AN EXAMINATION OF THE LIVABILITY IN PLANNED AND UNPLANNED RESIDENTIAL NEIGHBORHOODS (A CASE STUDY OF LAHORE)

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THESIS ACCEPTANCE CERTIFICATE

Certified that final copy of MS thesis written by Mr. **Muhammad Shoaib Ejaz** (Registration No. **NUST201362180MSCEE15813F**), of **SCEE/NIT/U&RP** (School/College/Institute) has been vetted by undersigned, found complete in all respects as per NUST Statutes / Regulations, is free of plagiarism, errors, and mistakes and is accepted as partial fulfillment for award of MS degree. It is further certified that necessary amendments as pointed out by GEC members of the scholar have also been incorporated in the said thesis.

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DEDICATION

This thesis is dedicated to my beloved Parents

Ejaz Mehmood & Shahnaz Ejaz

for their necessary support and prayers.

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(Muhammad Shoaib Ejaz)

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Abstract

Urban sustainability remains the key issue since the 1990s, it mainly consists of livability improvement along with environmental conservation. Many developed countries increase the urban density to improve livability and environment conservation. But at the same time, many developing countries densify their cities without any planning which badly affect the cities livability. The high population density in main cities of developing countries amplified the demand for basic facilities and development of planned projects include housing. In developing countries, the delivery housing units in built-up zones become the serious issue for development authorities in developing countries like Pakistan. Time and again planning authorities in Pakistan had made efforts to overcome housing problems. Regardless of such efforts, housing that fulfil the necessities and desires of poor urban and low income residents, particularly in unplanned neighborhood residents in Lahore city has not been achieved. The development of residential neighborhoods with insufficient housing space and services within the municipalities resulting in high demand generated due to migration and population growth. Due to uneven Supply of basic amenities and facilities in different areas affect the livability of neighborhoods

Lahore is the second major city of Pakistan. It is the capital of Punjab with most population. The population of Lahore is 6.31 million according to 1998 census with total area of 1,772 square kilometers. Lahore master plan show the number of houses required are 154,000 housing units. Which indicates the more residential neighborhood will be developed in Lahore to overcome this backlog. The inner city of Lahore is mostly unplanned and walled city, mostly occupied by local people who mostly not willing to shift to outer areas of the city. Due to limited space available for growth within the inner city demanded shifting to the peripheral neighborhoods. Accordingly, variances in the housing quality and service availability for different areas affect the satisfaction

level of residents. The aim of this research is to examine the livability in planned and unplanned areas. To achieve this goal, this study addresses the following sections; physical characteristics of case study areas i.e. population density, average house hold size, the number of stories, the condition of houses and neighborhood street width, accessibility to the different community facility. Three neighborhoods from the planned and three from unplanned areas were selected for case studies.

The findings of this study show that the planned neighborhoods are more livable than unplanned neighborhoods because the dwelling space, safety and community facilities standards in planned neighborhoods were satisfactory. Most of the neighborhoods near to the inner city of Lahore are unplanned because their haphazard and dense growth which affect their livability. This is due to non-implementation of planning standards and availability of only one tire development authority which unable to control the illegal and unapproved extensions in unplanned neighborhoods. On the other hand, the factors like accessibility, public transport and social interaction lack and were not up to mark in planned neighborhoods. This is because of inadequate and low quality public transport leads to usage of private vehicles to access the community facilities which also affect the social interaction. However, in unplanned neighborhoods, the greater use of street corners may increase the social interaction of neighbors. By comparing the planned and unplanned neighborhoods, this study recommends that controlling authorities should ensure the proper implementation of planning standards by controlling the illegal extensions, by developing open spaces and community facilities within walking distance, provision of adequate and quality transport, and improving the public participation in planning process as the public participations help the authorities to create the satisfy livable environment to residential house necessities.

Chapter 1: Introduction

Livability is an increasingly used term that refer to the society's quality of life. The term includes issues like safety, environment quality, health, public transport, walkability, affordability and neighborhood facilities like parks, open spaces, stores and restaurants. No one was familiar to the term 'livability' in planning word till mid-1970s, it was a major concern in the physical reform movements linked with community works and community well-being that was done in the early 1900s (Larice, 2005).

During 80's the concept of livability became popular (Jacobs, 1987 & Myers, 1987). Simultaneously, after the sustainable development concept arose in 1980s, urban sustainability become the main focus in cities (Chiu, 2008 & Kenworthy, 1999). The major goal of urban sustainability demands an improvement of socio-spatial equity and livability of the citizens besides decreasing the impact of urban activities (Chiu, 2008 & Kenworthy, 1999). Numerous specialists, policy-makers and activist groups promote the goals of sustainability through sustainable urban form models (Jabareen, 2006 & Howley, et.al, 2009) as these concentrated on place based livability. Increase in density or high density is supported by most of the urban form models (Chiu, 2008 & Tregoning, et.al, 2002). The high population densities in rapidly growing cities of developing countries cause problems for livability. The livability of these cities yet to be determined.

Concept of Livability under the frame work of sustainability, livability is stated as the characteristics of person-environment connection which includes several features to create a place suitable to live in (Kamp et.al, 2003). However, sustainability is a condition which includes the factors like economic, social and environmental to be positively enhanced, looking into long term

preferences, taking into account the adverse effects, livability is the component of sustainability which affect the people living in community (Litman, 2011 & Miller, 2000).

The basic difference between them is that the concept of Sustainability is based on both the future and the present needs, as it is clear from its definition i.e., "Meeting the present needs without harming the future ability to meet their needs" It is a broad notion with wide range of aims including livability. While livability mainly concentrate on the people's contentment and understanding of place.

1.1 Problem Statement

Pakistan will be going to witness huge urbanization in upcoming years. This urbanization will badly affect the livability in the residential areas.

Currently population of Pakistan is 188 million and is expected to increase to 210.1 million by 2020 (Pakistan Economic Survey 2009-10). Housing is the 3rd basic need so the increased urban population would create demand for large number of housing projects. These projects, if are not well planned for good livability environment, would adversely affect the livability of housing areas.

1.2 Purpose of Study

This thesis aims at investigation of the livability of planned and unplanned residential neighborhoods of Pakistan by taking Lahore city as a study case. Lahore is the second largest city of Pakistan. It is capital of Punjab with considerable population i.e., 6.31 M (million) according to 1998 census with total area as 1772 sq.km (square kilometers). The population density of Lahore

was 3565.9 persons per km (kilometer) in 1998. The current population is 8.65 million and its density is 4881.5 persons per kilometer. Lahore master plan indicates the current housing backlog as 154000 housing units. This situation indicates that more residential neighborhood will be developed in Lahore to overcome this backlog.

1.3 Research Questions

- What is livability?
- What is difference between livability and sustainability?
- What are factors of livable neighborhood?
- What are the impacts of livability factors under different residential densities?
- How the planned and unplanned residential neighborhood impact on livability factors?
- What are the residential environmental quality issues?
- What are the levels of residential satisfaction in planned and unplanned neighborhoods?
- What are the density attributes of case study area?
- How livable is the case area's urban neighborhood under a dense environment?

1.4 Research Objectives

- To study the physical and social livability characteristics in planned and unplanned neighborhoods.
- To investigate the perception of residents upon social and physical livability factors in planned and unplanned neighborhoods.

- To develop a livability index based on degree of residents' satisfaction about their neighborhood, and in the end
- To recommend the strategies to improve livability of planned and unplanned neighborhoods.

1.5 Research Outline

The research thesis includes five chapters with annexure, tables and figures as outlined below:

- Chapter 1 Introduction: It includes the introduction about the topic, problem statement and significances of study, research questions and objectives.
- Chapter 2 Literature Review: This chapter discusses the Lahore history of urbanization and the literature review of different research papers related to livability, sustainability and impact of high densities.
- Chapter 3 Research methodology: This chapter includes the methodology used for calculating residential density, investigating livability factors and measuring the residential level of satisfaction.
- Chapter 4 Data analysis: This chapter analyses the data based on measuring residential density, livable factors and residential satisfaction. Results have also been concluded based on data collection from primary and secondary source.
- Chapter 5 Conclusions and recommendations: Conclusions and recommendations have been drawn based on findings and results.
- References have been attached at the end.

1.6 Research Scope

Due to limitations of time, resources and funds etc. this research investigates the livability at neighborhood level instead of inspecting the livability at the city level.

1.7 Significance of Study

- This Study will fill the research gap on the livability in the planned and unplanned neighborhoods of case study area in the context of Pakistan.
- The result of this research will be useful for government to understand how much it is important to control the unplanned residential neighborhoods.
- The finding of this research will help the planners to design the better neighborhood by considering all the livable factors.

Chapter 2: Literature Review

Livability is basically the quality of life and it is common well-being of the persons and communities, encompassing both positive and negative aspects of living. Livability or quality of life is a board thriving of individuals and social order, delineating contrasting and valuable components of life. It watches life's satisfaction, including everything pertaining to physical prosperity, domestic, health, work, wealth, religious belief, employment, education and nature. Quality of life has a broad assortment of settings, including the fields of worldwide advancement, medicinal amenities, governmental issues and work. Livability or Quality of life ought not to be confused with the idea of Standards of living that are constructed fundamentally on basis of wealth.

2.1 Livability and its Mechanism

Nobody familiar to the expression "Livability" in arranging word till mid-1970s, it was a noteworthy concern in the physical change, developments related with public works and general well-being that occurred in the mid-1900s.

It is pertinent to deal with the following concerns of Livability in any Town of a Country:

- Empower inhabitants to flourish over their future.
- Guarantee that social sponsorships are set up so people can have good life expectancy
- Guarantee that people have direct lodging decisions that are legitimate for their necessities at various ages and limits.
- Empower people to get around by giving transportation choices and by plotting open spaces with attractive landscapes.

- Gives fundamental cordialities like a food merchant and medication store nearby, so inhabitants don't need to get into an auto to meet their regular needs.
- Encourage social joint effort and gathering consideration through the creation of intergenerational open spaces and open entryways for mutual engagement.

2.2 Dimensions and Indicators of Livability

Another urgent thought concerns the role of nature to be measured. The living condition experienced by occupants can be delineated from different viewpoints, each speaking to an alternate aspect of their lives. Lynch (1998) was among the first to analyze the criteria of a decent settlement. A decent settlement is a place that is receptive to the human setting and also interfaces human esteems to activities that influence the spatial, physical aspects of the city. He likewise proposed a standardized hypothesis that interfaces explanations about how a city functions with proclamations about its integrity. Characterizing a decent settlement is the core concern to understanding livability and has a pivotal role in accomplishing livable spots.

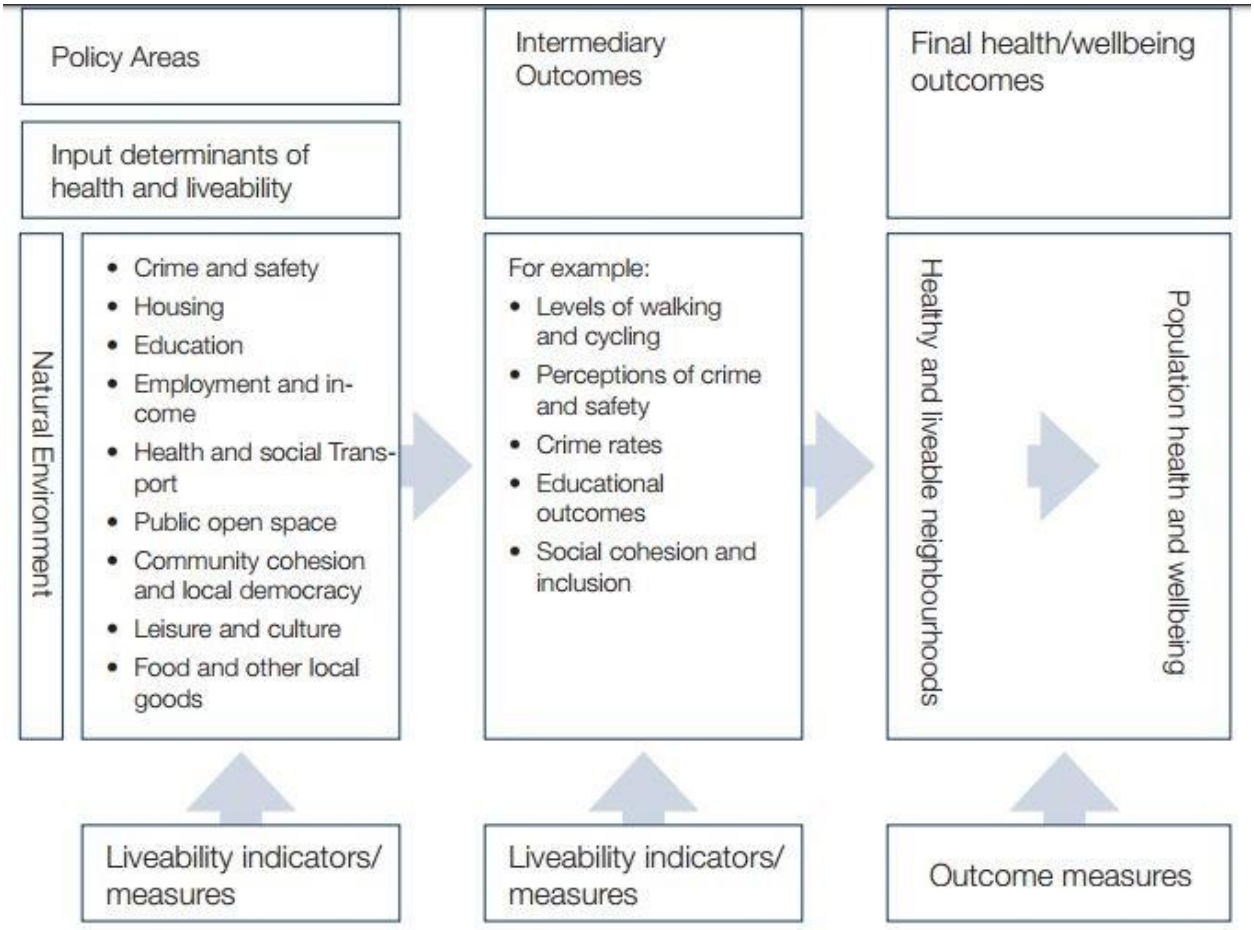

Figure 2.1: Policy area determinants and outcomes of livability

Lynch‟s hypothesis depends on an arrangement of execution measurements for the spatial type of urban communities that are based on the foundational estimations of progression, association and transparency. The way toward distinguishing suitable execution attributes utilizes three determination criteria. To begin with, central, physical human imperatives and requirements are considered. Second, the social practices and propensities that are connected to a specific area. The third essential is that the attributes must have the characteristics of "dimensions", which don't surmise esteems or "standards". As per Lynch, measurements are execution qualities that measure a property against a human reason. Imbedded in the measurements is affirmation that they support an arrangement of general human aspirations and needs. Measurements are interconnected and

commonly supporting. They measure on a scale, for instance, from zero to one, high to low or few to numerous.

The five basic dimensions of Livability are vitality, sense and perception, appropriateness, access and control and ownership.

By and large, the selected measurements will differ contingent upon the discipline, culture and goals of the research, in an endeavor for gauging the goal and subjective quality of life to decide the livability of different neighborhoods as in Benin City. Five expansive measurements included employment, housing, amenities, nuisances and socio-economic factors. Most of these are taken as sub-themes in examining and identifying the environmental quality and property cost. The four elements considered by inhabitants as vital for a decent living area are aesthetics, functionality, social relations and individual factor. Heylen (2006) attracts our regards for four measurements of livability that are regularly seen in Flanders and the Netherlands, in particular nature of the habitat, nature of the physical condition, nature of the social condition and neighborhood security. These indicators either in totality or partially are used for improving quality of life in many regions of Europe. The qualities are assembled into four measurements including the physical attributes of the house, the physical attributes of the neighborhood, the social attributes of the neighborhood and the practical qualities of the neighborhood. In another investigation that reports on the livability of urban areas in England, the specialists have four key livability factors and their indicators as well. These subjects relate to environmental quality, physical area quality, functional place quality and more secure places.

A look at the different studies found that few livability measurements, vis-a-vis., functional, physical and social situations are chosen in all the cases, which reflect people's normal comprehension of living.

Assurance of the livability measurements gives the substance to point improvement by separating the measurements into measurable elements. These indicators ought to have the capacity to collectively portray the most imperative dimension of the environment where individuals live and work. Newton considers every indicator as a sort of small model in its own privilege by separating a complex subject that can be easily griped and comprehended by policymakers and the general public. For each of the recognized livability measurements, the accompanying segment surveys integrate those objective measures that have been proposed in the composition. The essential objective of this evaluation is to locate the regular measures of every area tended to in the investigation, from which ideal competitor indicators can be proposed for this exploration.

