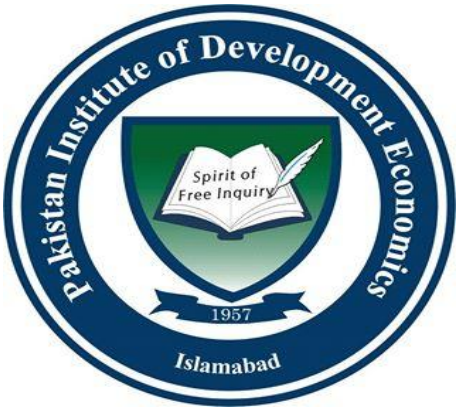
Determinants of Affordable Housing in Urban Areas of Pakistan: Supply and Demand Side Perspectives



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CERTIFICATE

This is to certify that this thesis entitled: ***"Determinants of Affordable Housing in Urban Areas of Pakistan: Supply and Demand side Perspectives"*** submitted by Mr. Muhammad Yasir is accepted in its present form by the School of Public Policy, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree in Master of Philosophy in Public Policy.

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Dedicated to

Those spend their lives to build their own homes

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Abstract

Urban population of Pakistan is growing with the pace of 2.7 percent while national growth rate is 2.4 percent according to provisional census results of 2017. Housing is a challenge for urban residents due to higher population growth. Housing demand and supply play significant role to live in the urban areas and shortage of housing is increasing. The objective of the study is to determine affordability of household and determine supply and demand side perspectives with the context of Pakistani cities. This cross-sectional study has used mixed method by conducting quantitative analysis and qualitative analysis technique by using household survey and key informant's interviews from Rawalpindi and Bara Kahu. There are 200 respondents in questionnaire based face to face interviews and 15 key informant's in-depth interviews are part of the study. According to study, there are 60 percent households are residing in rented house and rest of households are living their own house while mean income of sample population is 27110 rupees, average rent is 10785 rupees, 2.39 rooms with 4.2 Marla size dwelling unit. All residents are availing electricity, gas connection and water connection services but 60 percent households having drinkable water service in their housing unit in which 52 percent from Bara Kahu and 68 percent from Dhok Kala Khan residents have drinkable water. There are 62 percent households having waste management system in Bara Kahu while all residents of Dhok Kala Khan are enjoying waste management service by local government.

There are 29.5 percent households are living in affordable housing according to rent to income ratio criteria (<30%) and 38 percent living in affordable housing according to rent including transport to income criteria (<45%). The average income of affordable housing unit is 36491 and unaffordable housing unit is 23184 rupees that shows lower income group has caught in unaffordability net. According to hedonic regression model, increase in one unit of dwelling size increased 22 percent and if house is not owned by household increased 20 percent rent to income ratio and both determine unaffordability in demand side analysis while these two determinants also increase 13 percent and 18 percent rent including transport to income ratio but not significant in the model.

According to supply side perspectives, finance is one of leading constraint and second one is availability of land indicated to households survey by respondents in the study. Government has

allocated 1 percent of GDP for housing finance in the budget while small income group cannot access to finance due to their unstable source of income and conditions by financial institutions. Higher prices of available land and higher construction cost (1100 rupees per square feet) also create housing gap in the respective areas of the study. Overall, mostly people lives in unaffordable house due to low income and higher rents and they also can not access to finance due to conditions of financial institutions those are regressive in nature that is why housing gap is increasing. In this situation, government can interfere and can provide cheap housing for small income group with all utilities including drinkable water as government to providing to public servants.

Keywords: *Affordable Housing, Urban, Housing Policy, Pakistan*

Chapter 1. Introduction

1.1. Background

Urbanization in Pakistan is growing with the pace of 2.7 percent according to provisional results of census and there are 35.6 percent population is residing in urban areas of Pakistan that may reach 50 percent population of the country in cities till 2030 (jan et al, 2008). As population of Lahore is 11 million today while Karachi that has 13 million masses but it may exceed 19 million in 2025 (Kugelman, 2013). Due to higher rate of urban growth, residents need housing, employment, access to market and public goods facilities to enjoy necessities of life. All these supply side and demand factors matter if cities are planned otherwise there may not any equilibrium between housing, opportunities and provision of public goods. Housing is major component in cities to live and survive under affordability. It means, the equation must be same with the proportion of households equals to number of housing units and should be affordable for all income group but reality is different in the world and specifically in Pakistan as well.

