previous form of the case II(Gofa Mebrat Hayil)

The buildings seen on left top of figure 30 above were previously residences for soldiers where some of the buildings were contained in a compound.

4.3.4. The Existing situation of Case II: Gofa Mebrat Hayil

Various parts of the open spaces in the case area were covered during the survey. However, it is not possible to cover the entire open space of this case area, portion of the study area was taken to investigate the open space in depth. These include the central open space labelled as (A) which is defined by block (1, 2, 3, 4, 5, 6,7) and the left over space (fig.33 below).



4.3.5. Open space labelled as „A“

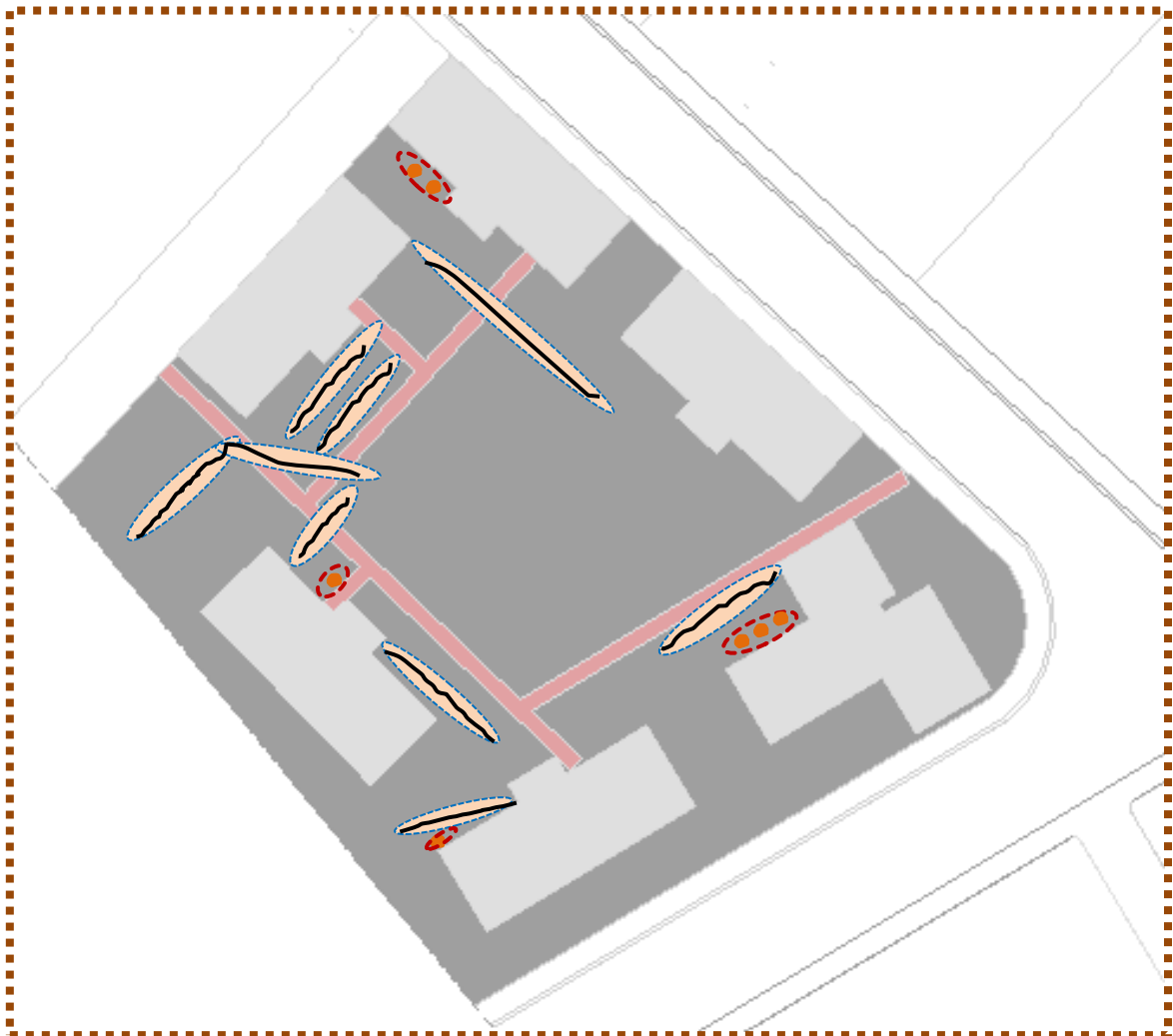
The open space labelled as A is defined by the blocks numbered from 1 to 6. It is relatively large open space, which can be accessed through spaces between buildings arranged all the way around central open space, beside the visual accessibility also important. Thus, block numbered 1,2,3,4,5,6 are oriented towards the central open space that enable dwellers to connect visually with open space from floor corridors and staircases in similar .

In order to investigate how the open spaces are working, different maps were developed for a comparative analysis of empirical observation.

Hand washing Laundry space and blow-drying laundry space

The provision of communal buildings in the case study area was an attempt to respond to the cultural needs of residents. The function of the communal buildings is to provide a protected space for residents to perform traditional tasks such as slaughtering, hand washing laundry, and cooking extensive meals or to facilitate activities the housing units themselves cannot accommodate. However, this study revealed that residents are using immediate linear edge space for hand washing laundry.

Furthermore, poles anchor with sagging rope for blow drying laundry stretched along the immediate open space from the buildings. Hence, there is no provision of properly designed space for blow-drying laundry; residents have been seen using the open space in their own way (see map 1 below).



Map 1. Hand washing laundry space and blow laundry-drying space



Blow-laundry drying space

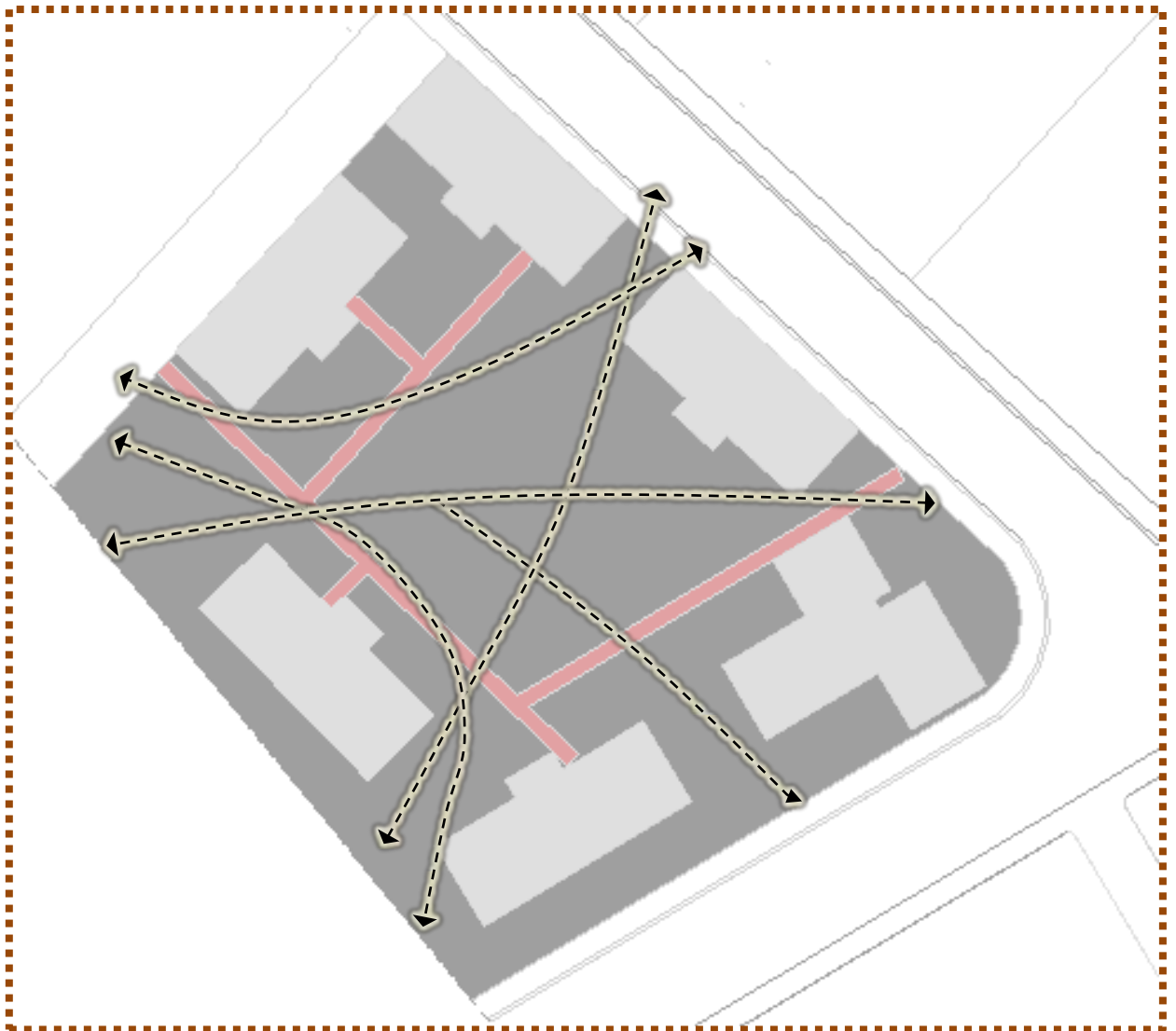


Hand washing laundry space

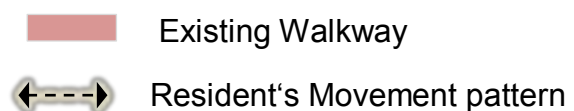
Resident's circulation pattern

Regarding the sample opens space which is labelled as A on fig 33.above, the field observation reveals the major pedestrian flow is originated from the collector street with in the case study area. Starting from the collector street, pedestrians move on to different areas to meet their purposes.

Apparently, the existing walkway is an afterthought and which is not even exist on the neighbourhood design of this study area and which could not be responsive for the users. Thus, pedestrian movement pattern do not correspond to with the existing walkway (see map2 below).