- Social Environment Indicators
- Physical Environment Indicators
- Safety and Crime Indicators
- Functional Environment Indicators
- Economic perspective Indicators

2.2.1 Social Environment Indicators

Indications for this classification measure the ranks and connect different social components. The most part of the indicated study is about to concentrate on the components of group life and social contact. Neighbors' behavior as far as aggravation is likewise another problem. Another measurement that could be incorporated is the sense of place experienced by the area occupants, as researches have demonstrated, is related to satisfaction. Some of the local indicators are also

included in the satisfaction pertaining to quality of life and these embrace neighbors, friends and also the moral support relationship with neighbors.

2.2.2 Physical Environment Indicators

The physical condition is the space where individuals work, live and create informal organizations and social networks. Individuals are dynamic in the space, use and cooperate with this space, and furthermore perceive the space. The states of the space are outer variables, yet they have constructive or contrary effects on people's observation and feeling. Most investigations underline the indigenous habitat of groups, which concentrates more consideration on the accessibility and nature of parks and green spaces. A couple of them consider the earth quality, for example, contamination, litter, clamor and blockage, and building support.

However, it is chosen that this thing ought to be incorporated into the practical measurements, following the categorization of most examinations explored. A comparable situation was found in Malaysian investigations in which a portion of the physical and useful indicator is given diverse impact (e.g., activity conditions, school offices, wellbeing center offices and recreational offices) and assembled under the heading of social and open offices.

2.2.3 Safety and Crime Indicators

Safety is a critical essential need, which is reflected in the way that everybody desires to live in a crime-free and secure neighborhood. An area with a high crime rate will bring about a risky domain that gives dread and stress among its inhabitants. It is difficult to realize a decent personal satisfaction in a territory with a high crime rate, regardless of the possibility that other living

conditions are acceptable. Crime and security are observed to be the predominant indicators in clarifying fulfillment with the general living conditions as in Japanese urban groups. Security measurement indicators are utilized to gauge a neighborhood's safety level. They can be assembled into three types: the frequency of various sorts of crime, incidents of wounds or mishaps and sentiments of security.

Figure 2.2: Global Eco System

2.2.4 Functional Environment Indicators

As specified by Holt-Jensen (2001), the functional indicators infer that prosperity relies upon great arrangement and area of communication frameworks, shops, kindergartens, strip malls, schools and different administrations. The private and open arrangements of administrations are vital when nearby individuals assess the quality of life in their neighborhood. Another vital factor in this measurement is accepted to be accessibility. Here, the indicators gauge public transport offices and highways.

2.2.5 Economic perspective Indicators

From a financial point of view, employment is the most vital part that adds to quality of life since it gives the wellspring of income or monetary base for individuals. So, the third marker distinguished for this measurement is employment. Despite the fact that relatively few

examinations incorporate it as an indicator, employment opportunities are a vital means for individuals to create interpersonal organizations and be engaged with societal exercises. For most of the society's interface, work may likewise acquire the residents' mental fulfillment in terms of giving a chance to show their capacities and have a sentimental accomplishment. The Economist Intelligence Unit (EIU) is a free business inside the economists gathering giving anticipation and admonitory administrations through research and examination. The Economist Intelligence Unit likewise delivers standard reports on "livability" and average cost for basic items of the world's significant urban communities that get wide scope in worldwide media.

2.3 Livability and Sustainability

Figure 2.3: Relationship between Livability and Sustainability

Concept of livability under the edge work of sustainability, is expressed as the qualities of individuals' connections which incorporates numerous attributes to make a place appropriate to live in (Kamp et. al. 2003). However sustainability is a condition which incorporate the elements like monetary, social and ecological to be improved, investigating long term considering impacts. Livability is the part of sustainability which impacts the general population living in society (Litman, 2011, De Roo & Miller, 2000). The fundamental contrast between them is that the idea of Sustainability in light of both the future and the present needs, as it is clear from its definition "Meeting the present needs without hurting the future capacity to address their issues" It is a wide thought with scope of aims which incorporates livability. While livability has primarily focus on the general population satisfaction and understanding of place.

There is a close association between the ideas of livability and the social determinants of health. Taking the World Health Organization's (WHO's) far reaching definition of health as a "condition of complete physical, mental and social prosperity and not only the absence of sickness or infirmity", health is comprehended to be controlled by the social, financial, political, built and natural habitats in which individuals live . ”Social determinants of health” is a term that includes these "conditions in which individuals are conceived, grow up, live, work and born, and the frameworks set up to manage illness." In light of the work of Dahlgren and Whitehead, Barton and Grant have built up a chart that speaks to the social determinants of health at the neighborhood, metropolitan and worldwide scales

2.4 Livability and urban form models

Livability is the middle piece of urban outline models. It is contended that segments of urban outline, to be particular, as dwelling type format, density and framework impact sustainability and human conduct. The Urban design representations, surprisingly the squeezed city display, smart growth, innovative urbanism, and travel arranged improvement made in the USA and Europe in the mid-1990s as an essential reply to unacceptable town area techniques and to check the ecological degradations accomplished by the urban masses. Following are the four models, focusing uncertainly and certainly in the livability matters.

- New Urbanism
- Smart growth
- Transit-oriented development (TOD)
- Compact city model

2.4.1 New urbanism

An outline feasible urban model of frame, unequivocally concentrates on the change of the states of life at the neighborhood level. Motivation emerged from established urban arranging practices. Different designers of the early years of the 20th century prescribed the idea of innovative urbanism as framed by the assembly of the new town arranging in United States in mid 1990s. The innovative urbanism legal counselors outlined systems in light of conventional urban structures to help the rural areas by stopping uncontrolled development inside the city and to fabricate and modify the neighborhood and the city. As indicated by Hikichi (2003), new urbanism advances the locale with open spaces for the improved balancing of municipal asphalts and streets in view of the grid system network besides incorporating the utilization of mixed private, trade and workplace units at pedestrian level of accessibility from the individual houses.

The New urban planners who trust on the neighborhood planning functions capable of meeting the occupants enhanced livability, urging walk to nearby and utilizing the help of satisfactory surroundings contacts as well as strengthening a solid feeling of community (Leccese & McCormick, 2000). The new urban organizers for the most part advocate backpedaling to the pre-World War II, with a specific accentuation on ventures that advance the walkable neighborhoods with a mix of land utilization and the thickness as a method for walking, cycling and transit oriented models for use in the car (Katz, 1994). Among the ten standards of outlining the new urbanization, nine manage how to bring the diverse exercises (land uses) and individuals nearer together, while the tenth condenses the assumed impacts of new urbanization ecological standards. One's personal satisfaction mean a huge caliber of lifecycle that merits living and cause to enhance, lift and rouse all over the social standards.

2.4.2 Smart growth

In enhancing livability of the neighborhood, this model work with outline standards. Like new urbanism, in the 1990, the keen development rise in the USA. It keeps an eye on three unified topics i.e., the density of built-up change, spatial segment of living slot-use capacities and association among land utilization and portability outlines. The most part of smart development emphasizes on the organization of improvement over renovating and the filling of the current built-up domains more willingly. The mixed land utilization, densification, safeguarding farmland and open space, urban development limits, making person on foot, social orders, and extending limited transport means are the principles of smart growth.

The said principles will add contribution in refining livability. However, compact advancement has made a supervisory and betterment in organizational attitude and managed increment formality that oblige new green field advancement by giving a diversified choices to unmaintainable growth, interstate augmentation and dangers to quality of life in particular. Conversely, analysts fight that compact development owing its consideration the most on the provincial tier of estate and overlook low density living which grows congested traffic flow and air contamination by extending over flow of population. The pledge dispute to embodiment of brilliant development is other than the breaking planned growth, and to oblige the unpreventable advancement by the means that updates sensible growth, economy and the land use factors. It has been seen as the extended densities, batching, and extended accessibilities are the consequences of the following brilliant development norms that give some different socially favorable circumstances to the inhabitants.

2.4.3 Transit-oriented development (TOD)

The transit oriented development likewise aims to enhance portability of the transport terminals in focused town or area. TOD is the extension of the brilliant improvement gauges. TOD has diverse explanations, as at basic level a blended user's group that urge people to avail closed travel benefits and to lessen the dependency of TOD on driving. The accentuation of TOD is to configure blended utilization zones with a clear group of dwellings, merchant shops, and working environments inside a one-quarter KM pedestrian range of a light rail structure and along these lines help the economy. Essentially, the indications of travel orchestrated progression are:

- Enhanced portability and Environment;
- Pedestrian neighborhoods;
- Elective rural living and working environments;
- Neighborhood recharging;
- Open security

By getting TOD into a good rank, the recurrence must be extended near to a stage that is going to reinforce the travel and decrease the vehicle movement, the game plan of other crucial workplaces and assistance gathered by the travelers and it acknowledges better quality of life.

2.4.4 Compact city model

The idea of this model has been upheld in the Europe and UK in mid 1980s. The compact town or city idea demonstrate the thought to absorb many numbers of less area towns and straggling urban zones and to make batter the socio economic values. Genuine qualities of limited urban groups consolidate multi-modular urban shape, an overall portrayed breaking point containing city advancement, high thickness and blended land-utilization plans engaging the course of action of

open workplaces and organizations inside walking detachment and overpowering reliance on open transport. It is found that the negligible urban groups made through a technique of compaction can give benefits to the extent that asset effectiveness, diminish travel ask for and sensible conditions.

Additionally, a number of procedures for ecological advancement has been executed at different spatial scales and to ensured points of interest of the smaller town as provision for open transport, cycling and pedestrian has improved access to organizations, workplaces and transport terminals; gainful efficacy and establishment of course of action; insurance of totally open, low requisite for movement through auto, along these lines decreasing fuel utilization and defilement; and revival and recuperation of inner urban reaches. In any case, there is insignificant correct affirmation to help these kind of privileges, and viability of compact towns being fought. Other than the diverse initiations, the aforesaid models make emphasis on less auto use, town improvement regulator, densified land use and fortifying the sentiment gathering that delivers and shows the profits in quality of life at the neighborhood level, packed offices with basic facilities, transit oriented open transport, passerby congeniality through all around related walkways and roads, overhauled flexibility and condition, social coordinated effort, strong sentiment neighborhood, open security and upgraded medical preferences.

The economical urban models subsequently give huge contributions to the investigation of livability. As outlined by Chiu (2012), the reduced city show has specific importance to the high thickness mix utilize quickly developing urban areas. Interestingly, it has solid accentuation of neighborhood on perfect design basis and compact development demonstrate the accentuation on decreasing group resistance to development. Specifically, the smart city display proposes expanded densities from the present condition of low densities and considers thickness as a method for making the administrations and offices more suitable. The travel situated improvement display

fixates on the groups with mass travel where populace density should be sufficiently high to help the travel operation. In spite of the fact that the guarantees of these arranging ideas were tested on front row and they considered as governments have embraced the said models to seek towns or area sustainability.

2.5 Characteristics of Livability at Neighborhood

To comprehend and to quantify livability segments, neighborhood is the place since it is considered as a fundamental urban unit in a social setting inside which people draw fulfillment and live.

The destinations of decent neighborhood are aimed:

- To give an area mix use structure that elevate walkable access to business, retail and group offices keeping in mind the end goal to decrease car dependence.
- To advance a feeling of community and solid nearby character in neighborhoods.
- To guarantee the inhabitants, efficient and interconnected system of boulevards for driving, cycling and strolling.
- To give proficient open transport framework which ought to be inhabitants' adaptation and at strolling separation from inhabitants.
- To guarantee mixed use advancement with an extensive variety of living, work and adaptable open doors;
- To alter with neighborhood variations with the time;
- To be reiterating reasonable community standards of security pleasantries and health;

- To give variety in house type and lot sizes with the goal with which administrations can be easily done;
- To confirm the incorporation of significant nearby social and environmental elements into the outline of an area;
- To give open space in neighborhood design with more comprehensive procedure;
- To manage the urban assets ought to be done in appropriate manner.

2.6 Great Neighborhoods – Qualities and guiding principle

A community area can be founded on a particular arrangement or the consequence of a more natural process. Neighborhoods of various types are qualified as downtown, urban, rural, exurban and town etc., however, ought to have a perceptible feeling of limit. Neighborhoods chosen for a Great Neighborhood designation must be no less than 10 years of age.

Characteristics of a **Great Neighborhood** include:

- Has an assortment of useful credits that add to an occupant's everyday living (i.e. private, business, or mixed uses).
- Accommodates multi-modular transportation (i.e. people on foot, bicyclists, and drivers).
- Has outline and structural components that are visually fascinating.
- Encourages human contact and social exercises.
- Promotes people group contribution and keeps up a safe domain.
- Promotes sustainability and reacts to climatic demands.

2.7 The Ranking of Livable cities on August of 2015

Rank 1: Melbourne (Australia) was positioned by the EIU as the world's most livable city since 2011 among the 140 urban communities reviewed. Populace of 2014 recorded as 4.4 million People.

Rank 2: Vienna (Austria). The capital and biggest city of Austria with populace around 1.8 million in 2014.

Rank 3: Vancouver (Canada): Vancouver is a standout amongst the most ethnically and etymologically various urban communities in Canada and as a Beta worldwide city with populace around 0.6 million in 2011 except the occupants of Greater Vancouver territory which are around 2.4 million.

Rank 4: Toronto (Canada): Toronto is the biggest city by populace among the best ten reasonable urban areas, with almost 6 million occupants inside its metropolitan zone.

Rank 5: Adelaide (Australia): The number of inhabitants in Adelaide in 2014 was 1.3 million. It has been noted for early cases of religious flexibility, a guarantee to political progressivism and common freedoms. It has been known as the "City of Churches" since the mid-nineteenth century.

Rank 6: Calgary (Canada): Calgary is perceived as a Canadian pioneer in the oil and gas industry and also to be a pioneer in monetary development with populace around 2.4 million in 2014.

Rank 7: Sydney (Australia): Sydney is the most crowded city in Australia by 4.8 million individuals (2014). The Sydney range has been possessed by indigenous Australians for many centuries.

Rank 8: Perth (Australia): The number of inhabitants in Perth in 2014 was around 2 million

Rank 9: Auckland (New Zealand): Auckland is the biggest and most crowded urban range in New Zealand. Auckland has a populace of 1.4 million individuals which constitutes 31 percent of the nation's populace in 2014.

Rank 10: Helsinki (Finland): Helsinki has a populace of 0.6 million while metropolitan populace of Helsinki is 1.4 million. Helsinki Region, as 26% of aggregate populace of Finland. The Helsinki Metropolitan Area creates roughly 33% of Finland's GDP.

Chapter 3: Research Methodology

3.1 Research Design

This Chapter presents the research approaches undertaken earlier in this study. This study aim to examine the livability in three planned and three unplanned neighborhoods in Lahore so the study is based upon Mixed Research method involving both qualitative and quantitative means of data collection and analysis.

3.2 Neighborhoods

The selected neighborhoods are shown in table given below.

Table 3.1: Case Study Areas

Neighborhoods	Development Pattern
Johar Town Wapda Town Garden Town	Planned
Dharampura Bhegumpura Ichra	Unplanned

3.3 Data Collection:

Data collection for this research can be divided into two types:

- Secondary data
- Primary data

3.3.1 Secondary Data

Information and data was collected from secondary sources being essential to examine the physical characteristics such as residential density, physical form and environment in Planned and unplanned neighborhoods.

Secondary information consists of the existing land uses, land use map, population densities, existing facilities etc. The information was collected from the different government offices such as Lahore Development Authority Lahore, TMA, census office, survey of Pakistan etc.

3.3.2 Primary Data

Primary data was collected through the field survey of research area. In this regard 300 questionnaires were conducted through field surveys in form of structured & un-structured interviews.

3.4 Instruments of Data Collection

3.4.1 Field observation

Site visits were conducted to observe the physical characteristics of the areas. The provision and accessibility of different facilities (community facilities, open spaces and public transport facilities) were examined in selected areas. Through site visits and field observations, the built form of selected areas was also perceived.

3.4.2 Questionnaire survey

The questionnaire survey was conducted to get the personal, housing, household and neighborhood information from residents and their opinion about neighborhood livability factors like public transport, community facilities, community participation, neighborhood security and accessibility to different neighborhood facilities. The satisfaction level of residents with their neighborhood facilities was record on Likert scale (5 points). In addition, the respondents were asked to give their valued views regarding the improvement of neighborhood facilities to enhance their livability.

3.4.3 Buffer Analysis

Buffer analysis was performed to get the range of different facilities available in town in order to measure the accessibility of the neighborhood facilities.

3.5 Sample Size

The sample size for the filed survey was taken as 300 questionnaires (50 in each neighborhood).

3.6 Sampling Technique

The “Systematic random sampling” was employed for the respondents’ selection to collect the data in form of questionnaire. The randomly select respondents were selected from all age groups in order to get more applicable data for the assessment of the livability at neighborhood level.