Pakistan is fifth (5^{th}) largest populous country in the world with 207 million masses approximately in the country with 2.40 percent growth rate according to provisional results of census published by Pakistan Bureau of Statistics. According to last census in 1998, there was 132 million with 166 people per square kilometer density and the rate of population growth from 1981 to 1998 was 2.49 percent. There are 75 million people now living in urban areas which comprised 35.6 percent urban population while the share of urban population was 32 percent in 1998 (PBS, 2000). According to census report, there were 19.2million housing units in the country and 6 million housing units exists in urban areas while 6.8 persons were living per housing unit overall that is due to higher population growth while 3.3 persons were living on average in one room that shows demand of housing low number of rooms in housing units in the country.

United nations have declared “access for all to adequate safe and affordable housing services” and endorse it as a basic human need in sustainable development goal (SDG) 11.1 which aims to achieve on sustainable basis in 2030. UN-HABITAT helps to spread the agenda of affordable housing in the world according to HABITAT agenda if house has inadequate access to safe water, sanitation, poor structural quality of housing, overcrowding and insecure residential status called slum. It means the entire characteristics meet by housing unit will be affordable otherwise it will be slum. Therefore, HABITAT II adopted the agenda of shelter for all in 1996 in Istanbul.

Planning commission of Pakistan define affordable housing as “A housing units spending from whole household budget must be 20-40 percent of gross monthly income excluding transportation cost by proving minimum space and basic infrastructure called affordable house” (Haq, 2010). There is a shortage of 76 lac housing units in Pakistan according to World Bank estimations in 2011. Currently, per capita income is 1531 US$ annually according Economic Survey of Paksitan, 2016. Cost burden for housing leads to slums up gradation which lack of infrastructure and basic facilities as well. According to estimations, there is 50 percent of urban population now living in slums.

According to government projections, urbanization is increasing and cities must have ability to absorb the burden so therefore it is utmost to develop public policy for making “cities as engine of growth” but all housing schemes and policies are favoring formal sector. There is significant portion of population associated with informal sector in urban area and therefore urban economy contributes in gross domestic product more than rest of production factors. Housing is one of challenge in urban areas of Pakistan despite lack of good polices for low income population therefore 50 percent population of urban areas are now living in slums which upgraded in

surroundings of city on public land. It creates issues for cities to follow the master plan and hurdle in providing infrastructure properly.

There is no single factor or determinant of affordable housing challenge that need to be solved. Supply and demand side factors contribute against affordable housing in urban areas like supply of land determined by real estate market, developers are other stakeholders and prices are also main constraint for housing. So, there is difficult to manage expenses on cheap and affordable housing for middle income and low-income groups population. The study aims to determine factors behind affordable housing challenge and how housing may called affordable in the cities of Pakistan in current scenario despite the fact huge shortage of housing and gap between supply and demand in market?

1.2. Problem Statement

Demand side perspectives refers to household's characteristics and supply side perspectives refer to available housing stock but the main problem is, which sort of indicators or factors determine affordable housing with supply and demand side perspectives? while the distinction of supply and demand side remains part of the study. There are many housing characteristics associated with household but which sort of characteristics define and determines affordability is problematic and need to sort out in the study and which factors play role as constraint or fruitful for provision of affordable housing in housing market need to sort out in the study as well?

1.3. Objectives of the study

The objective of study is to find out affordability of Bara Kahu and Dhok Kala Khan residents according to "affordable housing definition" as mentioned in literature and which factors determine affordability? As Indian literature define affordable housing according to dwelling unit

size, its price and income so is dwelling size, housing status matter in case of Dhok Kala Khan and Bara Kahu?

Second objective of the study is overview demand side and supply side factors as challenges against affordable housing in the study for low income and middle-income population in urban area of Rawalpindi. According to literature, lack of infrastructure in housing schemes, high prices of land for residence, financial constraints and affordability make difficult for a person to live in affordable house leads to live in slums areas of urban in Pakistan

Third objective of the study is review of previous and stakeholders of housing sector opinion what should be course of action for future policy recommendations under described sole criteria of affordable housing in Pakistan for low and middle-income group in urban areas and how is it possible housing for all in Pakistan?

1.4. Scope of the study

There is a lack of literature on affordable housing in Pakistan therefore, this study has contributed in literature to critically analyze current situation of housing for low and middle-income group in urban areas of Pakistan. Previously, different studies have done to analyses housing demand as study by (Ahmed, 2015) conducted to find out housing demand in Pakistan but missed the supply side of urban housing so this study helped to find out affordability of households and supply side perspectives that is the major gap in literature that has fulfilled.