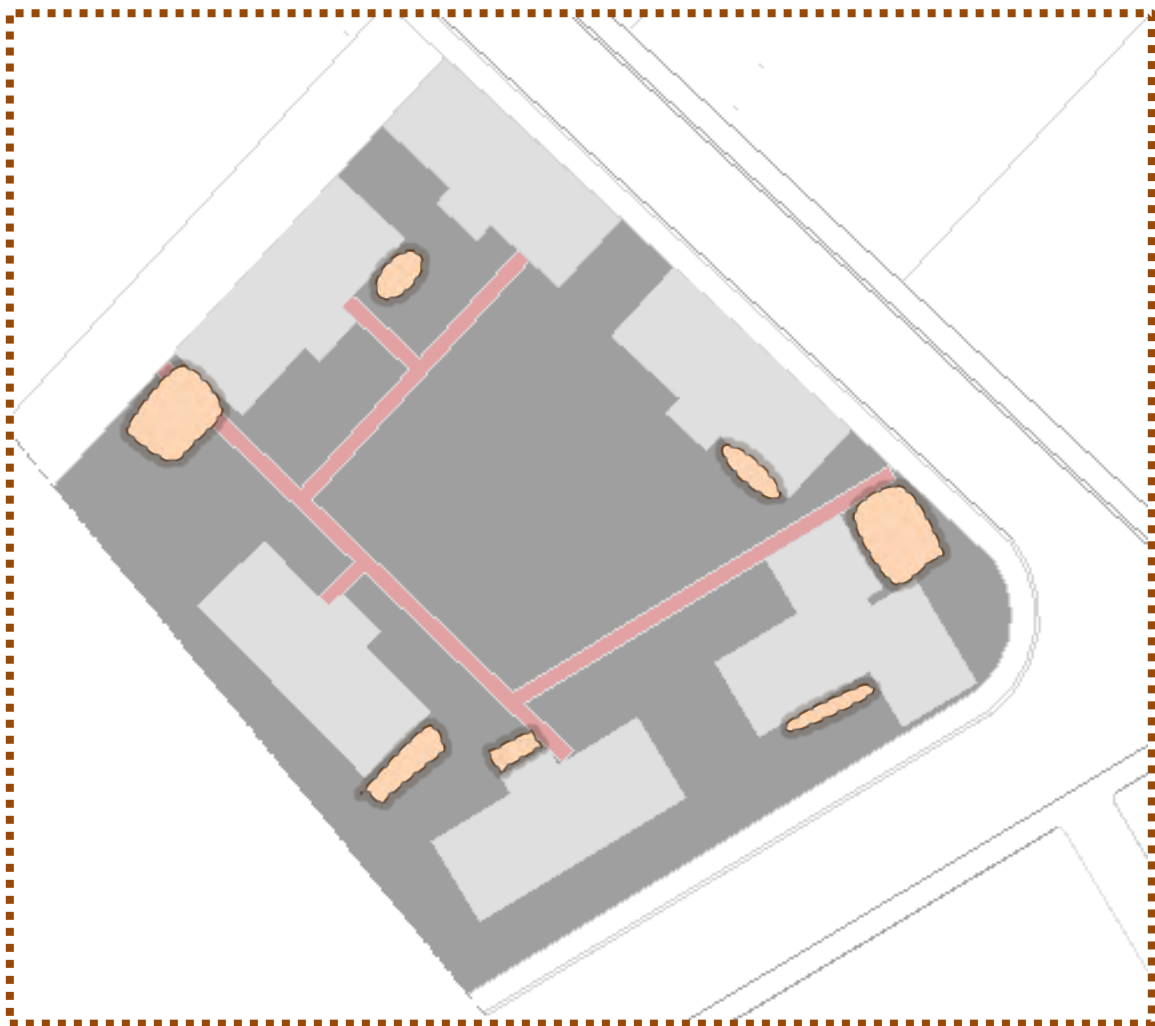
Map 2 comparison between constructed walkway and residents circulation pattern



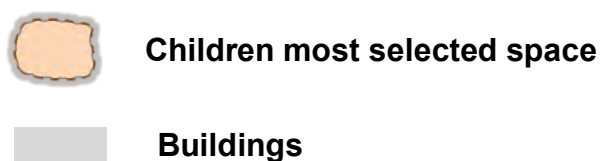
Children most chosen spaces

As a whole, the field observation reveals the majority of the open space in which children frequently spend within the parcels where buildings they live in is found. The children chooses to spend at different open space is found to be influenced by two spatial elements: the location and type of open space.

In case of space location, most of the open space chose by the children are located close to buildings, which heighten the definition of the open space and feeling of security on the children (see map3 below). Type of open space mostly they chose are green which enhance safety as well as the visual interest.



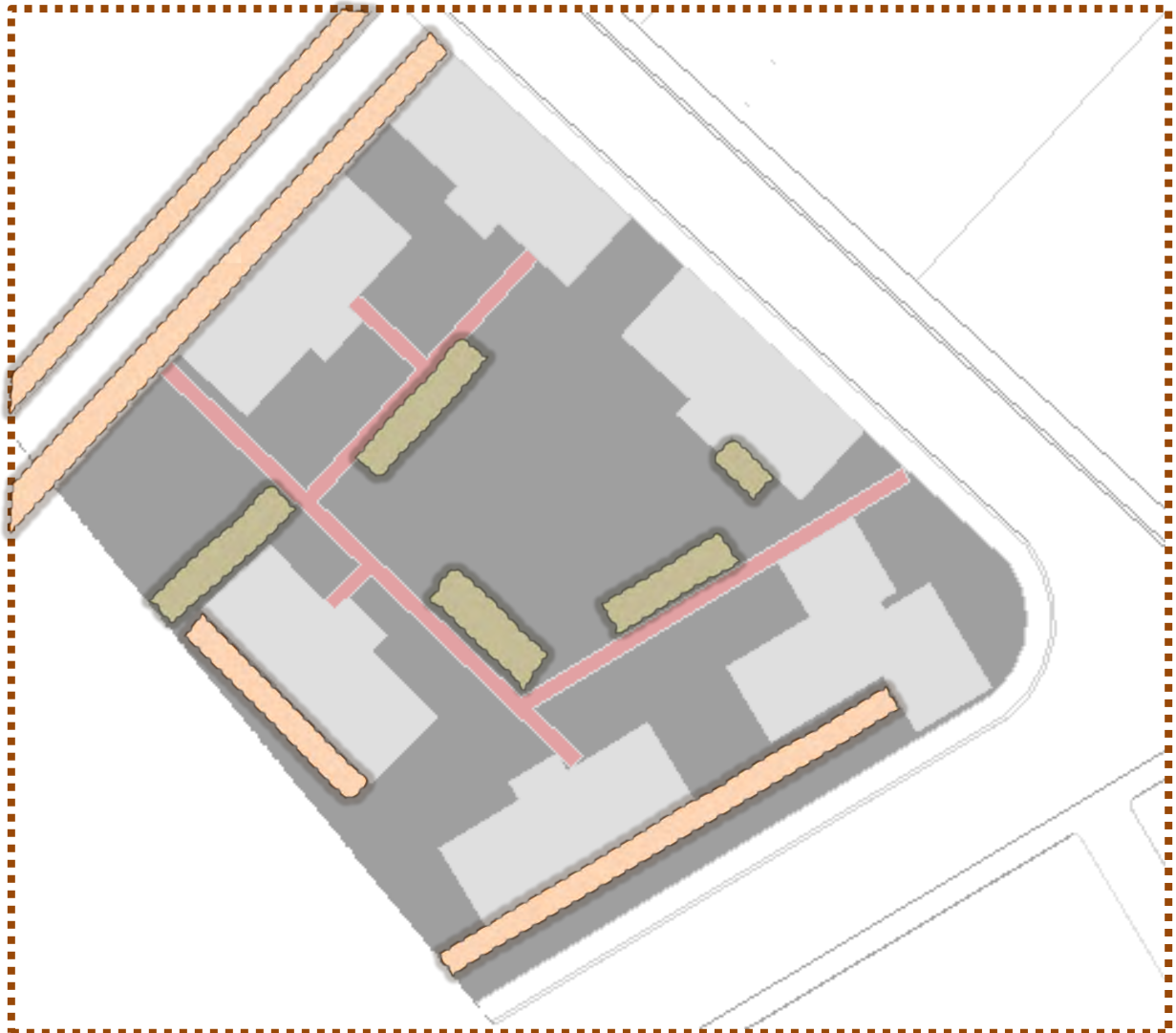
Map 3 most selected space by children



Car parking Space

The form and function of the parking can have a determining influence on the successfulness of the development design concept. Car parking areas are rarely attractive visually and should always be located in such positions that would encourage their use and have a positive impact on the landscape. The provision of car parking space was an attempt to respond to the car parking requirements of the residents.

However, during the field survey it is found that parking spaces are rarely identifiable. Thus, open spaces proposed in the neighbourhood design for other purposes are seen to be used for parking. In general, the current parking use and the provided space for parking does not correspond (see map 4 below)



Map 4 comparison between spaces chosen against provided for car parking



4.4. Analytical Frame Work

4.4.1. Introduction

To make a systematic analysis and arrive at a deeper understanding, the research issues are further explored and put in to different part of the framework, based on the literature review and the research questions. Finally, the analytical framework focuses on **quality** of open space, **sustainability** of open space, **people's perception** on the open space.

4.4.2. Quality of open space

As it was discussed in the literature review chapter, the quality of public open space depends on the type of user activities (Gehl, 1980). These activities further categorized in to three: **necessary activities**, **optional activities** and **social activities**. Furthermore, findings of several researchers regarding the success and failure of public open space shows three key qualities these are, **use**, **activity** and **circulation** (project for public space,2005).

4.4.3. Sustainability of open space

Another issue of the study is regarding the contribution of open space for sustainability accordingly, Several researchers, who succeeded on the issue under the study described the role that is assigned to open spaces to play within the neighbourhood structure, to achieve sustainability goals and objectives, is formulated in three key issue. They are **open space management**, **circulation of users**, and the **role of landscape elements** within space. (Campbell, 2001, et.al. cited in Khalid, 2008)

4.4.4. People's perception on the open space.

According to Relph (1976) cited in Carmona and Tiesdell (2007) argued that, whenever we feel or know space, there is typically an associated sense or concept of **'place'**. Thus, for Relph, Places were essentially centres of meaning constructed out of lived experience. By imbuing them with meaning, as individuals or as groups, people change **'spaces'** into **'places'**. Moreover, Relph (1976) has merely acknowledges that each place has a unique address without explaining how it becomes identifiable. He argues that **physical setting**, **activities** and **meanings** constitute the three basic elements of the identity of places.

Use of open space

This part of the research is focuses on identifying the main uses found on the case areas and place where the dweller uses for various purposes. By doing so, it tried to cover the following related issues.

- For What purposes do the open spaces currently used?
- Is there segregation of space for various uses?
- Which parts of the open space is utilized?

Activities on the open space

Identifying the type of user activities occurring on the neighbourhood open space helps to understand the level of the quality of open spaces. In this regard, the research has raised the following issues in the analysis.