3.7 Data Processing/Analysis

The date relating to the both type was processed / analyzed in qualitative as well as quantitative terms. Different analysis techniques were deployed to process the data.

3.7.1 Qualitative

The qualitative data was collected from structured & un-structured interviews. The Content Analysis technique was used to process and analyze the data.

3.7.2 Quantitative

The quantitative data was collected from respondents through questionnaire survey in the field. Descriptive Statistics was used to analyze the data and to calculate mean, median & mode. Moreover, chi square test was used to define the relationship between various indicators.

3.8 Thesis Framework

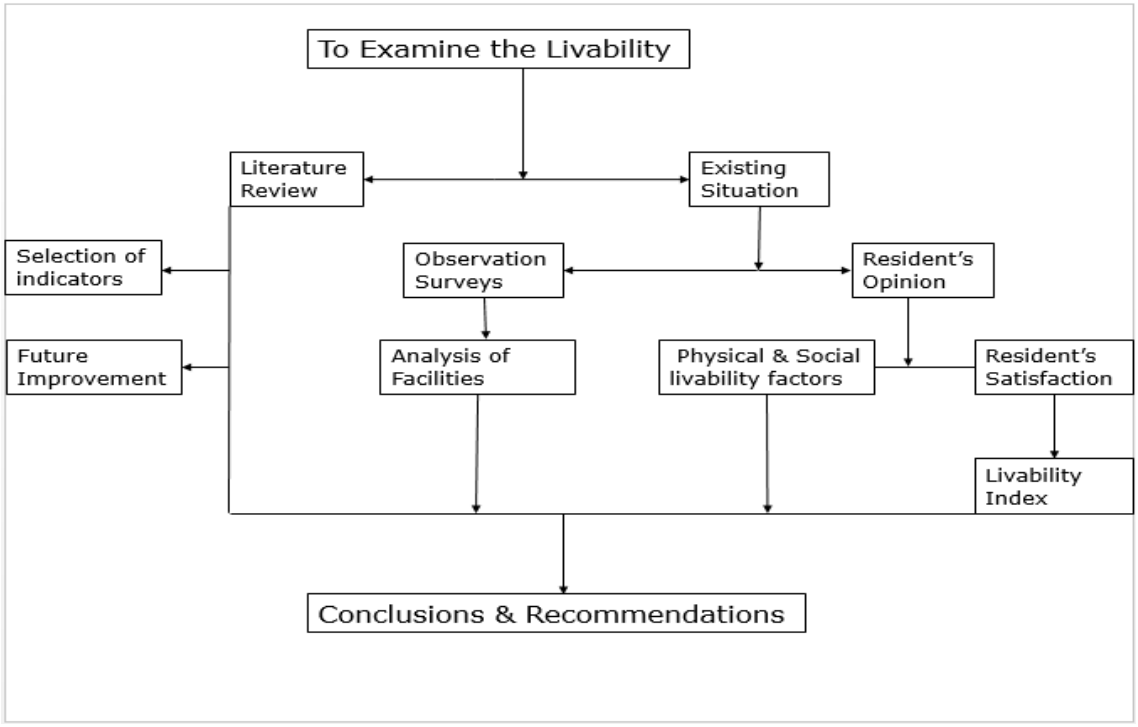

Figure 3.1: Framework of Research

The research thesis involved analysis through in-depth study and comparison of the data collected from field survey. The first section includes the description of physical characteristics of planned and unplanned neighborhoods. The second section includes personal information, household information, housing information and neighborhood information. The third section includes the socioeconomic and physical livability factors in planned and unplanned neighborhoods. The fourth and last section includes the satisfaction level of planned and unplanned neighborhoods and livability index.

3.8.1 First Section

To study the physical and social livability characteristics in planned and unplanned neighborhoods, following aspects were examined:

- Location
- Areas and population
- Density
- No of Houses
- No of stories
- Street Width
- Availability of Facilities

3.8.2 Second Section

- Profile of Respondents
- Household Information
- Housing Information
- Neighborhood Information

3.8.3 Third Section

Investigation of the perception of residents upon social and physical livability factors in planned and unplanned neighborhoods included:

- Neighborhood Resident density (tables)
    - Residents perception about their neighborhood residential density
    - Identify their opinion about distances between buildings
- Open space /Public space at street corner and recreation facilities (table)
    - Residents perception about available open spaces
    - How to improve the open spaces

- Accessibility to open spaces

- Transportation (Table)
    - Residents daily purpose of travel
    - Residents mode of travel
    - How to improve public transport
    - Accessibility to different community facilities
- Community Participation (Table)
    - Identifying resident interest in community participation
    - Quantifying the total meeting of residents with neighbors
    - Identify the reason of poor community participation
- Safety (Table)
    - Residents' perception about safety during day and night hours
    - Identifying the reasons contributing to lack of safety
    - How to improve safety in neighborhoods

3.8.4 Fourth Section

- Residents' satisfaction about their neighborhood
- Calculating the livability index by residents satisfaction level

3.8.5 Fifth Section

- Conclusion & Recommendations

3.8.6 Results and Discussions

This chapter comprises the study and comparison of the data collected through field survey. The first section includes the introduction of case study areas and description of their physical characteristics. The second section consists socio economic data involving personal information, household information, housing information and neighborhood information. The third section includes the physical livability factors in planned and unplanned neighborhoods. The fourth and last section include the satisfaction level of planned and unplanned neighborhoods and livability index.

4.1. Section 1: Physical Characteristics of Case Study Areas

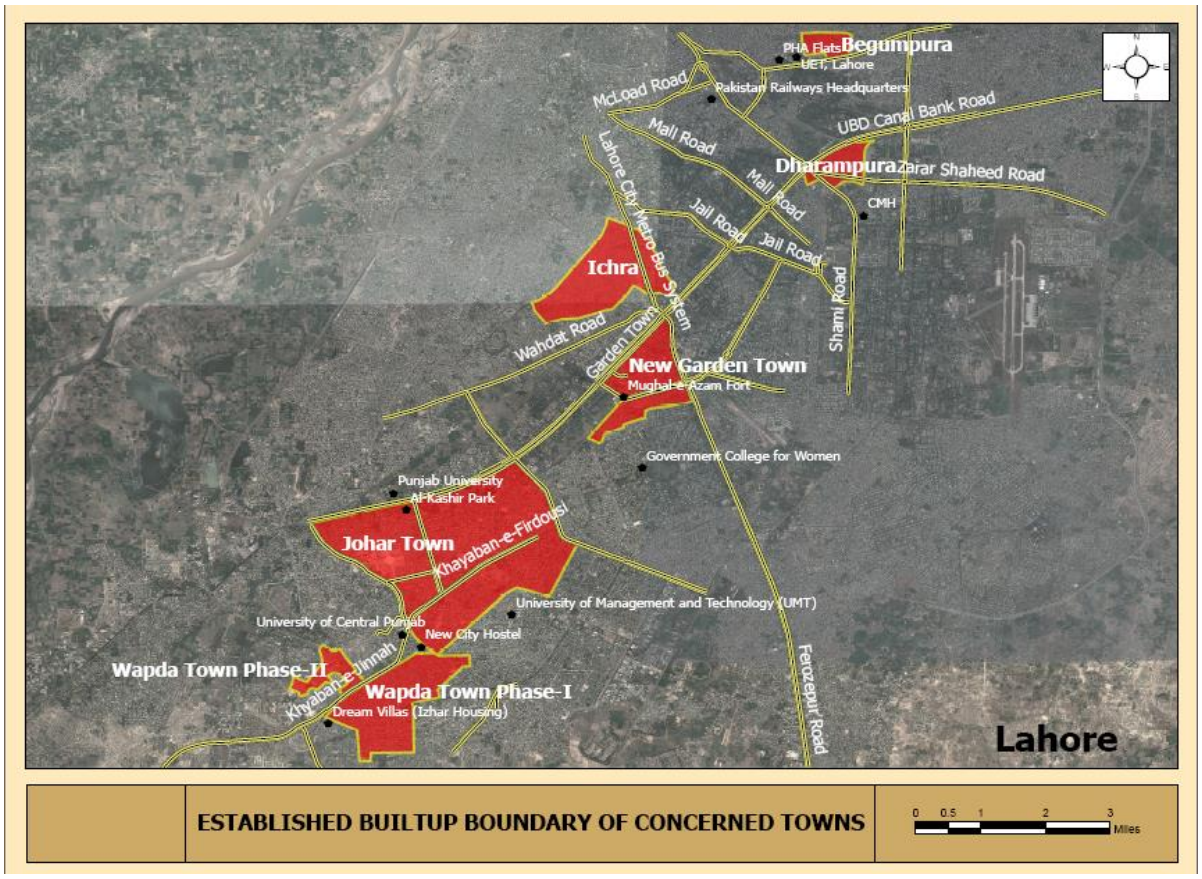

Figure 3.2: Location of all case study areas on Lahore map

Lahore is the second major city of Pakistan by population. It is capital of Punjab with its population according to 1998 census, as 6.31 million and total area as 1772 square kilometers. The population density in 1998 was 3565.9 persons per kilometer. The present population is 8.65 million and its density is 4881.5 persons per kilometer. As per Lahore master plan, the housing requirement at present is 154,000 housing units which indicates that more residential neighborhood would have to be developed in Lahore to overcome this backlog. Housing is the 3rd basic need so the increased urban population would create demand for large number of housing projects. These projects, if are not well planned for good livability environment, may affect the livability of housing areas. To assess the socio economic and physical factors of livability in Lahore, six neighborhoods was subjectively categorized into two types before collection of data i.e., planned and unplanned. In this regard, three neighborhoods each for the planned and unplanned were selected. These neighborhoods including the following were subsequently surveyed for the purpose of research,

3.8.7 Johar Town

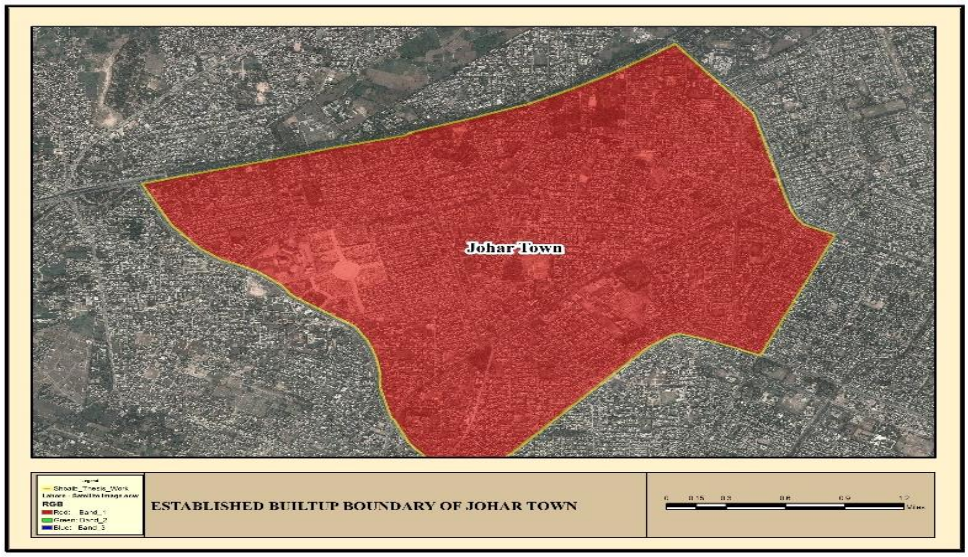

Figure 3.3: Boundary map of Johar Town Lahore

Table 3.2: Area, population and density of Johar Town Lahore

Area	Acres	3,372
Population	Number	218,000
Density/Acre	Ratio	65
Mean Household size	Number	6
Number of Houses	Number	34,936
Number of Stories	1	34
	2	66
	3 & Above	0
Street Width (%)	Less than 30 ft.	0
	Above 30 ft	100

Source: Lahore Development Authority and Field Survey

Johar town is a planned neighborhood of Lahore. It is named after Muhammad Ali Jouhar who was one of the active leader of Pakistan independence movement. The land was acquired by Lahore Development Authority Lahore in 1981 for the purpose to plan a neighborhood in south-west of Lahore city. This scheme was launched in 1986 and it consisted of two phases, Phase No.1 and Phase No.2.

The town was basically planned for the middle class and high gentry to reside. The town was adequately planned and therefore no serious issues confronted the authority concerning its planning. As regards street pattern, different blocks were designed with cul-de-sacs / dead ends in order to avoid the issues like crimes and insecurities etc.

The town was provided with commercial offices, shopping plazas such as Lahore International Expo Center, Emporium mall which emerged as the best shopping malls of Pakistan. Emporium Mall is a shopping mall located in northeast of Lahore International Expo Centre. The 11-storey mall is spread over 2.7 million square feet and is home to over 200 stores and a five-star hotel.

Due to it the commercial activity in the town flourished significantly. A large number of families visits this mall to meet their basic needs of utilities. Besides, it offer a good family place for social needs. Moreover, it locates at one side of the city so it does not cause any kind of traffic hindrance in the town. The town also encompass many best places of the fast food restaurant chains such as Halloween Cafe, McDonald's, Kentucky Fried Chicken and Pizza Hut, as well extensive variety of cafes and restaurants with food specialty of Pakistani and Western tastes. Moreover, a five star hotel, a supermarket and a wholesale center are also under construction near the Lahore Expo Center.

If we look on the health facilities of the town, it is best than anywhere else in the Lahore city. Following main hospitals are also located in this town which augment the health level of its residents. Some of the key health services include:

- Shaukat Khanum Memorial Cancer Hospital & Research Centre
- Doctor Hospital
- Jinnah Hospital
- Iqra Hospital

The largest hospital in the town is "Shaukat Khanum Memorial Cancer Hospital & Research Centre" which was built by Imran Khan in commemorate his mother who died of cancer. It is considered as one of the best hospitals of Pakistan.

In addition to the hospitals, small clinics and pharmacies can also be found throughout the town. So, the overall health facility is considered as effectively catered in the town.

Johar town is feasible only for the upper class people because of high prices of land. Research explore that the people have though least interaction at town level, yet their social collaboration

within the blocks is comparatively healthier. The community manage their security self-help basis. Road network of the town is well planned so there are normally no evidences of traffic congestion.

In short Johar Town is a better place to live for the high and middle income people. People prefer to live there because all the basic facilities are available in the town at comfortable distances.

3.8.8 Garden Town

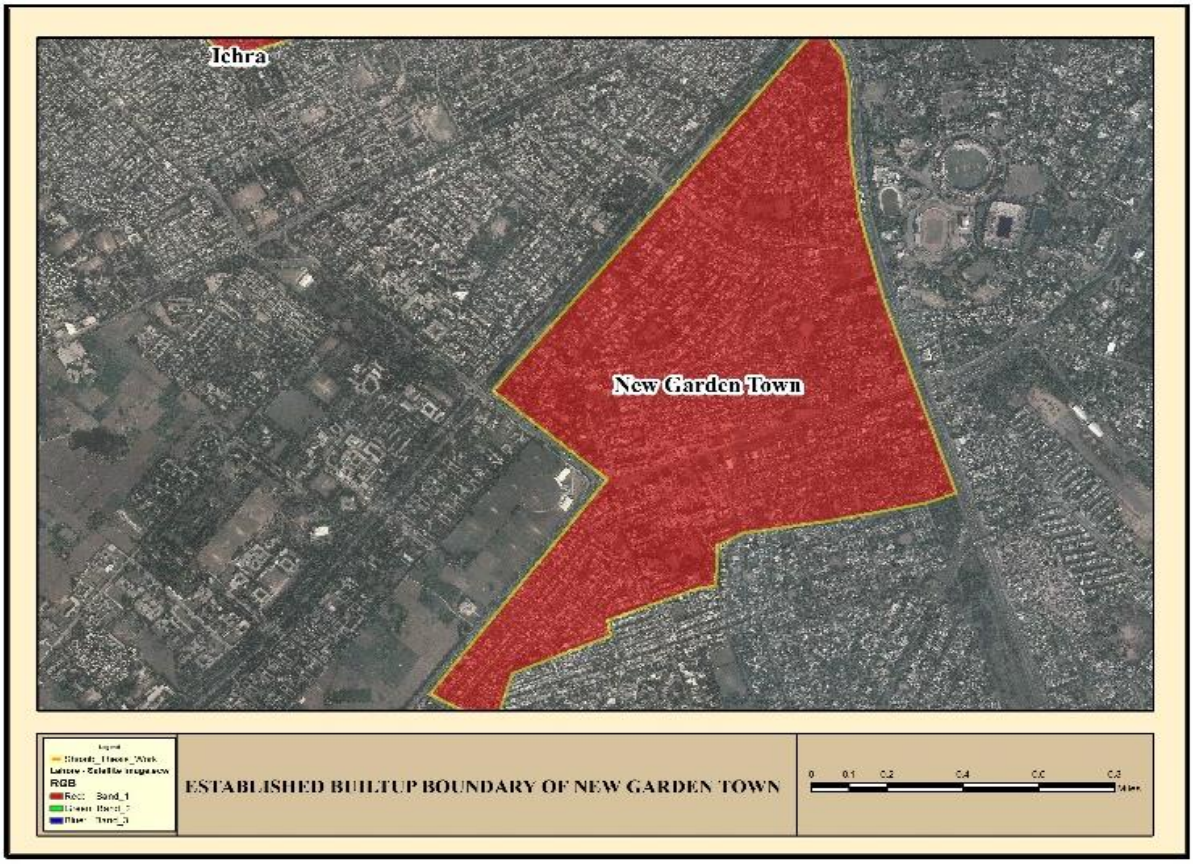

Figure 3.4: Boundary Map of Garden Town, Lahore

Garden town is another planned neighborhood of Lahore. It is located in peripheral southern part of Lahore. In 1960, the Town was developed by Lahore Improvement Trust as predecessor of Lahore Development Authority Lahore. Initially, most of the land was under agriculture purpose but after construction of Punjab University along the northern boundary of garden town, urban

development flourished at a rapid pace in this area. Development of most of the plots had been done till 1990s.