Housing sector play significant role in economy because it helps to increase production of raw material and electronics that boost employment as well resulted in economic growth ultimately. Given the importance of housing in economy, it is an important enabler for housing and sustainable economic growth. Factors those determined affordable housing for household in Pakistan will be

highlighted in the study with overview of supply and demand side perspectives. In this way, the study will be unique to highlight the issue with sole criteria and the way forward will contribute in policy formulation.

1.5. Organization of the thesis

Thesis has organized in different parts of the study. After the background and introduction, literature of developed and developing countries has segregated to analyses affordability and its determinants. Methodology is part of third chapter in the study with sample, model and analysis tools and techniques described in respective section of the study. Fourth chapter comprises quantitative and qualitative analysis in which multivariate and key informants interview analysis is part of the chapter. In the end, there is a chapter of conclusion and recommendation in the study.

Chapter 2. Literature Review

2.1. Literature Review

Affordable housing concept need to be operationalize and describe definition of affordability in different regions of the world because definition of affordable housing will help to build the statistical model in the study. Commonly, there are multiple factors influencing or determining affordable housing such as economic factors leads to cost burden, social factors and demographic factors on demand side while supply side perspectives are totally different that leads to institutional issues. The study is focusing on both sides. It is also important to highlight policy perspectives and constraints highlighted from policy draft in the study.

Price of each dwelling unit matters with their characteristics so in this study, to analyze demand side perspectives, hedonic model used because number of observations like housing quality and quantity with characteristics depend on housing price or rent. The housing price determined by its characteristics as attributes of housing increased then price of bundle increased with linear relationship (Goodman, 1998). It means, as quality of housing or demand of housing increased then it increased prices of housing (Gundimeda, 2005). Hedonic model logically regresses one unit of goods by using characteristics on the other side (Diewert, 2003). The characteristics of dwelling has impact on its evaluation by consumers so theoretically model need to specify (Ramalho, 2011) in the study by using hedonic model.

2.2. Definitions Affordable Housing

The definition of affordable housing varies across the borders in the world. There is no consensus on definition of affordable housing. There is no single or sole criterion of affordable housing which may tell whether house is affordable or not because income and housing prices vary region to region in the world. First, we try to define affordable housing by using multiple definitions in this

study. Electronic page of "The Economic Times" define as "A unit of housing is affordable whose income is below household median income (Economic Times, 2016). It was also mentioned that there is no unique definition of affordable housing but it is important to address the housing issue of low and middle-income population.

Indian author defines the affordability gap as the difference between the cost of an acceptable standard housing unit (which varies by location) and what households can afford to pay using no more than 30 percent of income (woetzel et al, 2014). According to MGI report, cost can be reduced by reducing construction cost, unlocking land supply and lowering financial costs for buyers and developers for affordable housing.

In India, there are three parameters which help to define affordability of housing according to author, monthly income, size of plot and its price, So affordable housing for lower income group mean in India 200-300 square foot house price is 7-12 lakh. Overall cost of housing for different income group varies in the country according to author. In the article, author also argues that there is 50 percent people live in slums of Mumbai while they occupy 4 percent land of the city (Pharande, 2012).

According to KPMG report, affordable housing definition for India is much difficult task because every kilometer have its own dynamic so they developed three tiers, Economically weaker group, Low income Group and higher income group in which each category has its own characteristics defined in the report (KPMG, 2010). Overall, there are three determinants of affordable housing in the report, one is income level, second one is size of house and last one is price that also called affordability which must be 30-40 percent of income but size of dwelling varies with population income group according to the report. There is a shortage of 99 percent of housing stock for

economically weaker section in India while 10.5 percent housing shortage for low income group. But there is only 0.2 percent housing shortage for middle and higher income group according to (Mayank et al, 2012).

The department of housing and urban development in the United States defines affordable housing as "A person pay more than 30 percent of income on housing considered cost burdened". According to Australia government, "A house consider affordable if they pay less than 50 percent of their income".

2.3. Affordable Housing in Pakistan

Cities attract people from rural areas population with low income for better opportunities resulted in agglomeration effect. Agglomeration effect means cost reducing mechanism which also called cost efficient in economics terminology. Fast urban growth is result of migration from low income group in Pakistan. There are 80 percent migration within Punjab, 58 percent in Baluchistan and 56 percent migration in Khyber Pashtun kha and Sindh both (Nabi, 2015). There is a shortage of 10 million housing units in Pakistan (World Bank, 2017) mostly for low income market while 47 percent in urban areas living in slum areas with high spending on housing. High unemployment with youth bulge and private vehicles increased the production cost in urban areas. According to study, local government strengthening, regional planning, vibrant land markets to reduce transaction costs and tax strategies can applied to overcome the situation.