- Which categories of activities exist on the both case study areas?
- Do the open spaces foster variety of activities?
- Are there place where residents activities enhanced?
- Do the type of activates vary depending on time?

Open space management

Management of open spaces is one the key issue that should be raise to study the contribution of open spaces for sustainability. Therefor the analysis made in this part tried to answer the following related detail issues.

- Is there any kind of management regarding the open space? If so who is Responsible?
- How do open space management is currently undertaken in the case study areas?
- What extent of the open space is properly managed?
- What kind of benefits does the open spaces is providing?
- To what extent do the open spaces can benefit the dwellers?

Circulation

- Does the circulation enhance local security and community
- Does the circulation promote walking activities?
- Does the circulation promote social interaction among the residents?

The role of landscape elements within the open space

Landscaping elements are the basic constituent of any open space's structure. They have to be utilized to achieve sustainability goals at the micro level. In this regard using the case area the study will try to understand the role of landscape elements and explain the following issues.

- What are the major elements found in the open spaces?
- Does these elements are creating connections and themes (functional and perceptual as well as spatial) within the neighbourhood open space?
- Creating opportunities for the emergence of self- sustaining and self-regulating systems in the landscape
- Minimize maintenance and maintain to enable full expression of design
- Maximize resilience and dynamic stability in the landscape in such a way that each element fulfils several functions and each function is undertaken by several elements.

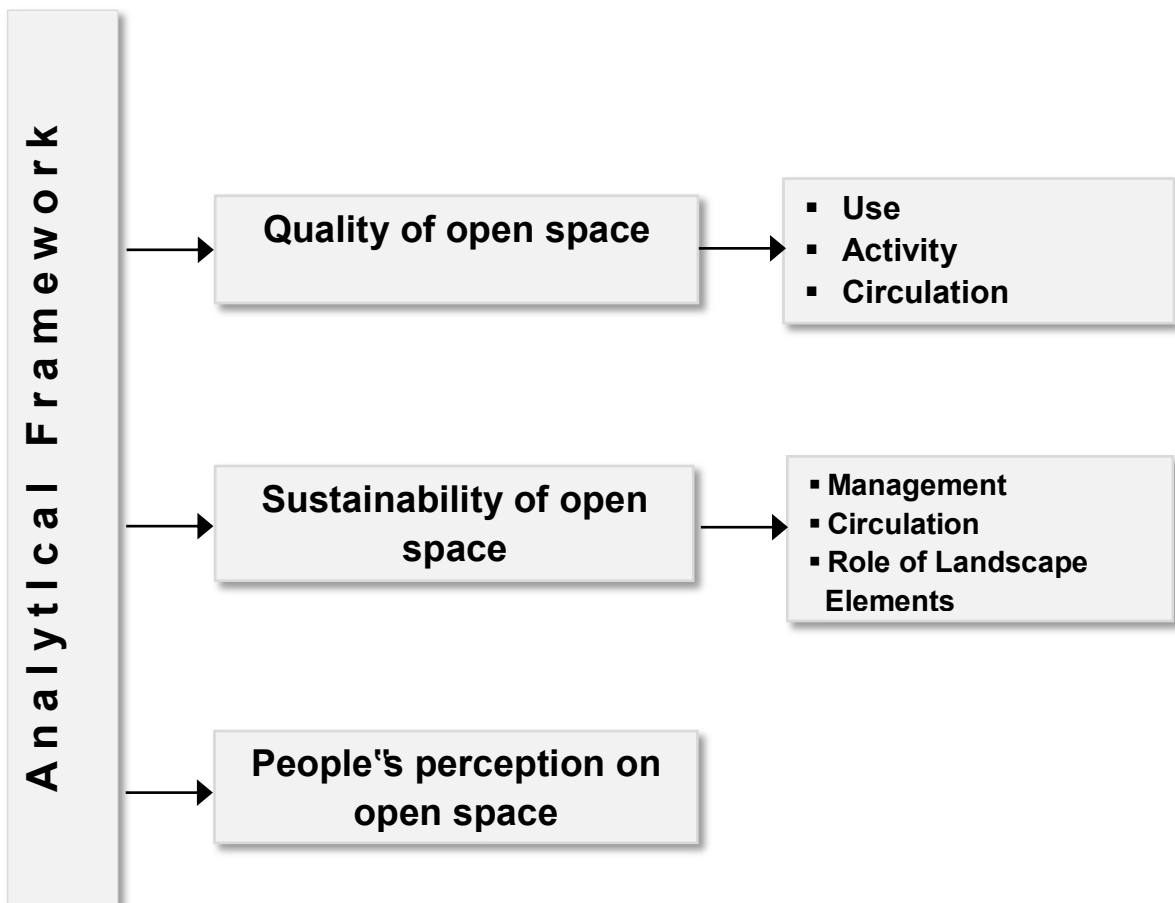


Fig. 34 Schematic diagram showing analytical frame work

4.5. Analyses of the case studies

The aim of the study is to examine how the neighbourhood open Spaces in Addis Ababa are currently functioning. The study in both cases shows that circulation area, car parking, green open area and urban agricultural area were the major purposes of the neighbourhood open spaces.

4.5.1. Use of open space

Regarding **car parking** allocations, low income and the middle-income group, the ratio of 1 car parking area is for 5 household is taken as a standard (neighbourhood planning and design manual, 2006). On the neighbourhood design prepared by AAHDPO respectively for case I and case II shows that the parking area is proposed to accommodate 21 and 1102 cars or a ratio of 1:10 and 1:4.7,. However, the study during field survey reveals that, the proposed parking ratio for case II remain similar with the existing, while in case I it is changed to 1:1.3 after the realization of the project. The parking ratio change come after realization case I, is caused by the increasing parking demand beyond the standard .Thus, it caused circulation and green areas to be transformed to parking lots. About 19% of the case I, area is used for parking 146 cars. While in case II, the parking area takes 3.33 % of the case area (See Table 4 for detail).

Majority of the **green areas** lack maintenances and continues follow up. Regarding Case II, most of **none maintained green areas** found on the catchment of the tributary that crosses the study area at the middle and join with little Akaki river near the southern boundary. Despite, majority these areas were proposed for social services and sport field on the neighbourhood design, which is prepared by the AAHDPO. **Urban agriculture** was one of the encouraged practices found in the catchment area undertake by Self- initiated households. They are particularly engaged in cultivating vegetables for their own consumption as well as for market. The study indicates that **sense of ownership** increases as distance decreases. This is confirmed by those dwellers engaged on the urban agriculture that most of them are living in the condominium blocks found near to the catchment area relative to the other blocks. Similarly, in case I, only one household is engaged on cultivating vegetables during the rainy seasons on small open area close to her house.

During the data collection mapping were employed to indicate and calculate the **managed green areas** in both case study areas. Regarding case II, the managed green areas found on some spot where the business activities: café, bar and restaurant are found at the ground floor level in defining the asphalted access road.

In light of the above, the business owners have also engaged on **planting** and **maintaining the open space** found around the commercial units. By doing so, these areas have contributed in increasing the amenities of the area.

| Open spaces | Unit | Case I | Case II |
|---------------------------|----------------|--------|---------|
| Car Parking area | M ² | 1825 | 13,775 |
| Managed Green | M ² | 700 | 9,000 |
| None Managed Green | M ² | 1903 | 68,000 |
| Asphalted road | M ² | - | 110,000 |
| Circulation and Bare area | M ² | 2,774 | 143,000 |
| Total open space | M ² | 7,202 | 343,775 |

Table 4 type of open space distribution by area

Source: computed from google 2012 image and site survey

In the other respect, as we get closer to the **immediate outdoor space** of the buildings ,the **use of the spaces** become very much related with day to day activities of the house hold to mention some :**Hand washing laundry**, for blow-drying and so on. Generally, 28 and 60 sample households were asked to mention the use of the Open spaces found very near to the buildings in case I & Case II respectively (see table 5 below)

| Use | Case I | | Case II | |
|---------------------------|-----------|------------|-----------|------------|
| | Frequency | Percentage | frequency | Percentage |
| Washing Laundry | 6 | 21.4 | 21 | 35 |
| Blow drying | 16 | 57 | 32 | 53 |
| Grain drying | 22 | 78.5 | 29 | 48.3 |
| Pounding grain and coffee | 3 | 10.71 | 9 | 15 |

Table 5 Use open space by interviewed household

4.5.2. User Activities on the open spaces

To understand the level of the quality the existing open space, looking the type of activities is very critical. Most activities related to optional activities dictated by the exterior spatial condition in which it provides. While necessary activities, their incidence of happening is rarely affected by the external spatial conditions (Gehl,1980). For this study, open-ended interview were made with sample household, observation and photograph is employed in both cases .Regarding the case I, most of the open spaces are occupied by parking and are inaccessible. Most human activities of the neighbourhood open spaces seem bounded within the edge close to the building; less in their variation, mostly do not require others to participate and takes less time on the open space. In case II, on different parcel, open spaces strongly defined by regularly arranged blocks creating courtyard type spaces. However, similar to case I, activities on these spaces are very less to happen on the majority central part of the courtyard.

To compare the similarities and differences in response by sample households of both case areas, these activities as **sun bath, sitting, meeting, walking, sport** are very less in case I, Where as in case II activities such as **taking a walk** to get a breath of fresh air, **playing, standing** around enjoying life, **sitting ,sun bathing** and similar activities related with recreation were happening better than case I (See Table 6 below).

| Activities | Case I | | Case II | |
|------------------|-----------|------------|-----------|------------|
| | frequency | Percentage | frequency | Percentage |
| Children playing | 11 | 39.28 | 29 | 48.3 |
| Sunbath | 3 | 10.7 | 11 | 18.3 |
| Walking | - | - | 14 | 23.3 |
| Sport | - | - | 4 | 6.6 |
| Sitting | 4 | 14.2 | 19 | 31.6 |
| Meeting | - | - | 8 | 13.3 |
| Running errands | 9 | 32 | 26 | 43.3 |
| Going work place | 27 | 96.4 | 58 | 99.6 |
| Going school | 24 | 85.7 | 49 | 81.6 |

Table 6 Activities with in the neighbourhood open space by interviewed household

Based on Janghel's classification, activities listed in the above table are categorized under necessary and optional activities. At first sight, the difference between the two case areas with respect to the proportion of the necessary activities in the outdoor spaces was quite insignificant. However, the variance that holds for outdoor activities of the two case areas seems to be reflected in the optional activities category: in the case II, the proportion of activities under the optional category outweighs that of the case I. In the case II, optional activities that include taking a walk to get a breath of fresh air, playing, standing around enjoying life, sitting, sunbathing constitute 27 per cent, compared to 16 per cent in the case I (see fig. 35 below)