Table 3.3: Area, population and density of Garden Town Lahore

Area	Acres	719
Population	Number	50,330
Density/Acre	Ratio	70
Mean Household size	Number	7
Number of Houses	Number	7,149
Number of Stories	1	32
	2	68
	3 & Above	0
Street Width (%)	Less than 30 ft.	0
	Above 30 ft	100

Source: Lahore Development Authority and Field Survey

Garden Town is located within the jurisdictional limits of Gulberg town and is surrounded by the following towns:

- **North:** Canal Bank Road, Punjab University, New Campus
- **South:** Model Town
- **East:** Gulberg Town
- **West:** Faisal Town

Garden Town has a population of 50,000 people and is one of the most popular area of Lahore due to its privileged location. The majority of its residents belong to the upper middle class and consist of businessmen as well as students who attend the various colleges and universities in the region, namely the University of Punjab. It is also home to celebrities, politicians and Pakistanis from

overseas. The community in recent years has developed a pulsating social life and a literate elite. The value of the property has increased drastically over the past five years due to the location of Garden Town and the development of the Barakat market. A typical residential house in the area may cost from Rs.10,000,000 to Rs. 45,000,000.

In 2006, Barkat Market endured immense redevelopment works in the area which increased its demand for habitation and following changes were emerged in the area as a consequence:

- Increased parking space
- Widening of the footpath as well as
- Reconstruction / upgradation of all the roads in the market area

There are many shopping malls, restaurants and cafes in the area as well the famous Mughal-e-Azam wedding hall. Many students prefer to reside in this town as it offers a prime location for their academic activities. Many health care facilities are also available in the area, so people from the upper class prefer to live here.

The town is divided into 12 blocks with different sizes of plots. Some particular characteristics of the blocks are given below:

- **Garden Block**

  In this block prevailing plots size is 2,4 and 8 kanal.

- **Ahmed Block**

  This block is facing canal road and 10 kanal plots are present there.

- **Abu Bakr Block**

  This block is surrounded by Ferozepur road and canal bank and it also consists of plots measuring 10 kanal.

- **Ali Block**

  Most of the plots in this block are 7 and 10 marla size but along the Abdul Hassan Isfahani road 8 kanal plots are alos available.

- **Usman Block**

  This block is along the Kheyaban-e-Jamia Punajb road opposite to Punjab University. In this block sizes of the plots are of 1, 2 and 4 kanal.

- **Jevan Hana/Abadi Devasabad**

  This block is a bit unplanned area in the town. This area is located between Usman and Ahmad Blocks. Plots neighboring this abadi have lower value. So, low income people reside here.

- **Tipu Block and Babar Block**

  Both of these blocks are located along Ferozepur road. Main Boulevard had originally plot sizes of 2, 4 and 8 kanal but after subdivisions, 1 kanal plots were only available.

- **Aibak Block**

  This block is present at the Usmani road and plots measuring 1 and 4 kanal are present there. Area-wise, it is a small size block.

- **Aurangzeb and Tariq Block**

  Both these block are located along the Usmani road and plots of 1 and 2 kanal are present there

- **Ata Turk and Sher Shah Block**

  These are the only blocks in garden town where plot size of 5 marla are available.

  Landscape in all the blocks of Garden Town is aesthetically good enough. Parks and open spaces are also present in the area. Basic facilities available in the area are up to the mark. So, if summarized in the one sentence, the town overall a good place to live in.

3.8.9 Wapda Town

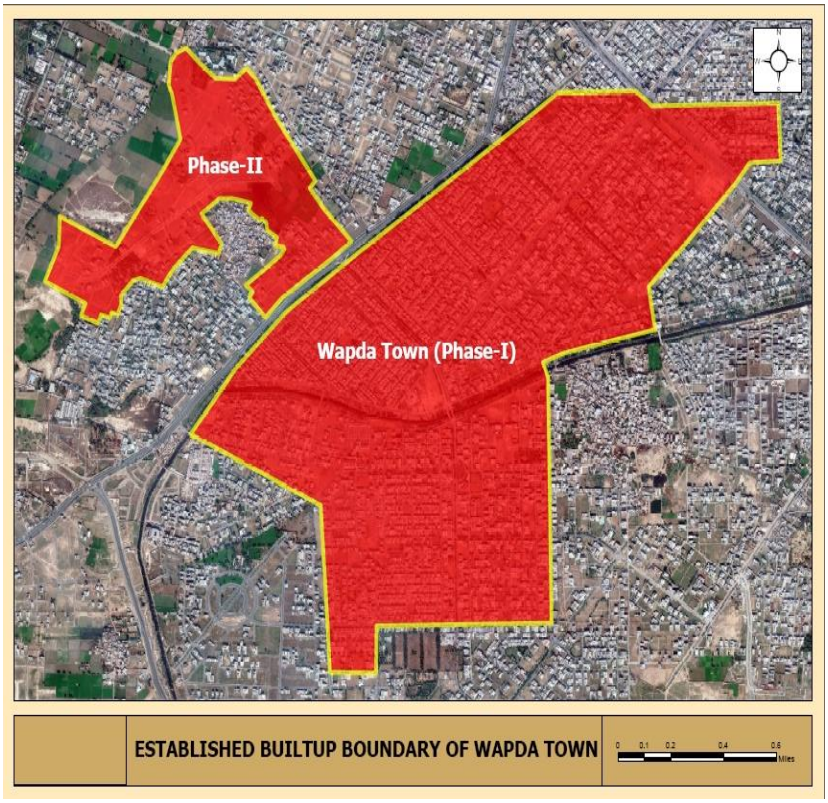

Figure 3.5: Boundary Map of Wapda Town, Lahore

Table 3.4: Area, population and density of Wapda Town Lahore

Area	Acres	1,146
Population	Number	63,080
Density/Acre	Ratio	55
Mean Household size	Number	6
Number of Houses	Number	11,224
Number of Stories	1	0
	2	100
	3 & Above	0
Street Width (%)	Less than 30 ft.	0
	Above 30 ft	100

Source: Lahore Development Authority and Field Survey

Wapda town is the planned neighborhood of Lahore and is located in the southern part of Lahore. Wapda Town Lahore has been divided into three phases main including Phase-1, Phase-1 (Extension) and Phase-2. Phase-1 and Phase-1 (Extension) include blocks from A to K. Phase-2 includes blocks from M to R. Each of the block is further separated into 2 or 3 portions and are named as K1, K2, K3 etc. The major aim of the subdivision of these blocks is to make it rationale to allocate the resources to residents of every Block, as each portion of the block has its exclusive utilities such as roads, parks, water supply and playground etc.

The Wapda Town is surrounded by the following localities:

- Khayaban-i-Jinnah
- Johar Town,
- Valencia Town,
- Tariq Garden and
- NFC Society (phase-1)

The Infrastructure of Wapda Town consists of elementary to contemporary living amenities that make the site outspreading modern standards of living. Roads are carpeted, living environment is very beautiful and all the basic utilities available in the area including well known Educational Institutes and Recreational Parks. New departmental stores have established besides other shops of different amenities are also being opened variedly.

Some well-known societies have also merged with the Wapda Town. Wapda Employees Co-operative Housing Society Lahore is an urban gated community located in the southern part of Lahore. Neighboring societies and towns include Valencia Town, PCSIR Society Phase II, Punjab Government Employees Society, NFC Phase 1, and Iqbal Avenue Co-operative Housing Society.

If we observe the area in a bird eye view in the context of planning parameters then it may be said that this area almost caters all the basic planning aspects of the area. Wapda town has all the facilities that a planned area must have in it. Provision of parking facility is up to the mark with space standards, as such no traffic congestion is prevailing in the area. During peak hours, the traffic congestion is not a big deal to be handled. Condition of houses in this area is good as these offer attractive reflection to the visitors. The building plans of almost majority of houses are approved following the respective building byelaws. In short if we review the living standards in Wapda Town then it is regarded as one of the best living community of Lahore.

3.8.10 Dharampura

Dharampura is an unplanned and oldest neighborhood of Lahore. It is located on the verge of Canal Bank Road. Dharampura is also very worthwhile for commercial activities because of its location and that considerable population lives in Dharampura and its vicinities.

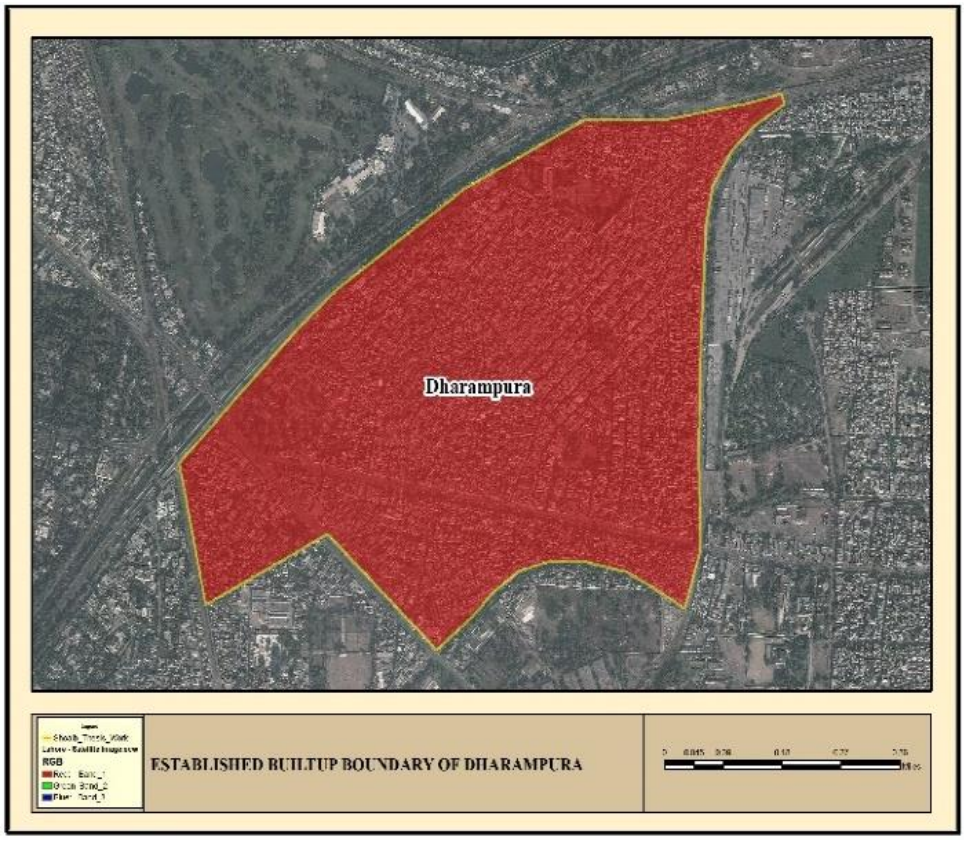

Figure 3.6: Boundary Map of Dharmpura, Lahore

Table 3.5: Area, population and density of Dharmpura Town Lahore

Area	Acres	247
Population	Number	55,575
Density/Acre	Ratio	225
Mean Household size	Number	9
Number of Houses	Number	
Number of Stories	1	20
	2	74
	3 & Above	6
Street Width (%)	Less than 30 ft.	58
	Above 30 ft	42

Source: Lahore Development Authority and Field Survey

Dharampura had a history of Mughal's era and developed at a time when there was no concept of any planning. Now-a-days, due to rapid urbanization, this area has not remained striking for a common person to live in because of the adverse repercussions leading to substandard living. Despite this area has some problems due to absence of planning on one hand, yet there are some advantages as well that attracts the people vis-à-vis, low cost housing and less expensive living. Area is mainly attractive for middle income people because acquiring a parcel of land or getting a house on rent in Dharampura is comparatively affordable and easy. People are social and have awareness about their surroundings to interact with their neighbors as against the high class areas of Lahore where such social norms are almost missing. Area is mostly dominated by commercial activities including shops, offices, workshops etc. People enjoy easy access to their daily life needs due to presence of small Mohalla's shops. This settlements speaks to a reasonable and compelling lodging choice for low-salaried populaces. At first sight, profoundly condemned for their obvious wastefulness and turmoil, yet with the passage of time, the situation turns out to be better. The poor are adjusted to the social and monetary options in availing preferred lodging conditions over those of formally arranged for low-paid community. Their trends of living, their plans, and their designs of building and construction materials are far better suited to their neighborhood needs, level of earnings, climatic conditions and social assets etc. as compared to the official, mandatory provisions required by the governments institutions to be fulfilled.

Usually, the housing quality in this settlements is poor at their initial stages; however, as the sense of permanence increases and settlements consolidate. Due to the blessings of incremental development, the first small shack is eventually replaced and improved with more durable materials. In some settlements, dwellings can reach comparable or better quality than formally produced housing in any other settlement of the Lahore. On other hand, Dharampura is also

facing tremendous problems that need to be addressed as soon as possible otherwise condition of whole area may become worse. As this area is on the verge of canal road due to which sometimes, it faces huge challenges of traffic congestion and jams. Due to this traffic problem, many other problems are also emerging like noise and environmental pollution. Sanitation system and solid waste management of this area is very bad. At some places, streets are not even properly paved or maintained which gives a horrible picture especially in rainy season. Hanging wires, encroachment and worse condition of buildings totally destroy the concept of urban design. Either soft or hard, both the landscape elements are missing in this area like street lights, dustbins, trees and greenery etc. At some places, people are facing problems of drinking water and no water filtration plants are installed or access thereof made available. In short, if we scale a bird eye view over this area, the area does not offer a conducive living environment due to lack of planning.

3.8.11 Begumpura

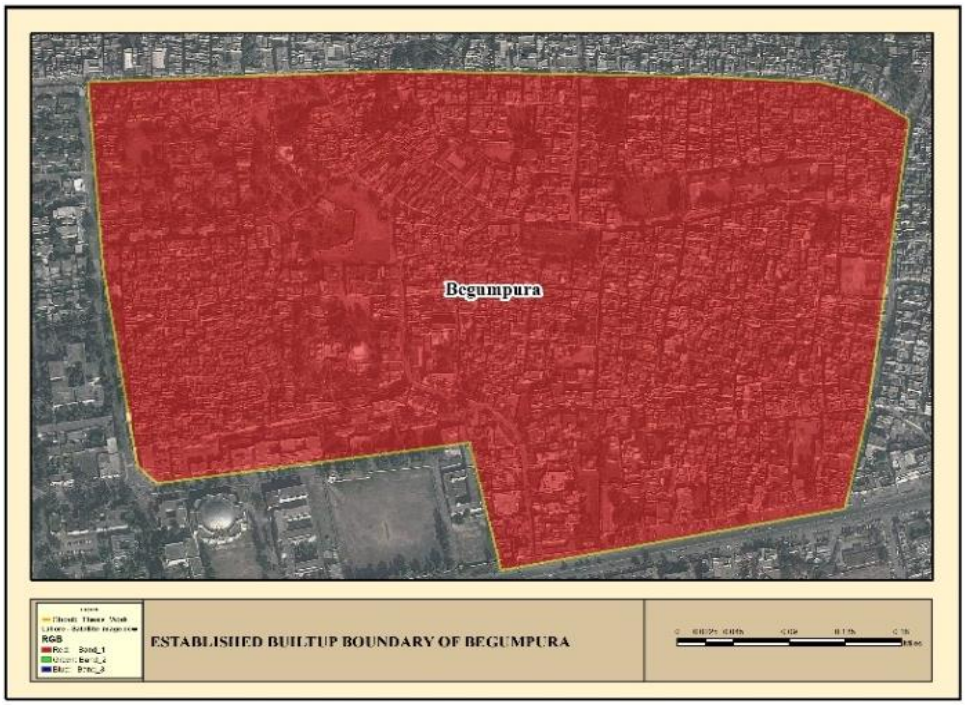

Figure 3.7: Boundary Map of Begumpura, Lahore

Table 3.6: Area, population and density of Begumpura, Lahore

Area	Acres	146
Population	Number	27,000
Density/Acre	Ratio	185
Mean Household size	Number	7
Number of Houses	Number	
Number of Stories	1	42
	2	50
	3 & Above	8
Street Width (%)	Less than 30 ft.	58
	Above 30 ft.	42

Source: Lahore Development Authority and Field Survey

Begumpura is an unplanned neighborhood of Lahore. It is the oldest neighborhood of Lahore located at north east side of Lahore. Most of people living there belong to middle and low income group. Area possess some remains of traditional buildings of Mughal emperors which indicates that archeology of this area was once very rich. Begumpura is exclusively famous for its commercial activities. Area is well-known for its bazar which is located along the main GT road. Bazar is not restricted to particular business but numerous activities are taking place all around the area. Commercial shops of almost every commodity including food shops etc. spread in the area making it busier. On main road, different banks, offices and utilities stores are operating. Along the main road of Begumpura which is main GT Lahore, different modes of transport are operating which includes chingchi rickshaws, auto-rickshaws, motor cars and bikes etc. Area is developed and affordable for both low and middle income people. Most houses are double-story, whereas some are residential cum commercial. People have good interaction with one another. Orange line

metro train project is also passing from the premises of Begumpura through GT road which would bring paradigm shift in future transportation system / network of whole city.