According to study, urbanization occurs by low income groups from rural to urban. In the province of Punjab, there were 80 percent people moved from rural to urban areas in 2011 while 58 percent in Baluchistan, 56 percent in KPK and Sindh both. Pakistani cities are contribution of its 50 percent

of its gross domestic product (GDP). This study briefly describes challenges to successful urbanization and also focused on housing issue. There are 1 million houses demand in 2014 estimates according to study. Low income group is paying high premiums as data shows Karachi people have 13.7 housing to median income ratio that is bit higher than other Asian country cities. Author proposed governance reform by strengthening local government system. According to the study, increase access to rental housing and mixed land use by classifying in zones and proving secure tenure to informal urban settlers (Nabi, 2015).

Pakistan integrated household survey (PIHS) data shows that urban population share 21 percent from their income for rent while 6.52 percent for fuel and lightening as household expenditure while urban average household size is 7 persons. Author used housing poverty index, according to PIHS data 61 percent population is housing poor in Pakistan in 1998 (Nazli, 2003). There were 19 percent in urban areas and rest was from rural area but the question is that what is the current situation about housing poverty in urban areas of Pakistan after rapid growth?

Affordable housing policies analyzed by (Trimizi, 2006) in his paper critically. He argued in his paper that housing gap was increasing as census data showing demand of housing especially for low income. Government also tried to overcome the situation with start of different housing projects and also through financial assistance but it did not work that time for poor which want to build house near job market. He raised two types of issues in the study. Sociological and economic constraints were reason behind failing housing strategies and policies in Pakistan according to author. High cost of developments of dwellers, lack of political will, house design, far from job market and red-tapism were major hurdles. Informal sector play its role to develop private housing schemes which were cheap but lack of facilities (Trimzi, 2006).

A study conducted in the province of Sindh, they have used Sindh Regional Plan 1987 survey. In the research analysis, they have calculated rent to income ratio for affordability which is much controversial because infrastructure. Safe drinking water, sanitation and transportation are also part of affordable housing. Their results suggest 60-70 percent population surf their 10-20 percent income on housing that mean mostly people live in affordable house in the province (Nuzhat et al, 2002) while World Bank, United Nations and Housing policy of Pakistan gives different results from this research. This research lack of variables which must be included otherwise affordability cannot measure properly.

The study conducted in Rawalpindi district by using both qualitative and quantitative approach to find out housing gap in the city which lack of basic facilities in the area. The study based on only 50 respondent from specific area which may not represent as their results show that majority of low income group lives in owned houses than rental area then who is living in Kachi Abadis of city or slum areas? The study focused on family structure and standard of living in current house that is owned or rented. Results of study suggest reasoning behind inadequate housings are industrialization and modernization that resulted in slums in the cities (Mishal et al, 2015).

According to study of (Bajwa et al, 2008), the case study of Lahore that shows availability of land is not a problem but higher prices and owned by business class for the sake investment create hurdles for provision of cheap land for housing. Author has conducted the survey of 15 housing schemes in the city and majority of plots are still vacant because of high land prices and allocation criteria. There is availability of plots but in the hand of real estate business that resulted in higher prices and affordability of house becomes dream for middle class and especially for low income group (Bajwa et al, 2008).

2.4. Evidence from Developing Countries

Literature from Bangladesh suggestion financial institutions are hindered in affordable housing in urban areas while Pakistani literature focused on housing expenditure, low income rural urban migration and high population growth is constraint for affordable housing. Pakistani financial institutions contribute 1-2 percent for housing finance but grameen Bank of Bangladesh significantly contributed for microfinance which also was success story and important for affordable housing. According to doctoral thesis about Bangladesh affordable housing, formal housing sector is lack of informality knowledge (Nahiduzaman, 2012).

There are multiple constraints to build affordable house or live in affordable house specially in developing part of the world. According to Indian case study, author briefly discus policy and practice of affordable housing. Author discussed definitional issue but also focuses on constraints that create hurdles in housing. Land titling is fist one where institutions are overlapping. The same situation also exists in Pakistan because land registration for titling introduced by colonials in sub-continent but after partition institution remains path dependent. Second constraint for affordability is price of land and construction cost both increased by the passage of time simultaneously. In the research paper, author described criteria for purchase affordability as monthly mortgage payments to income ratio (Venkataraman, 2015).