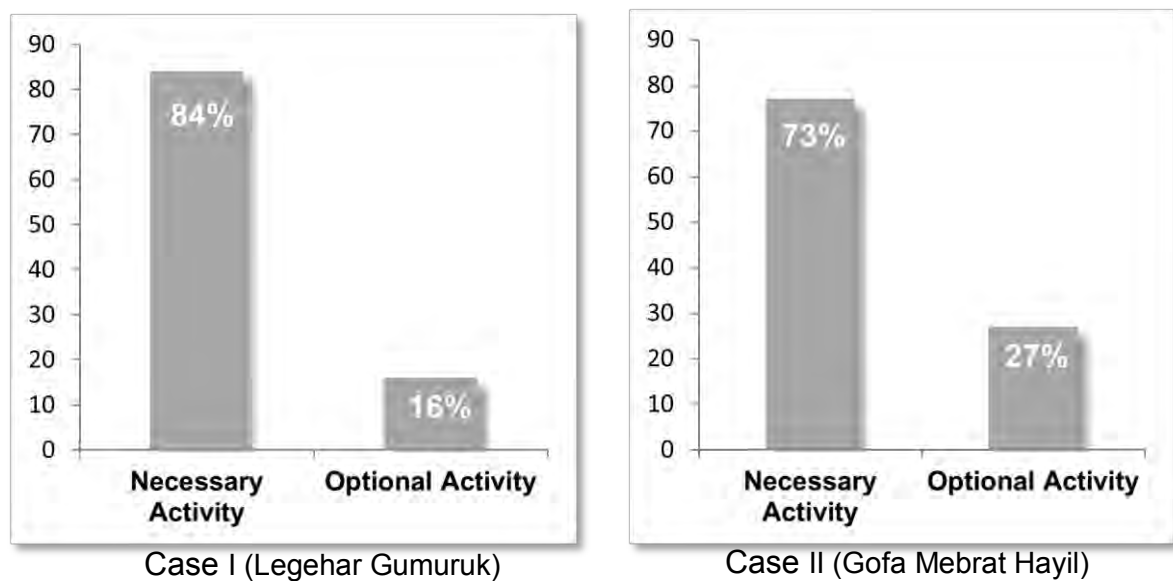


Fig. 35 Categories of activities in the open spaces by interviewed household

Moreover, this research has made an effort to find out the relation between the very nature of the open spaces and activities. However, the activities vary in different time, place and age of person, which makes the activities difficult to analyse; therefore, it has required to take images of the open space at different time intervals. Regarding case I, the site has two similarly defined central open spaces in which I have chosen the one all the frontage of the defining block faces (see fig. 36 below).

The arrangements of blocks dictate the formation of open spaces. In this regard, case II have exhibited a various size and form of open spaces. Two sample open spaces have chosen, that both have similarly defined by blocks but differ in size and vegetation cover (see fig. 37 & 38). As it is said above, photos have been taken at one hour intervals (8:00am-6:00pm; in case I and 7:30am-6:30pm; in case II) in one of the weekdays. All the efforts made here is to identify the open spaces that activities occur repeatedly.

It also sees the relation of activities with time and user's age.

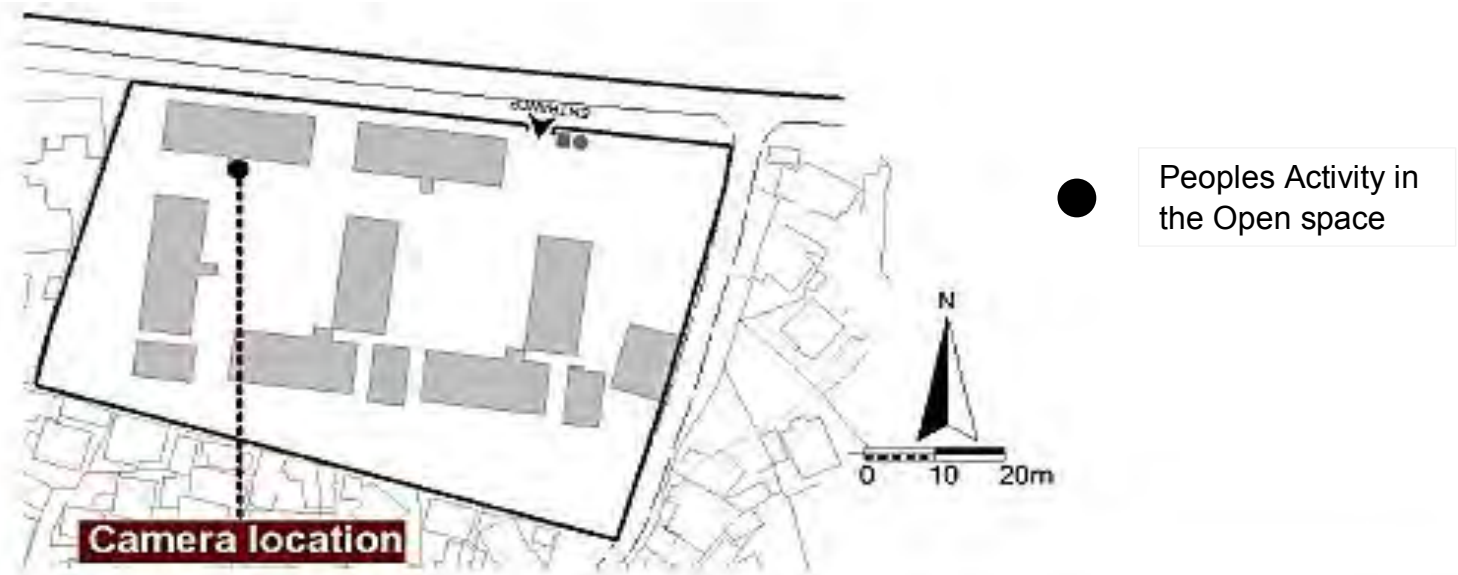
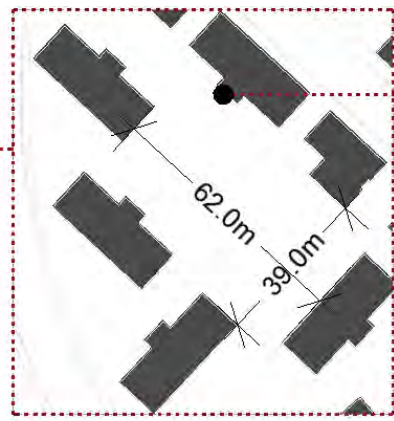


Fig. 36. Map showing Activity through time of case I



Camera Location



Peoples Activity in the Open space



Fig. 37. Map showing Activity through time of case II

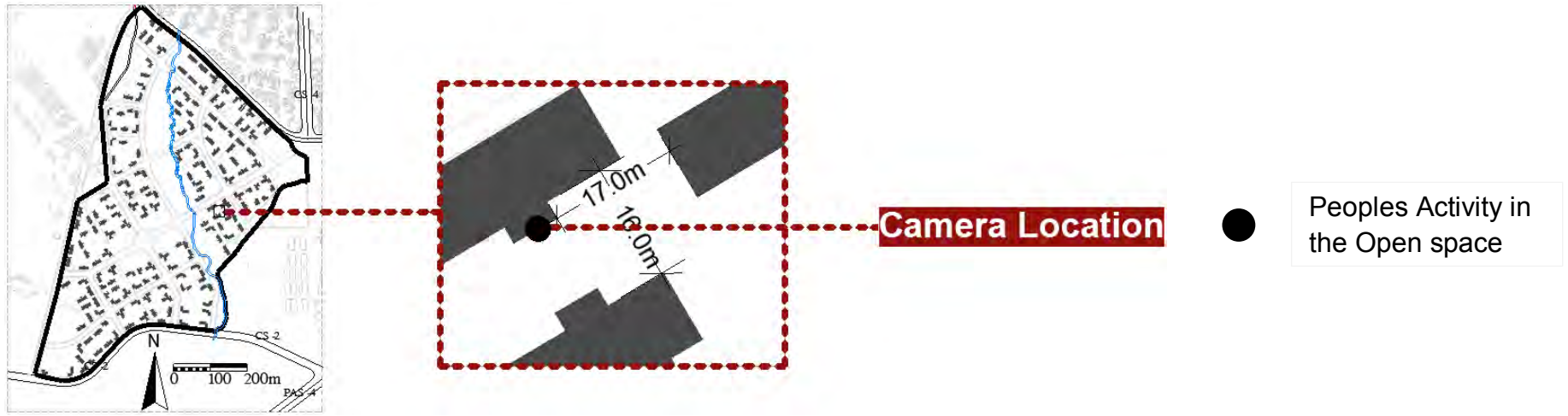


Fig.38. Map showing Activity through time of case II

4.5.3. Open Space management

Though green fields and managed open spaces can not on their own solve the problems associated with urban blight, they are an effective way of creating momentum and change. Perhaps the most obvious and tangible benefit of well-kept open space is how it physically and rapidly improves a neighbourhood's appearance but also help to soften the hard angles of a neighbourhood's built environment.

On the other hand one of the important considerations in discussing open space in terms of sustainability, is the function of the inter-relationship between design and management. (Khalid, 2008). Community participation and involvement on the development of open spaces is one of the issues that need to be seen.

In this regard, both case areas have association of condominium owner society with limited liability established based on the respective proclamation. The associations are established to develop and administer communal buildings and open spaces. It is the responsibility to motivate and lead the members of the association to participate on maintenance and development work of the open spaces (see. Fig.39 below).

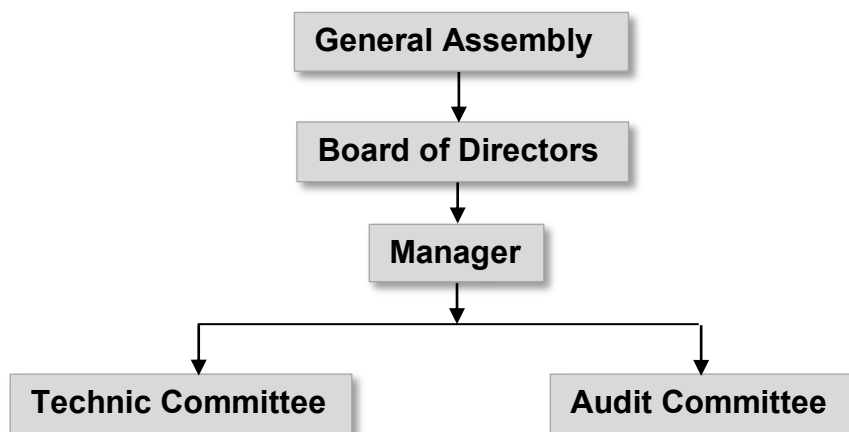


Fig. 39 Structural organizations of condominium unity owners with Ltd .Liab.