The way Beghumpora is characterized and developed by citizens is direct consequence of individuals' collective approach, efforts and activities tenable to be refined with passage of time. This trait is transmitted starting from one gathering to the multiple groups belonging to different walks of life. The living condition of low-wage populaces is characterized by the physical, social, political and legitimate qualities of the context and by the needs, inclinations, social foundation and accessible assets of the community. Because of these natural qualities of advancement, the settlement designs in impulsive zones change starting in the Beghumpora.

If we observe this area in context of planning then this area don't respond the basic planning criteria. Area is facing many obstacles pertaining to planning in which one of worst problem is parking problem. On main GT road, most of commercial activities are taking place. Even banks and commercial shops have failed to provide dedicated parking due to in-sufficient space allocated by them while construction of buildings. Especially in peak hour's chingchi rickshaws, bikes and cars are parked on the sides of main road giving raise to extremely critical situation in allowing unobstructed flow of traffic. Due to this, almost half of the section of main road is encroached with extra business activities on right of way which further aggravate the traffic congestion creating hindrance in smooth flow of traffic. Hanging wires, electric poles and absence of soft and hard landscape elements has added further vulnerability to the area. Condition of houses in this area is average and in most cases plans of houses are not approved while projections of houses over streets immensely deteriorating the urban design of area. In short this area is also not meeting even the preliminary standards of modern planning and in case these problems are not overcome immediately, the area may become far more dilapidated with passage of time.

3.8.12 Ichra

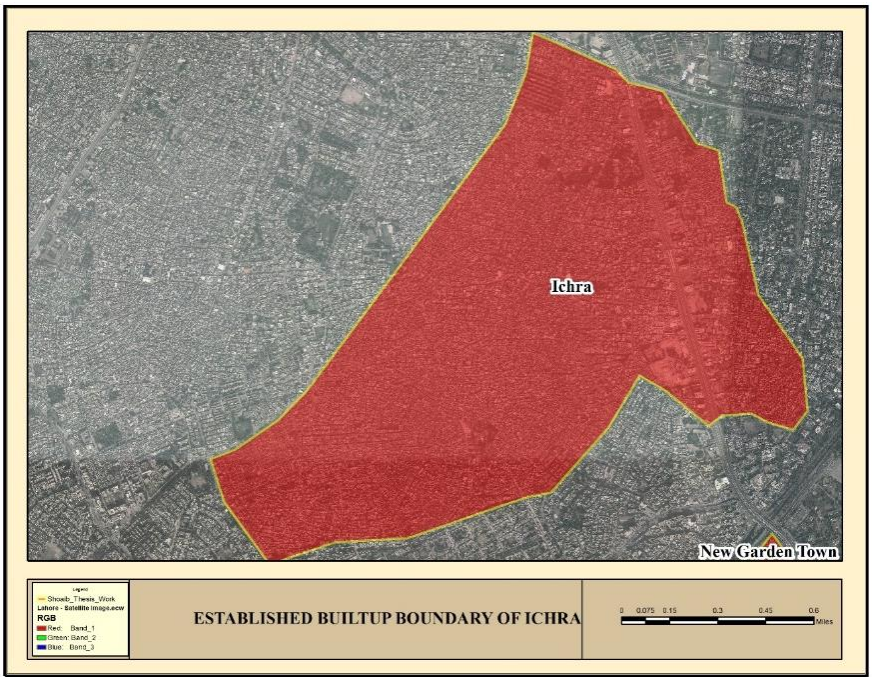

Figure 3.8: Boundary Map of Ichra, Lahore

Table 3.7: Area, population and density of Ichra Town Lahore

Area	Acres	950
Population	Number	166,500
Density/Acre	Ratio	175
Mean Household size	Number	7
Number of Houses	Number	
Number of Stories	1	42
	2	38
	3 & Above	20
Street Width (%)	Less than 30 ft.	16
	Above 30 ft	84

Source: Lahore Development Authority and Field Survey

Ichhra is the unplanned and old neighborhood of Lahore. It is located on Ferozepur road. Due to old neighborhood, few old historical buildings can be witnessed in the area. It is consist of both commercial and residential buildings. Ichhra Bazaar is noted for its peculiarity as one of the busiest commercial markets of Lahore. This Ichhra market is recognized for cultural and traditional products of garments and clothes including wide variety of handicrafts supplied from all over Punjab even that imported from india. Low and middle income people mostly reside here and attracted towards this area because of its multiple commercial activities. Ichhra bazar is considered to be one of the vital economic activity hub of Lahore. People have good access to this area because multi modal public and private transport is operating at its junction like Lahore Transport Company, Metro Bus and Auto- Rickshaws etc. Trips attraction to this area is high because of its commercial activities.

This settlement is replica of the urbanism practices evolved as consequential adjustment of conventional countryside transformation to urban life. Bahgat clarifies that the horticultural land format in a few locale in Giza, Egypt, characterized the road and plot designs, since farming zones are unlawfully subdivided and changed into lodging regions. He additionally clarifies that, because of the country foundation of the pioneers, the abode configuration depends on conventional town structures, however with a few adjustments to the urban life. Similarly Ichra has adapted the conventional development pattern. Competent Authorities have additionally affected the era of some designs through the usage of redesigning programs. Due to the construction Metro Bus, widening of Ferozepur road widened and emerged as main cardinal of the entire city.

Ichhra is facing many problems in context of planning aspects. Traffic congestion is one of the major problem because of large no of trip attraction. Due to this many other problems are also prevailing like noise and air pollution. Sanitation of this area is not so much good and at some

places dustbins are not provided which depicts poor management of solid waste. Encroachment is very common which not only creates the hindrance in smooth flow of traffic but even sometimes it makes a person difficult to walk in the bazar. Pedestrians have footpath to walk but due to poor enforcement of relevant local institutions / authorities these are encroached by khokas / small moveable shops resulting a lot of visual hindrances that mutilates the urban design of area as well. Also, absence of soft and hard landscape elements is very common. Condition of houses is average which are mostly unplanned, besides there is poor enforcement law by the concerned authorities. In short, planning scenario of ichhra is not up to the mark as it transpires some urgently need actions to be devised to address urban problems on priority basis.

3.8.13 Comparison of Physical Characteristics of Neighborhood

Table 3.8: Summary of physical characteristics of planned & unplanned neighborhoods

Physical Characteristics of Neighborhoods		Planned				Unplanned			
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150
Area	Acres	3,372	719	1,146	5,237	247	146	950	1,343
Population	Number	218,000	50,330	63,080	331,410	55,575	27,000	166,500	249,075
Density/Acre	Ratio	65	70	55	190	225	185	175	585
Mean Household size	Number	6	7	6	6	9	7	7	8
Number of Houses	Number	34,936	7,149	11,224	53,309				33,812
Number of Stories	1	34	32	0	22	20	42	42	35
	2	66	68	100	78	74	50	38	54
	3	0	0	0	0	6	8	20	11
Street Width (%)	Less than 20 ft.	0	0	0	0	58	58	16	44
	20-30ft.	100	100	100	100	38	38	84	53
	Above 30 ft.	0	0	0	0	4	4	0	3

Source: Lahore Development Authority and Field Survey

3.9 Section 2: Socio economic factors in planned and unplanned neighborhoods

3.9.1 Profile of Respondents

Table 3.9: Profile of respondents of case study areas

Profile of Respondents (%)		Planned				Unplanned				Chi Square Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Gender	Male	94.0	100.0	82.0	92	100.0	100.0	84.0	95	.857a	.488
	Female	6.0	0	18.0	8	0	0	16.0	5		
Age Group	Under 25	14.0	22.0	38.0	25	32.0	44.0	36.0	37	7.525a	.111
	26-35	20.0	28.0	30.0	26	24.0	24.0	34.0	27		
	36-45	36.0	22.0	16.0	25	22.0	18.0	16.0	19		
	46-55	14.0	16.0	4.0	11	10.0	8.0	6.0	8		
	56 and older	16.0	12.0	12.0	13	12.0	6.0	8.0	9		
Education Level	Middle and Under	6.0	26.0	26.0	19	30.0	28.0	28.0	29	32.519a	.000
	Matric	14.0	24.0	18.0	19	38.0	18.0	20.0	25		

	Intermediate	18.0	10.0	10.0	13	26.0	24.0	16.0	22		
	Bachelors	44.0	20.0	28.0	31	6.0	20.0	30.0	19		
	Masters	18.0	20.0	18.0	19	0.0	10.0	6.0	5		
Occupation	Employed	48.0	60.0	24.0	44	52.0	40.0	26.0	39	2.107a	.715
	Business	32.0	30.0	14.0	25	34.0	34.0	28.0	32		
	Unemployed	4.0	10.0	6.0	7	4.0	2.0	6.0	4		
	Self employed	4.0	0.0	8.0	4	2.0	6.0	6.0	5		
	Other	12.0	0.0	48.0	20	8.0	18.0	34.0	20		

Source: Field Survey

The livability of neighborhood depends on satisfaction of all age groups living there in the area. Therefore the questionnaire survey was conducted and information collected from all the age groups to get their opinion about their neighborhood.

From above personal information table statistics, it can be easily perceived that the age groups of most of the respondent in planned were vary between 25 to 45 years (51%) which belong to adult segment of the society including youth. However, the other age groups under 25 and above 46 were also included to cover all the age groups.

Same practice was exercised in unplanned neighborhood as the residents belonging to all age groups were included to get their through perception regarding the neighborhood.

The statistics show that in planned neighborhood, 49 % respondent had education level of bachelors and above, 32 % had were matric and intermediate. This transpires that most of the respondent are well educated in planned neighborhoods.

In unplanned neighborhoods, only 24% respondent were bachelors and above in their education level, whereas 47 % respondent were matric and intermediate. Besides 29 % respondents had education level of middle and below. This situation indicates that in unplanned neighborhoods mostly residents are not well educated.

In planned neighborhoods, 44 % respondent are employed and 25 % respondent belonged to business class. Likewise, in unplanned neighborhoods, 39 % respondent are employed and 33 % respondent belong to business class.

3.9.2 Household Information

Table 3.10: Household information of case study areas

Household Information (%)		Planned				Unplanned				Chi Square Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Households size	4 and Under	30.0	16.0	36.0	27	0.0	2.0	18.0	7	26.199a	.000
	5-7	44.0	42.0	42.0	43	48.0	56.0	52.0	52		
	8-10	20.0	30.0	14.0	21	24.0	30.0	18.0	24		
	11-13	4.0	10.0	8.0	7	12.0	12.0	10.0	11		
	14 and above	2.0	2.0	0.0	1	16.0	0.0	2.0	6		
Total earning members	1	60.0	52.0	52.0	55	46.0	58.0	44.0	49	7.440a	.282
	2	34.0	44.0	24.0	34	42.0	36.0	42.0	40		
	3	2.0	2.0	14.0	6	8.0	6.0	12.0	9		
	4	4.0	0.0	6.0	3	2.0	0.0	0.0	1		
	5	0.0	2.0	4.0	2	2.0	0.0	2.0	1		
Household Income	20k and below	0	2	2	1	8	6	30	15	128.103a	.000
	21k-50k	20	10	8	13	82	62	48	64		
	51k-100k	64	56	84	68	10	30	18	19		
	101k-500k	16	32	3	17	0	2	4	2		

Source: Field Survey

From household information given at above table of planned neighborhoods, it can be perceived that the house hold size of most respondent varies between 5 to 7 members with average of 6 persons per household having mostly 1 or 2 earning members. It can also be noted that around one fourth (i.e., 27 percent) respondents range house hold size as 4 and below. On the other hand, in unplanned neighborhoods, the house hold size of respondent vary between 5 to 7 with average household size as 8 having mostly one or two earning members. It is interesting to note that around one third (i.e., 35 percent) of house hold size varies between 8 to 13 members.

The table show that the majority of population in planned neighborhoods have income in the range of PKR 50k to 100k, whereas, in unplanned neighborhoods, the income level of most respondents vary between 21k to 50k which shows that resident of planned neighborhood have high income level as compared to unplanned neighborhoods.

The situation also reveals that in unplanned neighborhoods due to unaffordability of low-income populations having income level below 50k, the peoples are not able to move away from unplanned neighborhoods which in other words present an effective housing option and a viable solution though for the time being to address housing backlog.

3.9.3 Housing Information

Table 3.11: Housing information of case study areas

Housing Info. (%)		Planned				Unplanned				Chi Square Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Ownership status	**Owned**	92	92	100	95	76	84	78.0	79	15.519a	.000
	Rented	8	8	0.0	5	24	16	22.0	21		
If owned, then Construct or Buy from	**Private developer**	20.0	14.0	24.0	19	6.0	20.0	8.0	11	9.053a	0.054
	Individual seller	6.0	2.0	0	3	4.0	22.0	2.0	9		
	Inherited	8.0	4.0	0.0	4	8.0	10.0	2.0	7		
	Self-built	52.0	78.0	74.0	68	82.0	48.0	72.0	67		
	Others	14.0	2.0	2.0	6	0.0	0.0	16.0	5		
Designed by Whom	**Registered designers**	100.0	100.0	66.0	89	68.0	64.0	50.0	61	31.086a	.000
	Not registered	0	0.0	34	11	32	36	50	39		
House Plan Approval	**Yes**	100.0	100.0	100.0	100	66.0	66.0	94	75	42.205a	.000
	No	0	0	0	0	34	34	6	25		

Source: Field Survey

From housing information table, it is observed through field survey that in planned neighborhoods, the most houses (i.e., 95 %) are owned and constructed under owners' own supervision, while in unplanned neighborhoods 4/5 (i.e., 79 %) houses are owned. On the other hand, middle and low income group are also not able to afford the rent even in unplanned neighborhoods.

In planned neighborhoods the design of maximum houses was drawn by registered architects and plans were approved by the respective controlling authority. While in unplanned neighborhoods, there are 39 percent houses which were not designed by registered Architects and 25 house plans not approved by the respective controlling authority.

The reason is that the in planned neighborhoods, two tier controlling authorities exist (one housing scheme's own administration and the other area development authority) to control the illegal and unauthorized construction. In unplanned neighborhoods only one tier controlling authority exists which mostly prioritize effective control on main locations of neighborhoods only.

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3.9.4 Neighborhood Information

Table 3.12: Neighborhood information of case study areas

Neighborhood Information (%)		Planned				Unplanned				Chi Square Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Living period	Under 5 yrs.	32.0	6.0	58.0	32	2.0	10.0	8.0	7	68.724a	.000
	5-10 yrs.	30.0	30.0	42.0	34	8.0	28.0	24.0	20		
	11-15 yrs.	16.0	22.0	0.0	13	6.0	10.0	8.0	8		
	16-20 yrs.	18.0	14.0	0.0	11	26.0	22.0	10.0	19		
	Above 20 yrs.	4.0	28.0	0.0	11	58.0	30.0	50.0	46		
Factor of Attraction	Community Facilities	12.0	16.0	30.0	19	0.0	28.0	38.0	22	9.773a	.044
	Good Security Condition	4.0	2.0	12.0	6	2.0	0.0	0.0	1		
	Land Availability	26.0	52.0	14.0	31	64.0	30.0	26.0	40		
	Affordable Rent	4.0	2.0	16.0	7	0.0	20.0	4.0	8		
	Others	54.0	28.0	28.0	37	34.0	22.0	32.0	29		

Source: Field Survey

From neighborhood information table, it can be perceived that in planned neighborhoods, the living duration of most respondents (i.e., 66 percent) is less than 10 years. However, in unplanned neighborhoods the living period of most respondents (i.e., 65 percent) is more than 16 years.