Since its establishment, the association were mostly engaged in administration and regulatory works: controlling the entry point, controlling the extensions of shades, collecting monthly security fees from the households.

a. Making maximum use of existing features and assets

The study reveals that, existing features and assets as open spaces have not been used efficiently despite it is the maximum share of both case study areas (See, Table 7)

| | Case I | Percentage | Case II | percentage |
|---------------|--------|------------|-----------------------|------------|
| Built up Area | 2465 | 25.4 | 76,225m ² | 18.15 |
| Open Space | 7202 | 74.6 | 343,775m ² | 81.85 |
| Total | 9667 | 100 | 420,000 | 100.00 |

Table 7 Comparison between built up area and open space of case I and case II

Source: computed from IHDPO neighbourhood design and Google earth image 2012

Regarding green open space, majority of the area are not managed in a proper way and use it efficiently. Regarding case I only 26.9% of the green is developed and the rest 73.1 % has been neglected and left to be unmanaged (See, Table 8, fig, 40) similarly, in case II 11.7% is managed green area that is developed by self-initiated households and the rest 88.3% is unmanaged (see fig.41 below)

| Green area | Case I | Percentage | Case II | Percentage |
|------------------------|---------------------|------------|-----------------------|------------|
| Managed Green Area | 700 M ² | 26.9 | 9,000 M ² | 11.7 |
| Non managed Green Area | 1903 M ² | 73.1 | 68,000 M ² | 88.3 |
| Total | 2603 M ² | 100 | 77,000 M ² | 100 |

Table 8 Comparison between managed and non managed green areas in Case I & Case II

Source: computed from IHDPO neighbourhood design, Google earth image 2012 & site observation

Built up density

In a neighbourhood housing development program, the density range for a certain area can be given in the terms of reference based on the particular city norm and standard. In core areas where the land value is high, with better service and infrastructure provision, job opportunity and transportation, dense development is foreseen relatively to maximize efficient utilization of resources. In this regard the study has compared the built up density of both case study areas with the standards described on neighbourhood planning and design manual in 2006 (see table 9 below).

| | Local standard for Core area zone | Local standard for periphery zone | Case I | Case II |
|---------------|-----------------------------------|-----------------------------------|--------|---------|
| Inhabitant/he | 950-200 | 54-120 | 1100 | 620 |

Table 9 built up density of both case study areas



Fig. 40 Location Managed and non managed green areas of Case I

Source: photo by the researcher

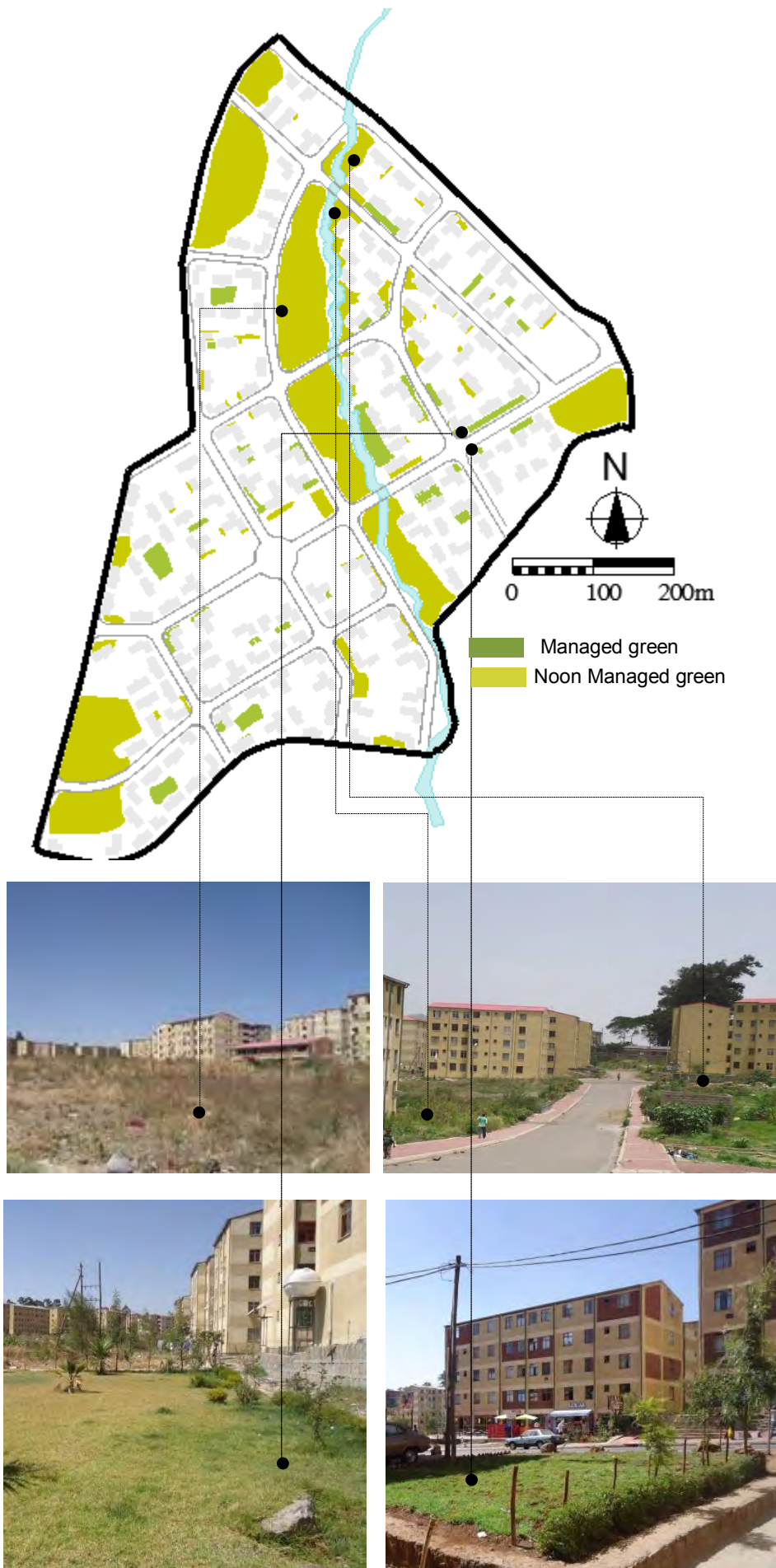


Fig. 41 Location managed and noon managed green areas of Case

Maximising use of existing features and assets can provide health, economy, and social benefits in the settlement. The study delivered blow the benefits that exist regarding health, economy and social in both case areas

I. Health benefit

The availability of managed green open space gives individuals the opportunity to be physically active. There is ample evidence that shows physical activity makes people healthier. According to Sherer (2003), regular physical activity reduces the risk of premature death, coronary heart disease, hypertension, colon cancer, obesity and non-insulin dependent diabetes. Health benefits of the open spaces in terms of sport have been examined. The study shows 6.6% and 23.3% of case II sample household uses the open space for physical exercise and walking respectively. However, in case I none of the sample household uses the open space for physical exercise. Moreover, the field observation reveals that both case areas, as most of the Addis Ababa’s neighbourhood, were not equipped with proper sport field and facilities.

II. Economic benefits

Properly managed open space has the potential to provide employment. To maintain the parks and green areas in terms of landscaping, cleanliness and general maintenance can generate employment. Employments that can be generated include jobs for landscapers, jobs for cleaners. These will have significant economic benefits both for the individuals who are being paid and for the economy as a whole. Regarding this study, the data collected from the neighbourhood associations of the case areas shows that some residents have employed on jobs that have a direct connection with open space: watering the managed green areas, cleaning the open space and collecting solid west from individual household. For instance in case I, 6 persons are employed which is far below case II of 28 employee (See, Table 9). In addition, in case II certain households are earning from urban agriculture, also some cafeteria, restaurants and other business are using the immediate outdoor open space for recreational services.

| Employment | Case I | Case II |
|------------|--------|---------|
| Permanent | 3 | 6 |
| Temporary | 3 | 22 |
| Total | 6 | 28 |

Table 10 . Employment opportunity in case I and II

III. Social Benefits

The provision of designed open space provides play opportunities for children. The importance of play is beneficial for all ages but it is especially important when it comes to children. Playing for children allows the mind to develop, it also allows children to learn how to communicate with other individuals and helps improve muscle strength, coordination, language, cognitive thinking and reasoning abilities (Sherer, ,2003). Also, By providing places where residents can interact and communicate with each other in a friendly non-threatening environment helps build stronger ties in the community and assists in developing a sense of ownership of the public open spaces in the area (Woolley, 2003).

The study shows that lack of provision of neighbourhood level public facilities, properly designed open-air recreational space, play fields and improper management of communal facilities are the drawbacks in both case area. Even though, case II has ample open space and the commercial houses particularly found along the access road are providing open-air out door services but it is not up to the resident's preference. Results of household interview in both case area seems to support this argument.it demonstrate that the majority, 76 percent,of the sample interview prefer to socialize outside the neighbourhood. About 10 percent are unconcerned about whether they prefer to socialize inside or outside but the remaining 14 percent would prefer to socialize within the neighbourhood (See Fig42 below)

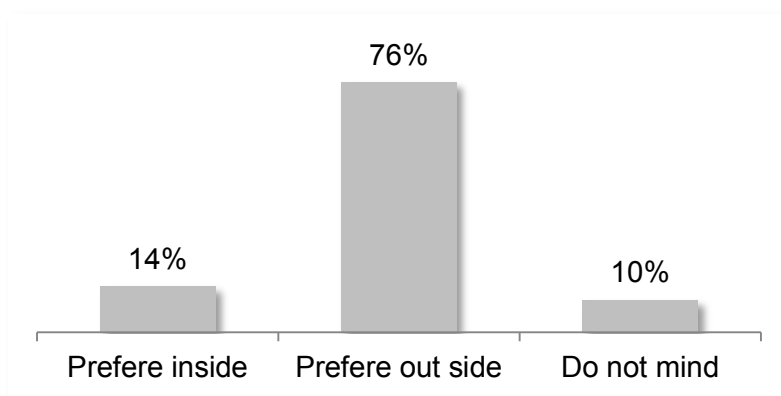


Fig. 42 Preference to socialize by households in case II

Out of those who prefer to socialize inside and outside the neighbourhood, about 65 percent, stressed on the open space inconvenience for the children.

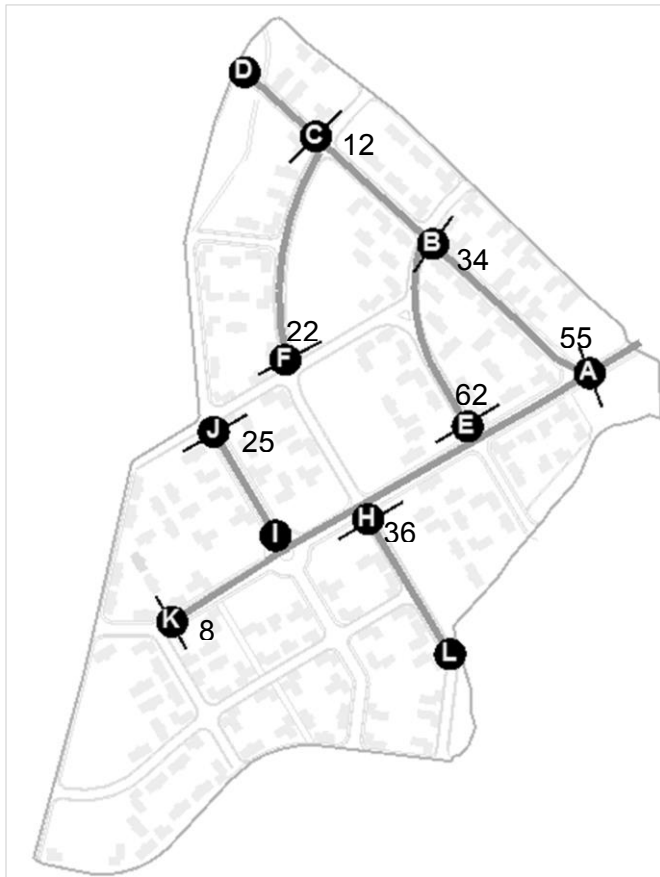
Moreover, in terms of preference to socialize inside and outside the neighbourhood there is some variance between female and male household. The majority, 86 percent, of household preferred to socialize outside the neighbourhood were male.

4.5.4. Circulation

Most sustainable neighbourhood design takes pedestrian circulation as a starting point of creating sustainable neighbourhoods where walking is the natural means of access between activities. Moreover, it becomes a social activity in its own right. Thus the number of people on the streets and paths itself provides security (Khalid, 2008).

In this regard, Individual choice of circulation and movement pattern is studied to correlate with the idea that these choices are the bases for the formation of sociability and security within the neighbourhood. Therefore, pedestrian walking routes have selected and pattern of movement on these pedestrian walking routes has obtained using the gate method of observation (Chang and penny, 1998) in which a stationary observer counts all pedestrians with respect to crossing a notional gate line across the survey segment.

Eight observation points have been distributed over the selected pedestrian walking routes and the observation have been done at four different period of the day (8:00-9:00am; 12:00-1:00pm; 2:00-3:00pm; 5:00-6:00pm;) in one of the week days and counting the number of people crossing the ideal gate lines to both directions, which last five minutes giving a total sampling period of 20 minutes for each gate location (see fig.43.b, below).



Survey Segment

Notional gate

43.b. Average pedestrian movement rate per 20 minutes of case II

The assumption starts from the idea that the most chosen pedestrian routes can provide better security and social activity.

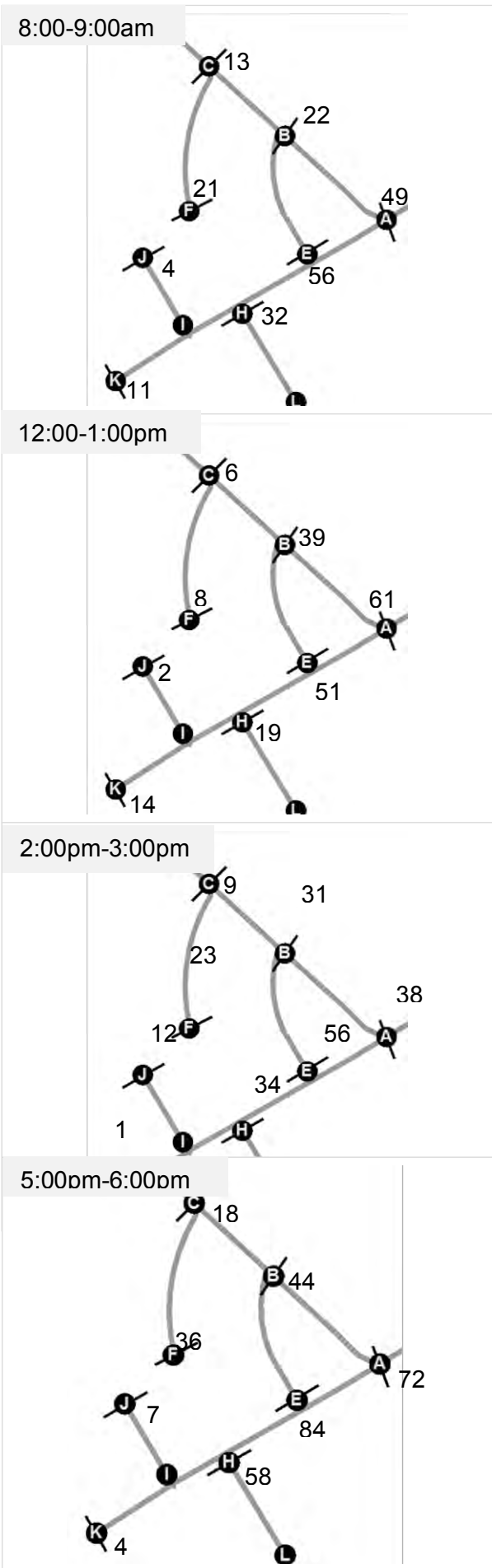


Fig. 43 a. Pedestrian movement rate per 20 minutes of case II

4.5.5. The role of landscape elements within the open space

Landscaping elements are the basic constituent of any open space's structure. They have to be utilizing to achieve sustainability goals at the micro level. Landform, Vertical element, Horizontal Structures (paving), Vegetation, are among the basic compositional element of landscape.

Vegetation

The plant selected for a public space within a neighbourhood can be according to a special theme for each area. It provides a sense of place in addition to its other amenities. Therefore, planting open spaces of neighbourhoods should be carried out taking account of themes; the climate of the locality; and also soft landscaping of a type and size appropriate to the area should be used.

For this study, the observation and interview result indicates both case areas have different approaches of planting. Regarding case I the neighbourhood association carries out the planting, watering, plant maintenance and greening work within the courtyard, except few residents use container for growing flowering plant on stair landing and corridors while, in case II individual households takes the major initiation and carry out the work. In case II the majority 72 per cent, of sample household involved in planting or greening were owners of the housing unit the rest 28per cent were renters.

Moreover, the study has tried to understand the level of participation of the residents on planting vegetation in both cases and the result shows that, the percentage of sample households who have planted vegetation of case II were by far greater than Case I (See, Table 10)

| Aspect of Involvement | Case I | | | | Case II | | | |
|-----------------------|--------|----|-------|----|---------|----|-------|----|
| | yes | | No | | Yes | | No | |
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % |
| Planting | 6 | 21 | 22 | 79 | 24 | 40 | 36 | 60 |

Table 11 involvement on planting vegetation by interviewed household

The overall vegetation cover can be categorized in to two. First, those plant spp: grass spp., herb spp., shrub spp., and climbing plant spp. scattered in to the un managed open space of Case I and II and along riverbank of case II that grow naturally. Obviously, these plants can have considerable role in making the local microclimate, reduce surface water runoff and facilitating water infiltration

to the soil. Secondly, plants rose in the managed green open space can have similar role regardless of the size, the amount of trees, the type, the form and the scale of vegetation.(see fig.44 below)



Fig. 44 plants in the managed green areas of case I and II

Those plants located at A, B, C, D, and A, E, F are found in case II and I respectively.

The above figure illustrates some of the areas where the satellite dish are concentrated on the significant size of prominent outdoor space without harmony to the immediate open spaces.

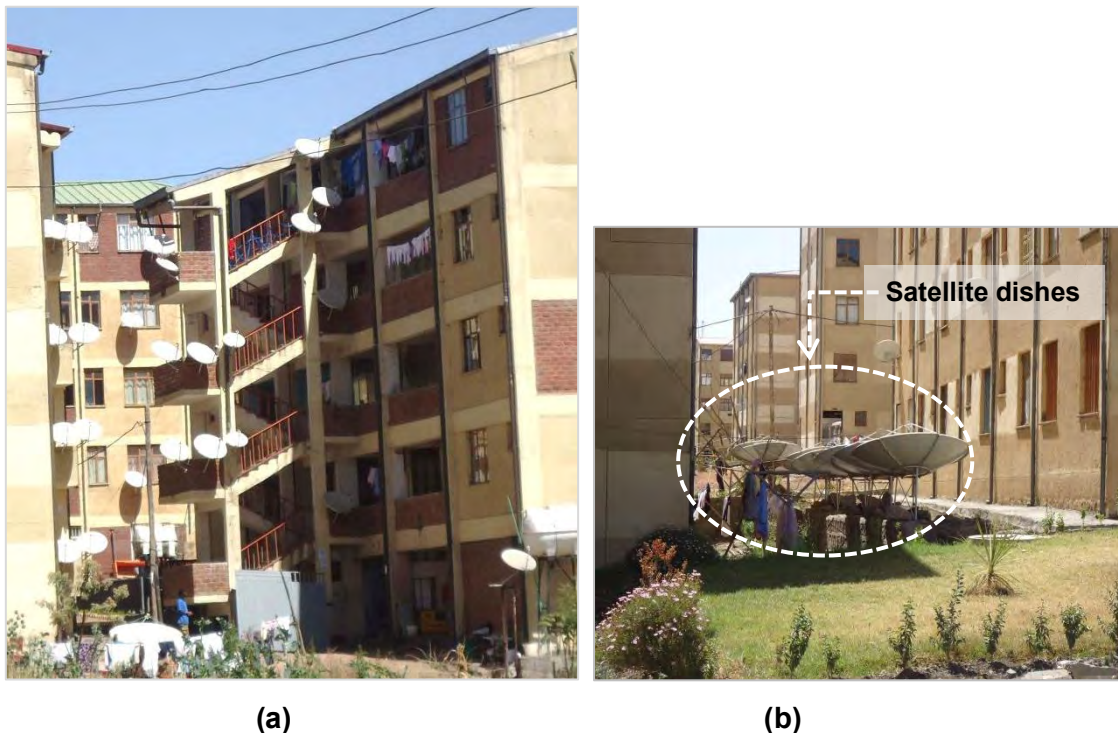


Fig. 46 visual dominance and obstructions of satellite dishes in case II

Sometimes small elements in the physical environment when taken together can affect users comfort. Regarding case II on some blocks, satellite dishes has been seen as a dominant visual element (see. Fig.46.a above). similarly, in the other place of case II it has been observed obstructing the good view towards the maintained green open space (see Fig.46 b above).