This is due to the fact that unplanned neighborhoods developed before partitions and most of them are the oldest settlement as compared to the planned neighborhoods.

In planned neighborhoods factor of attraction of respondent relates to community facilities, land availability and accessibility. While in unplanned neighborhoods factor of attraction of maximum respondent is land availability and affordable rent. The main factor of attraction for both neighborhoods is availability of land/house.

People are immune to live in populated areas. Secondly visible lack in availability plot/ house in unplanned schemes is another reason of increasing density. Even though the charm of livability still prevails in old built up areas.

3.10 Section 3: Physical livability factors

3.10.1 Neighborhood Residential density

Table 3.13: Perception about neighborhood residential density of case study areas

Respondent Perception about Neighborhood Density (%)		Planned				Unplanned				Chi Squre Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Respondent opinion about population density	**Tolerable**	74.0	28.0	100	67	34.0	26.0	76.0	45	15.112a	.001
	Intolerable	18.0	40.0	0.0	19	36.0	42.0	10.0	29		
	Don't Know	8.0	32.0	0.0	13	30.0	32.0	14.0	25		
Adjacent building distance	**Too far**	16.0	14.0	0.0	10	2.0	4.0	2.0	3	22.183a	.000
	Normally distributed	20.0	32.0	100	51	32.0	34.0	54.0	40		
	too close	56.0	50.0	0.0	35	52.0	52.0	18.0	41		
	Others	8.0	4.0	0.0	4	14.0	10.0	26.0	17		

Source: Field Survey

Densities have the ability to impact neighborhood's livability in a variety of dimensions, including retail health, transportation viability, community formation and sense of place. However, livability is ultimately affected by how density is treated.

From above table it can be attained that the distance between half of adjacent building in planned neighborhoods is normally distributed. It worthwhile to be noted that in Wapda town distance between almost all the adjacent buildings is normally distributed, while in unplanned neighborhoods distance between less than half of the buildings is normally distributed. The reason for close adjacent building distance is result of vertical and horizontal illegal extension by the residents due to expansion in household size and family needs. This practice mostly prevail in informal/unplanned settlements.

From above density table it can be noted according to two third (67 percent) resident's, in planned neighborhoods, the population density in their neighborhoods is tolerable (in Wapda town it is 100 percent tolerable). However, in unplanned neighborhoods the resident perceptions for tolerable population density is below 50 percent which indicates the resident's dissatisfaction with population density. The reason for tolerance below 50 percent in unplanned neighborhoods is that the settlements are old, their location is close to CBD and that mostly middle and low level income groups desire to settle in the areas which are over densified. This also promote the illegal extension of houses by vertically increasing the number of stories up to 3 floors and horizontally by reducing the distance between houses.

3.10.2 Transportation

Table 3.14: Perception about public transportation in case study areas

Respondent Perception about transport (%)		Planned				Unplanned				Chi Square Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Purpose of daily travel	Work	76.0	54.0	44.0	58	60.0	62.0	66.0	63	12.948a	.012
	Study	8.0	22.0	24.0	18	26	18.0	16.0	11		
	Shopping	6.0	20.0	14.0	13	20	16.0	2.0	13		
	Buying groceries	2.0	4.0	2.0	3	4.0	4.0	14.0	7		
	Others	8.0	0.0	16.0	8	0.0	34.0	2.0	12		
Preferred type of transport	Rickshaw	12.0	26.0	8.0	15	30.0	26.0	8.0	21	19.861a	.001
	Bus	2.0	6.0	2.0	3	6.0	4.0	10.0	7		
	Private Car	70.0	42.0	68.0	60	36.0	42.0	26.0	35		
	Bike	4.0	0	16.0	7	0	4.0	30.0	11		
	Others	12.0	26.0	6.0	15	28.0	24.0	26.0	26		
Always Use Preferred Transport	Yes	56.0	32.0	100.0	63	34.0	36.0	72.0	47	7.125a	.011
	No	44.0	68.0	0.0	37	66.0	64.0	28.0	53		

How Transport can be improved	Increase the no of bus routes	64.0	32.0	40.0	45	28.0	36.0	40.0	35	7.149a	.000
	Increase the frequency of buses	26.0	52.0	26.0	35	46.0	48.0	32.0	42		
	Decreasing fare	10.0	16.0	8.0	11	22.0	16.0	16.0	18		
	Provide public transport	0.0	0.0	12.0	4	4.0	0.0	6.0	3		
	Others	0.0	0.0	14.0	5	0.0	0.0	6.0	2		

Source: Field Survey

The livability of neighborhoods demand an efficient transportation system. High density demand the provision of efficient public transport options which provide opportunity to deliver comfortable, reachable, and frequent structure of community transportation (New York City Planning Commission 1993; Churchman et al. 1996; Hillman 1996,).

According to above statistics, in both planned and unplanned neighborhoods, purpose of travel for most residents is work. (Planned 58 % & Unplanned 63 %). For this purpose, the most of the planned neighborhoods' residents use private cars as their preferred mode of transport is private car. The reasons behind use of private car is that they need improvement in frequency of public buses and number of bus public routes.

While in unplanned neighborhoods, the preferred mode of transport varies between private car, rickshaw and bikes. The reasons behind that is less number of buses and lack of enough routes for buses. The usage of private car is less as most of resident belong to middle and low income groups but still the usage of bus/public transport is very less.

This is because the public transport in Lahore is inadequate in terms of modes, frequency and quantity and mostly it is highly crowded.

3.10.3 Accessibility

Table 3.15: Travel distance from home to different locations in case study areas

Travel Distance From Home to Destination in Mints(Mean)	Planned					Unplanned				
	Johar Town	Garden Town	Wapda Town	Mean	Std. Deviation	Dharm Pura	Begum pura	Ichara	Mean	Std. Deviation
	N 50	N 50	N 50	N 150	N 150	N 50	N 50	N 50	N 150	N 150
EDUCATION										
School	7.0	6.4	5.8	6.4	3.8	6.9	7.0	5.5	6.4	3.4
College	9.7	9.3	10.5	9.8	11.2	8.9	9.4	12.8	10.3	10.0
HEALTH CARE										
Public	20.6	17.8	8.6	15.6	7.4	21.9	20.8	14.6	19.1	6.6
Private	20.9	19.6	6.6	15.7	6.1	22.4	21.0	5.8	16.4	5.9
COMMUNITY FACILITIES										
Meat market	13.0	14.2	6.2	11.1	11.4	14.0	12.3	5.2	10.5	11.9
Convenience stores	11.4	11.8	5.5	9.6	6.4	11.7	10.5	4.9	9.0	6.1
Restaurant	11.6	11.3	11.6	11.5	6.0	11.6	11.0	10.8	11.1	5.6
Mosque	5.8	7.0	3.8	5.5	4.2	6.0	5.9	3.9	5.3	3.7
Bank/ATM	9.4	9.1	8.6	9.0	4.8	10.1	10.0	7.0	9.0	4.3
Post Office	8.6	8.8	10.5	9.3	4.8	8.3	8.9	9.2	8.8	4.6
OPEN SPACES										
Park	6.1	6.3	4.0	5.5	3.5	5.8	6.2	8.9	7.0	4.9
Playfield	6.2	6.1	3.3	5.2	4.0	5.6	5.8	8.2	6.5	5.1

Source: Field Survey

The physical accessibility to neighborhood amenities is considered to be an essential factor of livability (Pacione, 1985). Accessibility mean assessing the quantity, quality and range of amenities and services and public places and the means to access them within the community.

For the accessibility of education institutes, the above statics show that in planned neighborhood areas, the average time take from home to school and home to college is 6.4 and 9.8 minutes respectively. This can also be observed from dissolved buffer maps that number of educational institute present are within the range 500 to 1500 meters from residential areas. Therefore, most of residents use bike and walk for going to school and college except for Wapda town where most residents prefer private car for going to educational institute.

For accessibility regarding educational institute in unplanned neighborhoods areas, the average time required from home to school and home to college is 6 and 10 minutes respectively. This can also be observed from dissolved buffer maps that number of educational institute available are within the range 500 to 1500 meters of residential areas. Therefore most of residents use bike and walk on foot for going to school and college.

For Health care accessibility in unplanned neighborhoods, the average time required from home to public and home to private hospital is 19 minutes and 16 minutes respectively. This can also be observed from dissolved buffer maps that number of hospitals available are within the range of 1500 to 2500 meters from residential area. This is due to limited number of hospitals available in unplanned areas which effect the accessibility of health care facility. Therefore, most of the residents use bikes and public transport for going to health care centers.

For community facilities in planned neighborhoods, the average time required from home to different community facilities (meat market, convenience stores, restaurant, bank/ATM, and post

office) is 10 minutes. Therefore, most of the residents use bike and walk on foot to access these facilities. However in Wapda town residents prefer private vehicles. To access the mosque in planned neighborhoods, average time taken is 5 minutes. Therefore most residents prefer walk.

For community facilities in unplanned neighborhoods, the average time required from home to different community facilities (meat market, convenience stores, restaurant, bank/ATM, and post office) is 10 minutes. Therefore, most of the residents use bike and walk on foot to access these facilities. To access the mosque in unplanned neighborhoods, average time taken is 5 minutes. Therefore most resident prefer to walk on foot.

For Open and public space facilities in planned neighborhoods, the average time required from home to open and public spaces is 6 minutes. . This can also be observed from dissolved buffer maps that number of hospital present are within the range of 500 to 1000 meters from residential area. Therefore, most of residents use bike and walk on foot for going to open and public spaces.

For Open and public space facilities in planned neighborhoods, the average time required from home to open and public spaces is 7 minutes. . This can also be observed from dissolved buffer maps that number of hospitals available are within the range of 500 to 1000 meters of residential area. Therefore, most of residents use bike and walk on foot for going to open and public spaces.

3.10.3.1 Ranges of Facilities in Planned Neighborhoods

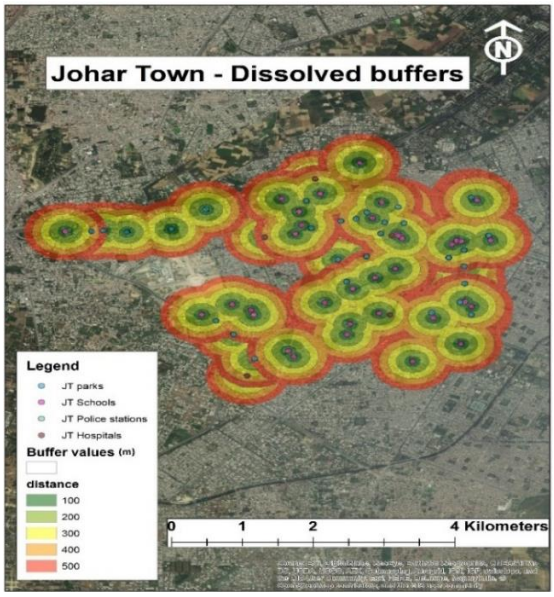

Figure 3.9: Dissolved Buffer Map of Johar Town

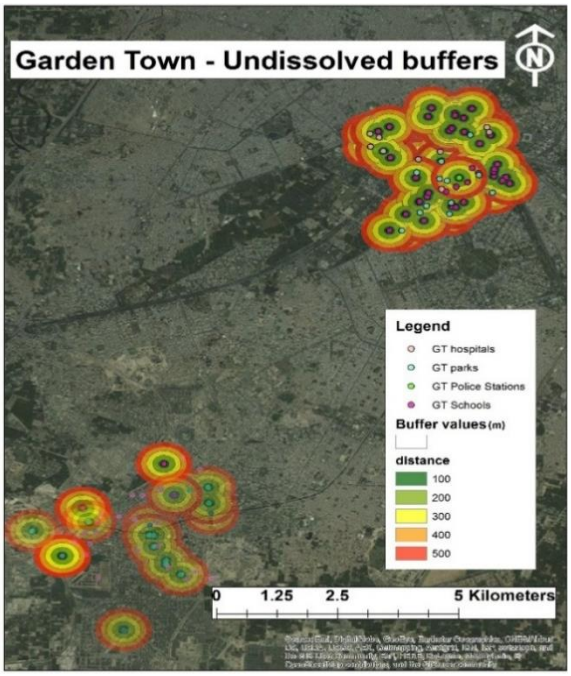

Figure 3.11: Dissolved Buffer Map of Garden Town

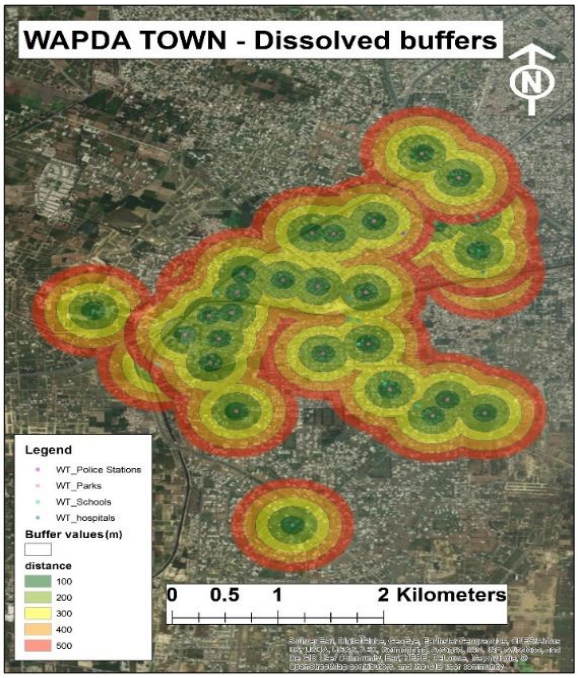

Figure 3.10: Dissolved Buffer Map of Wapda Town

3.10.3.2 Ranges of Facilities in Unplanned Neighborhoods

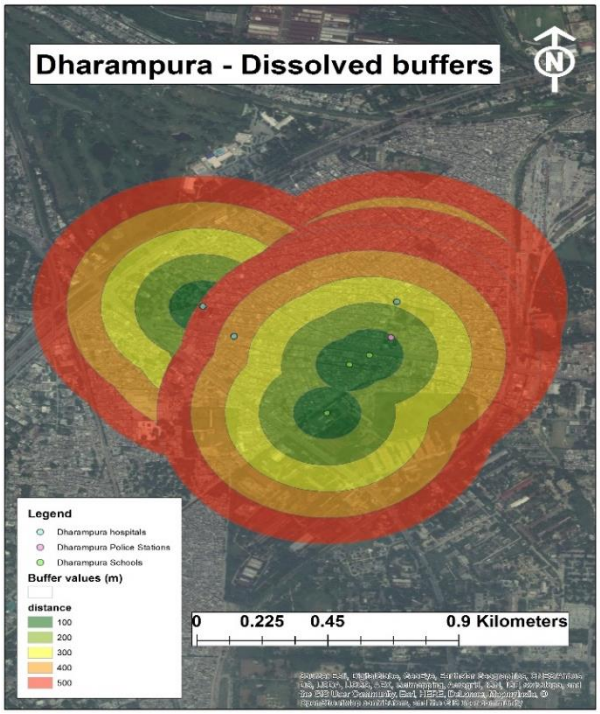

Figure 3.12: Dissolved Buffer map of Dharampura

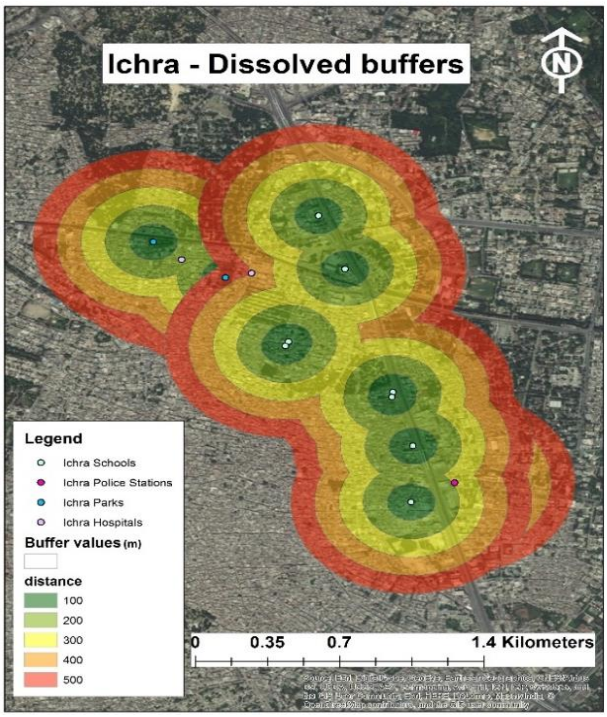

Figure 3.13: Dissolved Buffer map of Ichra

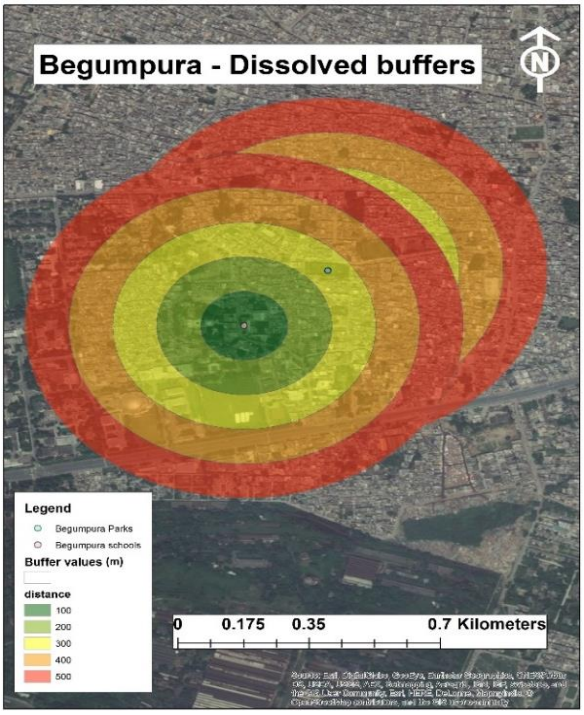

Figure 3.14: Dissolved Buffer map of Begumpura

3.10.4 Open Spaces and Public Spaces

Table 3.16: Perception about open spaces in case study areas

Respondent Perception about Open Spaces (%)		Planned				Unplanned				Chi Square Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Types of open spaces available in Neighborhood	Play grounds	18.0	30.0	100	49	34.0	34.0	22.0	30	24.961a	.000
	Parks	82.0	62.0	0.0	48	66.0	66.0	36.0	56		
	Others	0.0	8.0	0.0	3	0.0	0.0	42.0	14		
How open spaces can be improved	Provide more facilities	60.0	22.0	32.0	38	24.0	30.0	28.0	27	9.603a	.008
	Provide more spaces	24.0	54.0	12.0	30	52.0	46.0	44.0	47		
	Good manage ment	16.0	24.0	56.0	32	24.0	24.0	28.0	25		

Source: Field Survey

Open spaces are that factor of the urban living that stand as essential need of social life of the citizen in metropolitan areas like Lahore. The open space standards as recommended under Lahore Development Authority PHS Rules have not been fully applied.