Laundry blow-drying facility

Planning or design of small physical elements of a neighbourhood is one of key factor for changing image of the neighbourhood. Regarding laundry blow-drying, it is observed as one of the physical element which haphazardly located and has got no proper considerations on any planning or design level of both study areas.

In case I, the residents mainly uses two places for blow-drying of laundry: above parapets of external corridors, simply laying washed cloths on a rope fixed with wall or other vertical element by its two end and the other is found within the edge at ground level(see fig.47a & b below). The stretched rope and pole made of wood or circular hollow section metal were the elements blow draying laundry is made.

The administration of condominium owners association of both study area have been the one responsible for the selection of places and installation of laundry blow drying facilities. However, areas left for green and circulation on ground level have been used for laundry blow drying (see.fig.47.a, b, c)

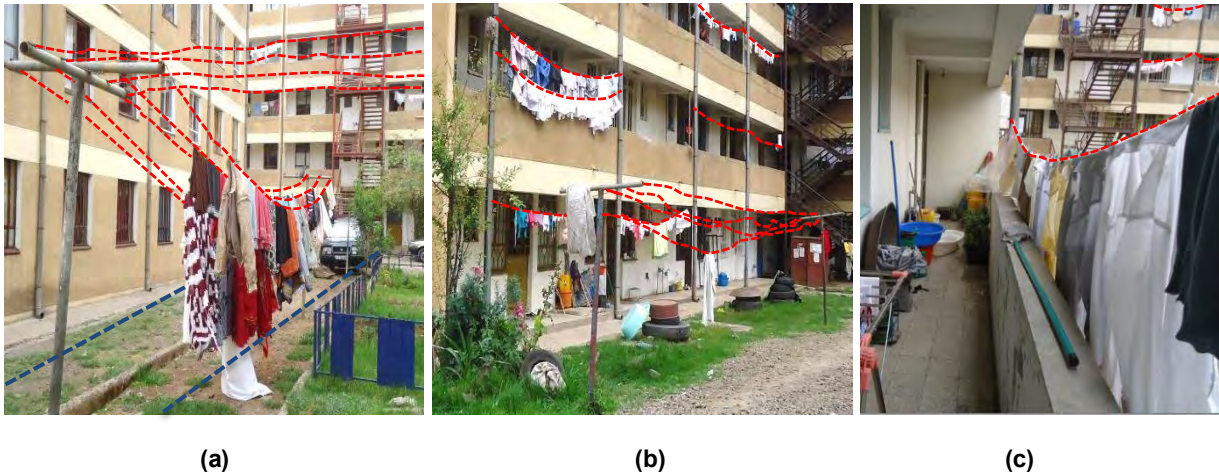


Fig. 47 Locations of blow drying laundry in case I

as it is seen on the above pictures lack design consideration of drying facilities consequently have brought inappropriate use of out door spaces. During survey,The Laundry drying above parapet on the upper floors have been observed reducing the day light in to corridor ,room and obstructing the view down to ground which create disconfert . Regarding case II,the condominium owners asociation prohibits laundry drying on corridors and strongly monitor it unlike case I.therefore the problem is seen on the open spaces at the ground level.(see.fig.48).



Fig. 48 Locations of blow drying laundry in case II

The above picture shows poles with sagging rope for laundry drying stretched all the way on the green open space. Hence, it has been placed by impulse; it has created a chaotic environment.

4.5.6. People's perception on the open space

This section of the analyses focuses on perception of dwellers about meaning of the current condominium neighbourhood open space in their way of life. The data, which shows respondents previous experience regarding open space, have collected through semi-structured in-depth interviews and personal notes Maintained by the author.

Several researchers described that the meaning of places constructed out of lived experience. The importance of experience and place interaction as a strong predictor of the extent of people place bond formation and they provide little insight on how this interaction shapes perception for place.

The study categorized the spatial context within previously living area that is used by respondents in to three: private compound, communal and no open space. The table below shows majority of respondents from both case II and case I had experience attached with communal open space.

| Spatial aspect | Case I | | Case II | |
|-----------------------------|-----------|------------|-----------|------------|
| | Frequency | Percentage | frequency | Percentage |
| Private compound Open space | 6 | 21.4 | 23 | 38 |
| Communal open space | 14 | 50 | 34 | 56 |
| No open space | 8 | 28.5 | 29 | 48.3 |

Table 12 Type of open Space with in previous living area by interviewed household

Respondents experiences varied, as did the meanings they attached to the experiences and the settings enclose those experiences. Apparently, among the respondent whose open space type in previous living area categorized under the communal open space spatial aspect, majority of them relate meaning of the open spaces with socio cultural events, ceremonies and playing areas.

The study also has tried to examine resident's perception on the current open spaces of both case areas. Obviously, the open spaces in the condominium neighbourhoods of both case areas are communal for all residents.

During the data, collection residents have been asked about what they like most in their neighbourhood open space. In response to the question what they like most about their neighbourhood open space, significant percentage of the respondent considered circulation, greenery and cleanness as major elements they like most in both condominium neighbourhood open space (see table 12 below)

| Aspect | Case I | | Case II | |
|-----------------------------|-----------|------------|-----------|------------|
| | frequency | Percentage | frequency | Percentage |
| Open space feature | 3 | 10.71 | 8 | 13.3 |
| circulation | 8 | 28.5 | 20 | 33.3 |
| greenery | 9 | 32.0 | 11 | 18.3 |
| cleanness | 7 | 25.0 | 17 | 28.3 |
| Familiarity with open space | 2 | 7.14 | 4 | 6.66 |

Table 13 most liked elements in both case study open space by interviewed household

Judging from these results, one could easily see that the condominium neighbourhood open space has considerable improvement in terms of circulation and cleanness.

However, during the data collection many respondents have expressed complain that these condominium neighbourhood open space failed to consider the social aspect. From the point of view of these respondents, their old residential neighbourhood was responsive for social interaction.

CHAPTER FIVE

RESEARCH FINDINGS AND RECOMMENDATIONS

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5. Research Findings

5.1. Use of open space

In the literature review chapter it was discussed that a wide range of factors influence the use of open spaces and may dictate how it should be designed. Similarly, Dee (2001) indicated the design of open spaces should be informed and formed by peoples needs. This study; by including a research question regarding the current utilization of the neighbourhood open space, was able to identify main use of the open spaces of the case areas. Even though it was not possible to explore all the uses open spaces the major uses were empirically identified. This has become possible primarily based on observation, photographing and open-ended interview made with the households as per the research method described in the first chapter.

In both case areas the open spaces are mainly used for circulation, car parking, washing laundry, blow-drying, grain drying, pounding grain, placing satellite dish and children playing. Both case areas have similarities in their arrangements of block that encloses a space and enables the definition of courtyard type open spaces. In these enclosed open space, two distinct portions of the open space were identified with respect to use. The first portion of the open space is found within the immediate few distance from blocks that define the courtyard. It is resident's most chosen portion of the courtyard space where usually used for car parking, washing laundry, blow-drying and grain drying. The second portion covers the central part of the courtyard that mostly residents are afraid to use.

The above finding confirms the concept of place and territoriality. It describes boundary and field are aspects of place and as the distance increases from boundary the field influence decline. With similar analogy, as distance increases from block to centre within the courtyard spaces of both case areas the use of the place decline.

5.2. User activities in the open space

User activities were identified using the method discussed in the research method section, which was able to answer the research question regarding user activities in the open spaces of the case areas.

Following Janghel's (1980) classification of user activities on the open space (discussed in the literature chapter), the study found in both case areas that necessary activities were the dominant activity that takes an average percentage of 80.5%.

According to Janghel's argument, as the percentage of the necessary activity by user increases, the quality of the open space decreases and the reverse is true for optional activities. The above finding implies that, the open space in both case areas is not providing adequate opportunities that foster the optional activity; as a result, the open spaces are not as quality as it should be.

Another finding in relation to the open spaces of both case studies, Legehar Gumuruk and Gofa condominium sites, is regarding activities of users through time. The analysis was made on a selected courtyard type of open space (see fig 25,26,27 above.) in both case areas (discussed in the analysis section). The study found out that, the activities in the open space were inconsistent throughout the day that, intermittently the open spaces become dull. During 8:00am, 12:00 am and 5:00 Pm were the times that attain highest number of user activities in the open spaces.

5.2.1. Social Activities

To discuss the findings regarding the relationship between social activities and the amenities on open space. The study found that the open spaces with green amenities are relatively active than bare ground. This confirms the description of Carmona (2003), that visual amenities on the open public space can furnish opportunity for social activity through providing linkage between people. The above finding implies that, providing neighbourhood open spaces with green amenities can optimize the social activities and consequently the benefits from it.

A related finding is regarding the interaction between dwellers found in different blocks. The study finds out that, dwellers in both case areas move from one block to another to interact. However, they are few in number. In addition, the vertical and horizontal circulation areas (the staircase and floor corridors) are key spots where the interaction among those dwellers found in the same block enhanced.

5.3. Open space management

As it has been described so far in the analytical framework section, Open space management is one of the core issues that dictate the role assigned for open space in achieving sustainability. This study, by including a research question regarding the role of open spaces for attaining sustainable neighbourhood, was able to identify few aspects in the open space management. The study found three approaches regarding the development of open spaces, the Legehar and Gofa condominium sites.

- The first approach is the one done by the condominium owners association that includes greening, planting, maintaining ditches and fencing.
- The second approach of open space development is through business owners found at ground floor level. They are involved in planting, greening, paving, levelling the ground, constructing steps and installing garden light.
- Third, greening, planting tree and vegetation of edibles by self-motivated dwellers

5.4. Circulation

In Gofa site(case II) the research found that, out of the selected pedestrian sidewalk ways, those with highest pedestrian movement corresponds to highest number of commercial units at ground floor of condominium buildings and these commercial units are located along the collector road of the case area. Related finding shows, as the hierarchy of the roads decreases from collector to local the density level of pedestrian movement also decreases, similarly the commercial activities decreases significantly. The above finding implies that the pedestrian sidewalk ways found along the collector road has higher level of social security and social activities compared to the level that is found along the local roads.

5.5. The role of landscape elements within the open space

Vegetation

The investigation of the cases has shown that planting design was not properly used as one of the tools in the development of open space. In all the case studies the majority of trees were having narrow canopy that do not give the needed shade efficiently for dwellers.