According to the residents of planned neighborhoods, the playground/parks are available (Johr 82%, Garden 62% and Wapda town 100 %) within 5-10 mints walking distance but these require improvements regarding facilities and management.

According to above statics the establishment of open spaces is a crucial livability issue due to absence of which the residents of the unplanned neighborhoods suffer most. Although, in unplanned neighborhoods there are few open spaces (Dharmpura 52%, Begumpura 46% and Ichra 44%) available, yet these are neither sufficient nor maintained properly. Furthermore, due to high population density and shortage of land, encroachments are observed in different open spaces of the unplanned neighborhoods to cater other functions. Due to the limited open space provisions in the unplanned neighborhoods, the street junctions are mostly utilized for recreational purpose.

3.10.5 Community Participation

Table 3.17: Perception about community participation in case study areas

Respondent Perception about Community participation (%)		Planned				Unplanned				Chi Square Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Meeting with neighbor about facilities	Less than 5	54.0	12.0	4.0	23	24.0	18.0	70.0	37	35.044a	.000
	5-10 times	24.0	54.0	10.0	29	46.0	56.0	22.0	41		
	11-15 times	20.0	34.0	14.0	23	30.0	26.0	8.0	21		
	More than 15 times	2.0	0.0	72.0	25	0.0	0.0	0.0	0		
Involvement in community activities	Yes	8.0	16.0	0.0	8	20.0	12.0	58.0	30	23.587a	.000
	No	92.0	84.0	100.0	92	80.0	88.0	42.0	70		
Reasons to not involve in community activities	Don't know the neighbor	76.0	48.0	14.0	46	50.0	48.0	52.0	50	9.661a	.008
	Too many people involve	12.0	26.0	2.0	13	26.0	28.0	18.0	24		
	Others	12.0	26.0	84.0	41	24.0	24.0	30.0	26		

Source: Field Survey

The strengthening of community participation between neighbors is essential for invoking livability in neighborhoods. Recent evidences suggests that social interactions transpire infrequently in contemporary urban neighborhoods.

The statistics for community participation show that the resident in planned neighborhood rarely involve themselves in community activities (8%). This is due to reason that in planned neighborhoods, most of the residents don't know their neighbors (76 %) because of their socio economic status and that they are more restricted to their close relations including friends, relatives and close neighbors rather than the overall community.

In Unplanned neighborhoods there is no formal community activities performed therefore the statistics for community activities is low (30 %).

In organic pattern neighborhoods, the houses are located closer to each other and neighbours compromise the privacy level because of their strong social bonds. Moreover, due to their routine busy lives and the limited public places neighbors get less chances and time for social interactions these days.

3.10.6 Safety

Table 3.18: Perception about safety in case study area

Respondent Perception about Neighborhood Security (%)		Planned				Unplanned				Chi Squ. Val.	P val.
		Johar Town	Garden Town	Wapda Town	Total	Dharm pura	Begum pura	Ichara	Total		
		N 50	N 50	N 50	N 150	N 50	N 50	N 50	N 150		
Security satisfaction at public spaces	Yes	78.0	40.0	92	70	36.0	46.0	74.0	52	10.214a	.002
	No	22.0	60.0	8.0	30	64.0	54.0	26.0	48		
Contribution to safety or lack of safety	Presence of neighbors	22.0	32.0	16.0	23	26.0	32.0	10.0	23	11.365a	.045
	Low crime rate	60.0	32.0	10.0	34	22.0	26.0	12.0	20		
	Flow of traffic/Open shops	10.0	24.0	40.0	25	34.0	24.0	54.0	37		
	Street lights at night	8.0	12.0	12.0	11	18.0	16.0	8.0	14		
	Presence of Security guards	0.0	0.0	22.0	7	0.0	0.0	16.0	5		
How to Improve security of neighbors	More security guards	64.0	32.0	50.0	49	34.0	40.0	40.0	38	9.655a	.022
	More street lights on the roads	24.0	32.0	14.0	23	38.0	36.0	46.0	40		
	Establish Police check posts	8.0	22.0	30.0	20	18.0	16.0	12.0	15		
	Others	4.0	14.0	6.0	8	10.0	8.0	2.0	7		

Source: Field Survey

Due to lack of sense of security, the people in their neighborhoods may not be willing to access community facilities or to involve in neighborhood activities (Caughy et. al., 1999).

The perception of safety by the people is quite essential to know how the safety is perceived as the objective data on safety is obtained from respondents who lived near periphery of neighborhood might not be similar with the respondents' perception who lived inner of their neighborhoods (Kahana, et. al., 2003)

From above table it can be attained that in planned neighborhoods, mostly residents satisfy with safety conditions (70%) due to low crime rate and flow of traffic. However, due to recent street crime events as occurred in Garden town Lahore, most of the resident's (60 %) not satisfied with security conditions. When respondents asked about the measures for improvement of security condition in planned neighborhood, they suggested that the presence of security guards, more street lights and establishment of police check posts may reduce the crime rate in their neighborhoods.

In unplanned neighborhoods, only half of the residents were satisfied with the security conditions in their neighborhoods. This is because, there is no management at neighborhood level to ensure the safety of neighborhood, the neighbors presence, flow of traffic and open shops to the residents' sense of safety. When respondents asked about measures for improvement of security condition in unplanned neighborhoods, they too suggested that the presence of security guards, more street lights and establishment of police check posts may ensure the safety in their neighborhoods

3.11 Section 4: Resident's Satisfaction

Objective 3: Residents' satisfaction about their neighborhood

Table 3.19: Satisfaction with population density in case study areas

		Planned			Unplanned		
		Johar Town	**Garden Town**	**Wapda Town**	**Dharampura**	**Beghampora**	**Ichra**
Satisfaction of population density	**Strongly satisfied**	24.0	18.0	10.0	20.0	20.0	2.0
	Satisfied	32.0	40.0	48.0	38.0	30.0	36.0
	Neutral	8.0	8.0	34.0	4.0	6.0	52.0
	Dissatisfied	36.0	34.0	8.0	38.0	44.0	10.0
	Strongly Dissatisfied	0.0	0.0	0.0	0.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	2.44	2.42	2.60	2.40	2.26	2.30
	Std. Deviation	1.215	1.144	.782	1.195	1.226	.678

Source: Field Survey

Satisfaction level of residents regarding the population density in planned neighborhood is not very satisfactory except of Wapda town because due to urbanization more people migrate to big cities like Lahore for job and study purpose and mostly middle income group prefer to stay in neighborhoods whose cost may not exceed to their purchase limits. Therefore neighborhoods like Johar town is planned and residents willing to rent their houses which make the neighborhood dense. However in garden town, the distance between the adjacent houses is normally distributed. That why the satisfaction level of most resident is high.

On the other hand, satisfaction level of unplanned neighborhood residents regarding the population density is low because the unplanned neighborhood is that the settlement are old and due to their

location near to CBD, mostly middle and low level income group desired to settle in these areas which over densify the neighborhoods. This also promote the illegal extension of houses by vertically increasing the number of stories up to 3 floor and horizontally by reducing the distance between houses.

Table 3.20: Satisfaction with housing unit size in case study areas

		Planned			Unplanned		
		Johar Town	**Garden Town**	**Wapda Town**	**Dharampura**	**Beghampora**	**Ichra**
Satisfaction of Housing unit size	Strongly satisfied	14.0	8.0	10.0	18.0	12.0	6.0
	Satisfied	40.0	48.0	74.0	46.0	36.0	48.0
	Neutral	10.0	6.0	14.0	2.0	8.0	36.0
	Dissatisfied	36.0	38.0	2.0	34.0	44.0	10.0
	Strongly Dissatisfied	0.0	0.0	0.0	0.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	2.32	2.26	2.92	2.48	2.16	2.50
	Std. Deviation	1.115	1.065	.566	1.147	1.131	.763

Source: Field Survey

The satisfaction level of planned neighborhoods for mostly residents is satisfactory w.r.t housing unit size. This is due to residents in planned neighborhood living in a house of their own choice. The choice of house depend on size and location

However in unplanned neighborhoods, the resident's satisfaction level is low w.r.t to housing unit size. This is due to large household size in unplanned neighborhoods the housing space become short and effect the comfort and privacy level of residents.

Table 3.21: Satisfaction with education facilities in case study areas

		Planned			Unplanned		
		Johar Town	**Garden Town**	**Wapda Town**	**Dharampura**	**Beghampora**	**Ichra**
Satisfaction level about education facilities	Strongly satisfied	22.0	10.0	32.0	16.0	24.0	16.0
	Satisfied	26.0	28.0	60.0	24.0	26.0	38.0
	Neutral	22.0	26.0	8.0	22.0	20.0	42.0
	Dissatisfied	24.0	32.0	0.0	32.0	26.0	4.0
	Strongly dissatisfied	6.0	4.0	0.0	6.0	4.0	0.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	3.34	3.08	4.24	3.12	3.40	3.66
	Std. Deviation	1.239	1.085	.591	1.206	1.229	.798

Source: Field Survey

Satisfaction level with respect to the provision of education facilities in both planned and unplanned town were satisfactory. This is because during recent time provisional government implement the strict policies to improve the education in all over Punjab. Secondly, the accessibility of educational institute also improve and in most neighborhoods they are in range of residents

Table 3.22: Satisfaction with provision of health facilities in case study areas

		Planned			Unplanned		
		Johr Town	**Garden Town**	**Wapda Town**	**Dharampura**	**Beghampora**	**Ichra**
Satisfaction level about health facility	**Strongly satisfied**	2.0	2.0	36.0	4.0	0.0	10.0
	Satisfied	14.0	20.0	50.0	18.0	16.0	46.0
	Neutral	24.0	28.0	10.0	22.0	24.0	24.0
	Dissatisfied	56.0	48.0	4.0	54.0	56.0	14.0
	Strongly dissatisfied	4.0	2.0	0.0	2.0	4.0	6.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	2.54	2.72	4.18	2.68	2.52	3.40
	Std. Deviation	.862	.882	.774	.935	.814	1.050

Source: Field Survey

Satisfaction with respect to provision of health facilities were not satisfactory in planned neighborhoods except for Wapda town. This is due to inadequate and poor maintained hospitals unable to sever the residents. The accessibility of the health facilities are also not up to mark that why residents had to use private vehicles to access the health care centers.

On other hand, the satisfaction with respect to health facilities in unplanned neighborhood were also not satisfactory. In Begumpura, as there is not hospital available and residents had to approach other neighborhoods hospitals.

Table 3.23: Satisfaction with community facilities in case study areas

		Planned			Unplanned		
		Johar Town	**Garden Town**	**Wapda Town**	**Dharampura**	**Beghampora**	**Ichra**
Satisfaction level about community facility	**Strongly satisfied**	4.0	2.0	30.0	2.0	6.0	6.0
	Satisfied	6.0	12.0	50.0	8.0	8.0	28.0
	Neutral	34.0	28.0	18.0	34.0	32.0	36.0
	Dissatisfied	52.0	56.0	2.0	54.0	50.0	28.0
	Strongly dissatisfied	4.0	2.0	0.0	2.0	4.0	8.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	2.54	2.56	4.08	2.54	2.62	2.84
	Std. Deviation	.838	.812	.752	.762	.923	.934

Source: Field Survey

Satisfaction with respect to community facilities were not satisfactory in planned neighborhoods. The most of respondents of planned neighborhoods expect for Wapda town were dissatisfied with provision of community facilities because of their shortage and poor accessibility

Likewise in unplanned satisfaction level were not satisfactory with respect to community facilities. Because of their non-availability and poor accessibility

Table 3.24: Satisfaction with open & recreation facilities in case study areas

		Planned			Unplanned		
		Johar Town	**Garden Town**	**Wapda Town**	**Dharampura**	**Beghampora**	**Ichra**
Satisfaction level about provision of open spaces and recreation facilities	**Strongly satisfied**	0.0	2.0	28.0	0.0	0.0	6.0
	Satisfied	28.0	26.0	58.0	32.0	28.0	42.0
	Neutral	26.0	24.0	12.0	20.0	24.0	22.0
	Dissatisfied	46.0	48.0	2.0	48.0	48.0	18.0
	Strongly dissatisfied	0.0	0.0	0.0	0.0	0.0	12.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0
	Mean	2.82	2.82	4.12	2.84	2.80	3.12
	Std. Deviation	.850	.896	.689	.889	.857	1.154

Source: Field Survey

Satisfaction with respect to open and recreational facilities were satisfactory in planned neighborhoods. This is because availability of parks and grounds in planned neighborhoods but they still required proper maintenance For provision of open spaces and recreational facilities the satisfaction level of planned neighborhoods and unplanned neighborhood is above the average level.

3.12 Livability Index

Descriptive analysis perform using satisfaction so the comparison satisfaction level between planned and unplanned neighborhoods residential components. For value of +1.000, it means ‘satisfaction with a factor/item, for 0.000 mean acceptable’ and for -1.000 mean dissatisfaction with a factor/item’. Yeh’s Index of Satisfaction (YIS) was proved to be effective been description

of satisfaction level. The method for obtaining index value is dividing the difference of satisfied case with dissatisfied cases by total number of cases. It can be shown in a symbolic form as follows; Yeh (1972)

$$YIS = \frac{\text{Satisfied Cases X1 - Dissatisfied Cases X2}}{\text{Total Cases X}}$$

$$YIS = (X1 - X2)/X$$

Below shown the ranges of satisfaction level. The paired sample t-test was also applied to check statistical significant differences for satisfaction level of planned and unplanned neighborhoods respondents.

3.12.1 YIS Level of Satisfaction

- Range 1: if the index value less than 0.20 shows very low level of satisfaction
- Range 2: if the index value range between 0.20 – 0.39 shows low level of satisfaction
- Range 3: if the index value range between than 0.40 – 0.59 shows medium level of satisfaction
- Range 4: if the index value range between 0.60 – 0.79 shows high level of satisfaction
- Range 5: if the index value 0.80 and above shows very high level of satisfaction

3.12.2 Result and discussion

Table 3.25: Livability index

Factors	Planned Neighborhoods	Range	Unplanned Neighborhoods	Range
Population density	0.49	Medium	0.32	Low
Housing unit size	0.5	Medium	0.38	Low
Housing location w.r.t. accessibility	0.44	Medium	0.31	Low
Education facilities	0.61	High	0.39	Low
Health facility	0.15	Very Low	-0.13	Dissatisfy
Community facility	0.06	Very Low	-0.33	Dissatisfy
Open spaces and recreation facilities	0.25	Low	-0.08	Dissatisfy
Public transport facility	0.09	Very Low	0.22	Low
Community activities	-0.09	Dissatisfy	-0.06	Dissatisfy
Security from crimes	0.01	Very Low	-0.17	Dissatisfy
Overall average score	0.21	Low	0.04	Very Low

Table 3.26: Paired samples test for livability index

Paired Samples Test **Planned Satisfaction - Unplanned satisfaction**							
Mean	**Std. Deviation**	**Std. Error Mean**	**95% Confidence Interval of the Difference**		**t**	**df**	**Sig. (2-tailed)**
			Lower	**Upper**			
.18917	.15400	.04446	.09132	.28702	4.255	11	.001

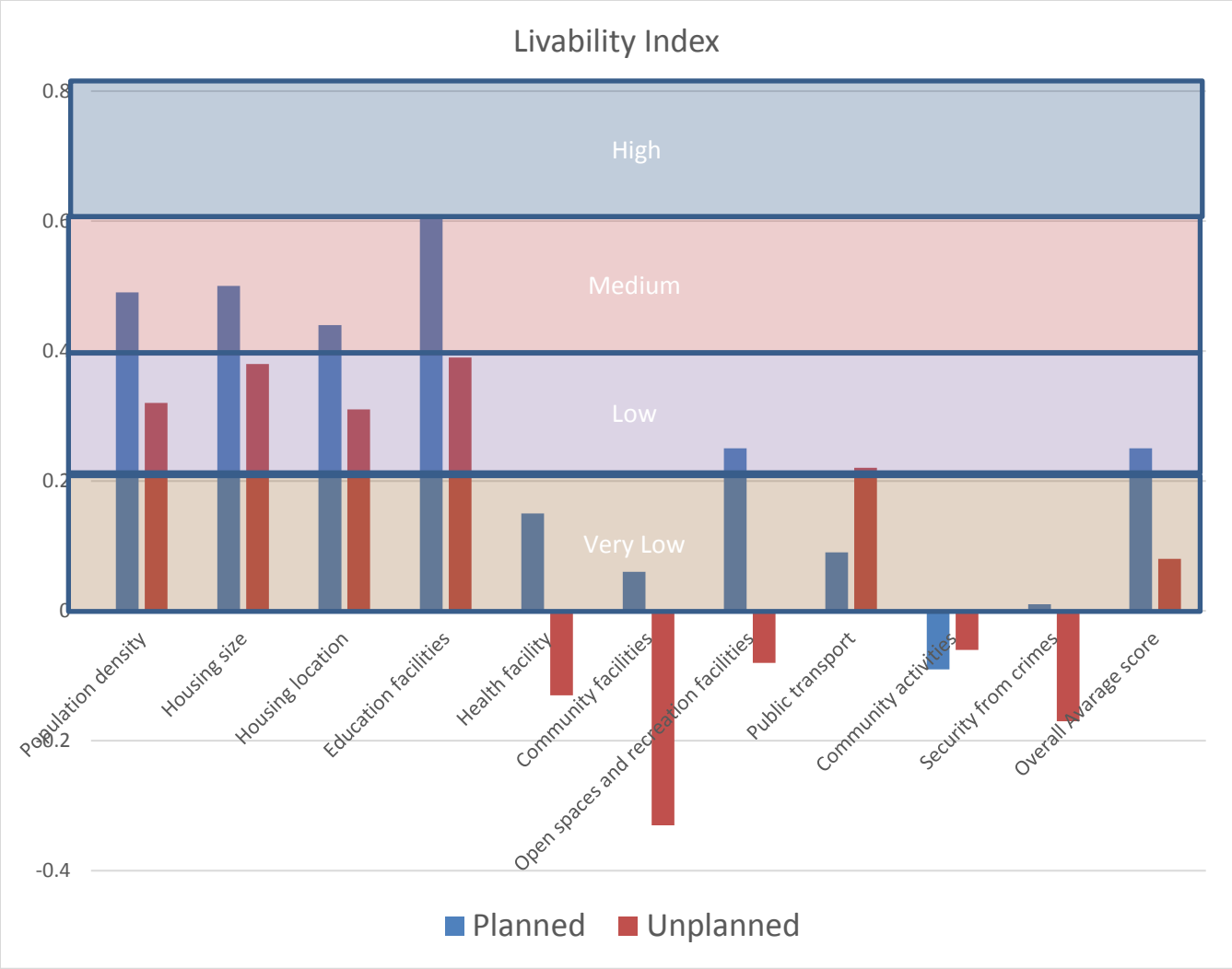

Figure 3.15: Livability Index

The findings show that the respondents had overall very low level of satisfaction in unplanned neighborhoods as compared to planned neighborhoods. But still the results of planned neighborhood were not satisfactory due to number insufficient service and accessibility issues. The discussion of table is done according to the satisfaction ranges.

The only high satisfactory livability factor is provision of education institutes in planned neighborhood which are in the range of 500 to 1500 meters and the average time required to reach education institute is vary between 5 to 10 minutes.

The livability factors which comes under the medium range of satisfaction level in planned neighborhood are population density, housing unit size and location of house. The reason of medium range satisfaction is due to the houses in planned areas are normally distributed and according to survey 67 % of resident thinks that it is tolerable. The size of housing unit and their location in neighborhood is also planned and mostly according to resident's choice.

The low level satisfaction livability factors in planned neighborhoods are provision of open and recreational spaces facilities, sewerage and drainage system and safe water drinking. The open and recreational spaces are present in planned neighborhoods but these are not well maintained and with short fall of facilities. Due to rains in Lahore last year, the sewerage and drainage system create severe problems for residents

In unplanned neighborhoods, the factors with low range satisfaction level are population density, housing unit size, location of house, provision of education facility, provision of public transport, community involvement and cleanliness of neighborhood. The reason of low level satisfaction with population density is that the unplanned neighborhoods got highly dense as these are old settlements and near to CBD, therefore mostly people desired to live near these areas. The residents are not satisfy with the size of housing unit and their location as the house are small with less number of rooms and deficiency of privacy. The reason for low satisfaction for provision of public transport is less number of buses and not enough routes.

The factor with very low level of satisfaction in planned neighborhoods are community facilities are not also up to mark in planned neighborhoods mainly due to their short fall and poor accessibility. The other factors which comes under very low level satisfaction is sense of safety due are provision of health facilities, open spaces and community facilities. The very low satisfaction of health facilities is due to their non-availability and poor accessibility as in unplanned

neighborhood like Begumpura there is not hospital available and average time required to reach hospital is 20 minutes. There are limited number of open and recreational spaces available with inadequate facilities and poor accessibility. The community facilities are also not up to mark due to their bad condition and poor accessibility. The other factors with very low level satisfaction is community activities due to low level of social interaction, sewerage and drainage system and safe drinking water because of old settlement. The sense of safety also comes under very low level because of recent increase of street crime in Lahore

The factor on which respondent show dissatisfaction in planned neighborhoods are less community activities because most of neighbors not very families with each other.

In unplanned neighborhoods, the factors from which respondent show their dissatisfaction are provision of health facilities, open spaces and community facilities. The very dissatisfaction of health facilities is due to their non-availability and poor accessibility as in unplanned neighborhood like Begumpura, there is not hospital available and average time required to reach hospital is 20 minutes. There are limited number of open and recreational spaces available with inadequate facilities and poor accessibility. The community facilities are also not up to mark due to their bad condition and poor accessibility. The result show that respondent in planned neighborhoods are satisfied.

Chapter 4: Conclusions and Recommendations

4.1 Conclusions

Livability become the important part of urban planning after sustainable development highlighted as key issue in the 1990s. The governments of different developed countries adopted the principles of sustainable urban form models in their planning and other related urban policies to pursue better livability and sustainability. Since the growth of inner city neighborhoods is haphazard and unplanned which affect the livability of neighborhoods. After Independence of Pakistan, a large proportion of Muslim migrants from India arrived at Lahore, which resulted in an increase of population of city. Despite this increase in number of people, the areal expansion was not as apparent as it is now a day. Which leads to densification in a haphazard way. The unplanned densification has severe impact on livability engendering acute traffic congestion, shrinking open space and diminished dwelling space, and strains on social services and facilities. For understanding of livability issues in Lahore, the thesis investigate the socio economic characteristics and examine the physical and social livability factor in planned and unplanned neighborhoods of Lahore.

- Density in unplanned neighborhoods is three times higher than planned neighborhoods but most of the respondents are satisfied in both planned and unplanned neighborhoods.
- Few Houses in unplanned neighborhoods are three stories or higher however in planned neighborhoods maximum two stories are allowed.
- About 50% of streets in unplanned neighborhoods are less than 30 feet wide while in planned neighborhoods minimum permissible street width is 30 feet

- In planned neighborhoods more community facilities are available as compared to unplanned neighborhoods
- Accessibility to community facilities is almost similar in both planned and unplanned neighborhoods
- Respondents are dissatisfied with safety and community participation in both planned and unplanned neighborhoods
- Overall livability index in planned neighborhood is low and in unplanned neighborhood it is very low
- In planned neighborhoods only “community facility” have negative Livability Index value. While in unplanned neighborhoods health facilities, open spaces, community activities, safety and community facilities have negative index value.

4.2 Recommendations

A livable neighborhood is one that provides its residents and users with essential services, well-functioning uses, and life enriching amenities within the immediate place. Great livable neighborhoods operate holistically on social, economic and environmental dimensions to provide secure and fulfilling life experiences. While neighborhood livability is a complex multi-layered concept of many attributes, in its most basic form livability comes down to good living

These neighborhoods required the attention of urban planners, policy makers and developers to formulate an environment-friendly and balanced method to improve the socio economic characteristics and livability of neighborhood.

- Neighborhood should be designed to promote different densities and mix land uses to provide more living options to residents. Choice of transportation modes and connected land uses should be developed so that the residents should able to travel easily in neighborhood to fulfil their needs.
- Neighborhood should be deign to provide open and public places with diversity of relaxation and recreational chances. Open spaces should be well linked and cohesive to offer social interaction of residents with each other. Public places should be easily reachable and appropriate for all age groups and abilities. The spaces should have enough facilities to encourage residents to do physical activities. There should be proper management and maintained of open and public place so that these can be utilized for long run
- The community facilities should be at shorter distance with proper planning to reduce the travel and encourage walking. The Street should be planned for pedestrian by providing pathway and ensure the cyclist safety. So that residents use prefer walking rather than depending of private vehicles it will promote the sense of ownership of resources and support social interaction between the neighbors
- The Neighborhood should be designed and managed in the way that residents feel safe during day and night. It can be done by securing the neighborhood street and open spaces. Increasing the number of guards at public and open spaces. By adding more check posts at neighborhoods. By maintaining adequate street lighting can drastically decrease the likelihood of crime and unsafe behavior. Neighborhoods should be demarcated with clear boundaries to increase the social and functional interaction Clear

boundaries of neighborhood should be demarcated to enhance functional and social interaction, sense of community to be identify within neighborhood limits

- To promote the sense of community, public participation should be encouraged in neighborhood livability building process. Public participations help the authorities to create the satisfy livable environment to house residential necessities

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Annexures

Annex A

Questionnaire

This questionnaire survey is for attaining information on the residents' opinion about **LIVABILITY** to be used for fulfillment of an MS research that is being carried out at the Department of Urban & Regional Planning in The National University of Science and technology Islamabad. The findings of study will be used only for academic purpose. The identity of the respondents will not be disclosed in any manner.
Section A: Personal Information
• Name: Gender: Age: Education(in years):
• Occupation status: □Employed □ Business □Unemployed □Self-employed □Others_____
Section B: Neighborhood Information
• Neighborhood: House/Flat no: Street no:
• For how long you are staying in this neighborhood? _____years _____months
• Please tick the important factors that attracted you to this Neighborhood? □Education Facilities □Health Facilities □Good Security Conditions □Land availability □Affordable rent □Near to work place □Other please specify
Section C: Household Information
• Total household members: _____ Numbers of males: _____ Number of females: _____
• Number of Children: ____Number of earning members_____ Total household income: RS._____
Section D: Housing Information
• Ownership status of your house? □Owned □Rented □Other please specify
• If owned then from whom did you buy or construct it. □Private developer □Individual seller □Inherited □Self-built □Public housing □Others_____
• What is the area of your flat/house? _____ Marla's
• No. of Bed rooms/Stories: _____ Rooms _____ Stories

- Condition of housing unit:

□ Pacca □ Semi-pacca □ Detached□ Semi-detached house □Others please specify_____

- Your housing unit is designed by: □ Registered Designer □ Non-registered
- Your Building Plan is approved by TMA/any other agency: □ Yes □ No
- What is Width of Street facing housing unit? _____ Width(Feet)

Section D: Social and Physical aspects about your neighborhood

1) Neighborhood Resident density

- What is your opinion about the population density/ crowdedness of the neighborhood?

□Tolerable □Intolerable □Don't know □Others, please specify_____

- What is your opinion about the distance between the buildings?

□Too far □Normally distributed □Too close □Don't know □Others, please specify_____

2) Open space /Public space at street corner and recreation facilities

- What types of open spaces are available in your neighborhood?

□Playground □Parks □Others, please specify_____

- How to improve the present condition of the open space?

□Provide more facilities e. g. benches at street corners □Provide more spaces for open space and recreation facilities) □ Good management for the maintenance of the open spaces and parks □Others, please specify_____

3) Public Transport

- What purposes you need to go out in daily life?

□Work □Study □Shopping □Buying vegetables and groceries □Others, please specify _____

- What is your most preferred type of transport?

□ Rickshaw □ Private car □ Para transit (Taxi & auto-rickshaw)□ Bus □ Others, please specify

- Can you use your most preferred transport always? □ Yes □ No

If the answer is No, what is the reason behind not using the preferred mode?

- How the transport service in the neighborhood should be improved?

□ Increasing the number of bus routes □ Increasing the frequency of buses □ Decreasing fare

□ Providing buses with more capacity□ Other, please specify_____

4) Community Participation

- How many times you met your neighbor while your way to reach the facilities during last one month? □Less than 5 □5-10 time's □10-15 time's □More than 15 times
- Do you like to involve in the community activities? □Yes □No
- If yes then how many times you were involved in the community activities in the last 12 months? Please specify: _____.
- If no then what is the reason behind your non-participation in the community activities?

□I do not know the neighbors □Too many people are involved in the activities □I do not feel interested □The activities are not organized properly □Others, please specify: _____

5) Safety

- Do you feel safe within the street and public spaces during daytime and night time? □Yes □No
- What contribute to your feeling of safety/ lack of safety in the neighborhood?

□Presence of neighbor's □Low crime rate □Flow of traffic □Open shop □Street lights at night □security guard □Others, please specify _____

- How to improve the safety of the neighborhood?

□More security guard at the open space and recreational facilities □More Street lights on the roads □Establishing police check posts in the neighborhoods □Others, please specify: ___

6) Accessibility Of Neighborhood Facilities

	DISTANCE FROM HOME (IN MINS)	MODE USE TO REACH DESTINATION	N0. OF TRIPS PER DAY	How to Improve the accessibility
EDUCATION				
• School				
• College				
HEALTH CARE				
• Public				
• Private				
COMMUNITY FACILITIES				
• MEAT MARKET				

• CONVENIEICE STORES				
• RESTAURANT				
• MOSQUE				
• BANK/ATM				
• POST OFFICE				
Open spaces				
• Park				
• Playfield				

Section E: SATISFACTION LEVEL					
Characteristics	**Strongly Satisfied**	**Satisfied**	**Neutral**	**Dissatisfied**	**Strongly Dissatisfied**
Population density/ crowdedness of the neighborhood?					
Housing unit size					
Housing unit Location w.r.t accessibility to Public transport, Job, education & health facilities					
Provision of Education facilities					
Education facilities accessibility					
Provision of Health care facilities					
Health care facilities accessibility					
Provision of Community facilities					
Community facilities accessibility					
Provision of open spaces and recreation facilities					
Open spaces and recreation facilities accessibility					
Provision of public transport?					
Public transport accessibility					
Involvement with neighbors and community activities					
Cleanliness of Neighborhood					
Security from crimes					
Sewer & drainage system					
Safe drinking water					
Overall Neighborhood quality of life					

Section F: Ranking on Priority

If given an opportunity what improvement you would like to have in Neighborhood facilities rank the top five options)

	Top 5 Priority (1 is top most and 5 lowest)
Provision of Public transport	
Cleanliness of neighborhood	
Safer drinking Water	
Security from crimes	
Provision of open/ recreational spaces	
Provision of Health care facilities	
Provision of educational facilities	
Provision of community facilities	

Section G: Experience Sharing

Please share your experience and tell the three positive and negative aspects of your neighborhood