Satellite dish and Laundry blow-drying facility

In both case studies satellite dish have seen as one dominant object in the neighbourhood open space. It was not integrated with the overall physical elements and settings. Similarly laundry blow drying facilities were seen creating a visual distraction for the user .Furthermore, the study in both case studies noted that these elements were not recognised in the during the design period of the neighbourhood.

5.6. People's perception

In both case study areas, most respondents whose experience in their old neighbourhood had been with communal open space were relating their perception with socio cultural and ceremonial events. This implies that the setting and its physical attributes in their old neighbourhood did not define the meaning respondent's associated with the place. Rather, their meanings were most often defined by their previous experiences shared with family and friends.

Another finding regarding perception on open space is that respondents who have experience in communal place has previously valued place to go and spent specially with social circles of workmates, family and friends rather than individual factors.

5.7. Recommendations

The following recommendations are forwarded based on the findings of the study.

- Integrated open space management:
 - Through the coordination effort of various stake holders
 - Through awareness creation on various aspects of open space management(maintenance, planting, proper use of physical elements of the open space)
 - by coordinating professionals and scientific community with the neighbourhood associations and community.
- A proper open space management structure that promotes quality and sustainability of open space shall be studied and realised.
- For large size condominium neighbourhoods, (example, case II) it is recommended to provide car parking block near to the entrance. By doing so walking will be encouraged and space will be saved for other purposes.
- In order to enhance usability of open spaces in the study areas, which is particularly located to the middle of a defined open space, it is recommended that detail open space design showing various purposes of the space shall be proposed and realised.
- It is recommended to provide and realise a neighbourhood open space design, which is responsive to values, requirements and characteristics of the user. Furthermore, the design of the space should be provided with functions that can be used at different time of the day.
- During the design period considering the fact that, creating places and situations that promote optional activity is one factor that increases the quality of open space. For instance open space provided with sufficient seating bench, water features could make user to take longer time.
- For Large Open space particularly located at the middle of defining blocks of the study area shall be further sub divided to create smaller functional open space with in the larger open space. This will reduce the scale and make it intimate to human scale (see annex 1).

- Considering, the fact that the accessibility of these spaces is one factor to enhance their use.
- Designing open space that users can modify and adapt. For instance, simply by rearranging furniture, changing the decoration, and planting different vegetation at different time.
- Continued active Participation of future users in the design of neighbourhood open space is very important in order to recognise difficulties posed by designer –user gap.
- Objects and elements such as satellite dish and laundry blow drying facility, cloth washing stands should be placed in harmony with the overall physical situation. Sometimes small elements in the physical environment when taken together can affect users comfort.

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APENDICES

Annex 1 Questionnaire

Name of respondent -----

Address:-Sub City----- Woredas ----- House No ----- block no _____

Floor level _____ unit type _____ Age _____ Gender _____

Name of the condominium site -----

A. House hold interview

1. Owner ship
 - a) Tenant -----b) private -----
 2. How many years did you live in this house?-
- _____

| House hold information | | | | |
|------------------------|-----|-----------------|--------------------------------------|------------|
| Sex | Age | Education level | School (kg, eleme, high sc., colle.) | Occupation |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

3. Where was your previous living area

4. How do you use the open space with respect to social and cultural events

5. Do you have enough out door open space for social and cultural events

6. how does it look like the relationship b/n you and the open space

7. Who would like is mostly use the open space from this house unit

_____ age _____
8. How do you spend your spare time on the open space?

9. Would you explain the kind of activities usually do in the open space

9. Is there any interaction between peoples in different blocks?

10. How do you see the road in this site (main road, access road, foot paths)_____

11. What are the things you like or dislike about this neighbourhood? _____

- How do you see the existing Social Interaction? _____

- Open space usage. _____

- How do children's interact with the open space

- Does building grouping and position of windows allow supervision of open space and play?

- How the car parking shall be (where should be, one parking area for all site/Parking area at all parcel. _____

- Do Car space is secure?

- Do Close drying areas are secure(how do you control)

- Green areas(is there enough green areas) _____

- The type of plants or trees _____

- What kind of problems are there for planting tree and greening the area _____

- How is responsible for planting the trees

- The view towards outdoor open space

- Where is your favorite view point _____

- Which area of the open space mostly you like to go

- Is it easy to understand how to enter and move about the site? _____

- Are any elements that could confer a special identity to the site used to do so?
- shall the open spaces are divided in to small piece and managed by individual dweller

12. How do you see the existing walk ways

_____?

- encourages walking

- easy to move place to place

- makes boring to reach one's place

- is it comfortable to walk

- is it comfortable to use steps constructed to manage level differences

13. Any spatial transformation that has made in this neighbourhood

- Site boundary modification
- Demolished /modified/ buildings
- Constructed buildings /structures/

14. What are the things that have been experienced in your previous living area and you wish to be incorporated in this neighbourhood

15. How roof water can be used in this neighbourhood?

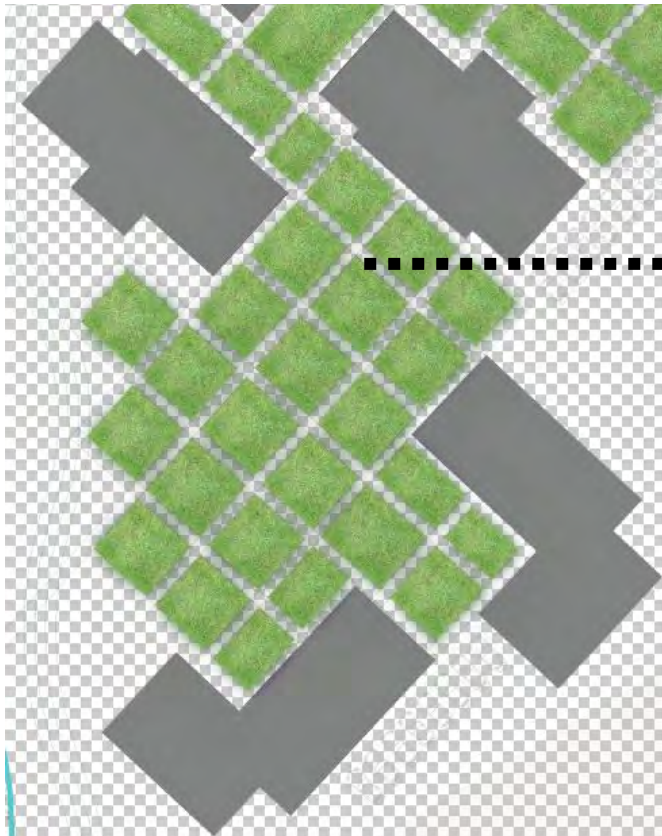
- watering vegetation _____
- for toilet flushing _____
- for recreation (fountain) _____

16. How do dispose the solid waste

- Are refuse and bin storage areas convenient and carefully placed?
- how much Plastic bottles do you dispose _____ per week _____ per month _____
- how much Tire do you use per year _____
- Organic waste

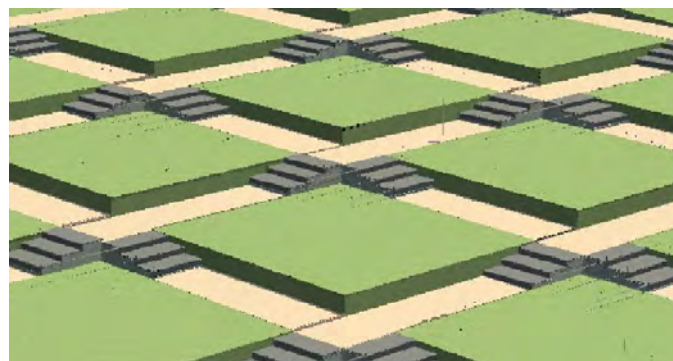
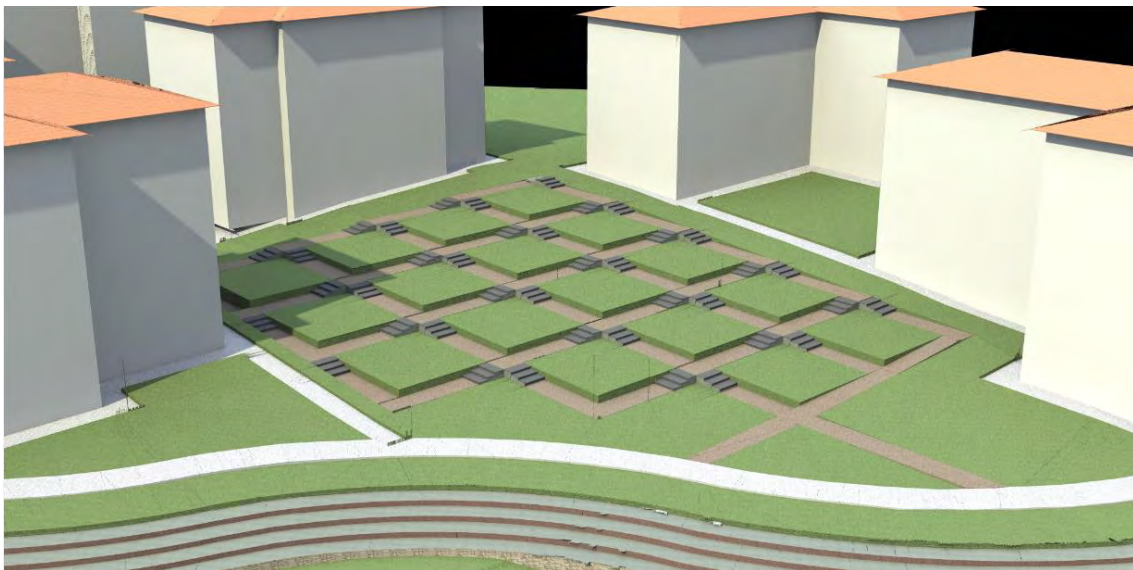
17. What kind of urban agriculture can be done in this neighborhood?

Annex 2 Division of open space with in larger defined open space



Division open spaces

Objects and landscaping elements can be arranged along the grid pattern in harmony with the other physical environment.



Annex 3 contacted persons and offices

| Name | Institution | Position |
|----------------------|---|-----------------------------|
| Ato Luelseged birhan | Legehar Gumuruk condominium neighbourhood association | Manager |
| Ato mengistu Adane | Gofa Mebrat hayil condominium neighbourhood association | Manager |
| Ato Tefera Eshetu | AAHDPO | Planning and budget Officer |
| Alem Birhanu | AAHDPO | Head for design section |
| Ato Yemane Tsegaye | AAHDPO | General Manager |