Bangladesh is facing high density in the country now because the current estimates suggest 1198 persons lives in per square kilometer while the rate of growth in urban areas is 4.5 percent so housing is one biggest problem from five basic needs in the country therefore, constitution of the country added housing also to meet the need for specially low income and government offer their lands to develop low income housing with the help of Non-government sector to develop and providing credit assistance to poor. In the country, people innovative low cost housing

technologies which are helpful to sustain in Monsoon and flood situation after 1987 flood. They have built the houses with the help of NGO's with condition of improving the livelihood. Residential housing market is characterized by three tiers as KPMG developed affordable housing model for India. According to estimates in article, there is 5 million housing units shortage in the country (Haq, 2010).

During 1960, 70's and 80's housing conditions in Pakistan were different from today but those figures and analysis of housing may benchmark. Average number of rooms in Pakistan per housing unit increased from 1960 to 1973. According to the paper, the percentage of total development financing in housing sector decreased over the period of time. It is also noted from data that habitation density increased from 6.2 to 6.35 in 1980 while rate of growth of population remain same in this period. So the housing problem arise and show shortage of housing with higher population growth as well which cannot reduce in short run according to author in the study. Rural urban migration is also contributing factor in high habitation density. Author analyses supply and demand side factors for housing situation. In this study, construction material prices raised in that specific timing which resulted in higher prices of housing (Zaki, 1981).

According to the study in Pakistan by Babar Mumtaz, if someone wants to construct their home then one may spend 30 percent on land, 40 percent on construction which are major part for building house for low and middle-income groups as showing in below graph. There is 20 percent cost of infrastructure while 5 percent cost also included for connections and 5 percent cost of transaction cost (Mumtaz, 2015).

2.5. Evidence from Developed Countries

Mostly developed countries residents spend on their major portion of income on housing rent including utility bills, transportation and housing operations that means these three determines affordability of housing. United States residents also spend majority of their budget on transportation, maintenance and rent with utility bills which should increase from 45 percent of their monthly income otherwise it will not affordable house according to standard definition and criteria. It is interesting that now literature include transport cost in monthly housing expenditure. Housing type is another one determinant of affordable housing the report. According to the research in report, small low rise, multifamily with zero parking space have lowest cost burden in terms of affordability while small single family with 1 parking space has high cost that means it may not affordable for low and middle income group (Litman, 2016).

United nations have declared "access for all to adequate safe and affordable housing services" and endorse it as a basic human need in sustainable development goal (SDG) 11.1 which aims to achieve on sustainable basis in 2030. UN-HABITAT help to spread the agenda of affordable housing in the world according to HABITAT agenda if house has inadequate access to safe water, sanitation, poor structural quality of housing, overcrowding and insecure residential status called slum. It means the entire characteristics meet by housing unit will be affordable otherwise it will be slum. Therefore, HABITAT II adopted the agenda of shelter for all in 1996 in Istanbul. According to Consumer Expenditure Survey 2003, people spend 19 percent of their income on transportation in the United States of America. As spending on transportation increased which now become primary factor influence to household income and size of dwelling unit (Poticha,2006).

As housing cost must be 30 percent or less considered affordable house while another cost matter for urban resident is transportation cost which matters a lot. Under demand side perspectives, smart growth can lead to affordable housing and lower transportation cost (Litman, , 2015).

According to Edward Glaeser, future of cities depends on demand for density because density has a lot of fruitful results like lower transportation cost in urban areas and in case of consumption it gives access to large public goods and services. Dense urban labor market is good for industry and workers in the cities. After technological innovation in transportation of people, it helps to raise the incomes but not sure about cost of moving people. As knowledge becomes the significant part of production, cities are attractive place for ideas. Information technology and fashion based in innovative ideas and cities are best place to invest on it as dense labor market is also there. Author suggest way forward that cities may grow but till housing stock remain so future of cities depend on housing and must be affordable because cities are haven for consumption but it is threat of become poverty centers (Glaeser, 2000).

There are many stakeholders in affordable housing market that play vital role to provision of housing in urban areas from supply side perspectives. Economic policies are one of them those have significant impact on housing market those boost rental and housing prices. Population policies also lead to increase land and rental prices such as migration policy. Taxation policy also contribute to change housing demand in the market. Urban development is another factor that reduce or expand residential area that resulted housing area away form job market (Philip, 2010).

One of supply side model calculate housing cost to income ratio with 30 percent cut off criteria to evaluate housing as affordable in Polk country. The study assess two features, one is income

bracket while second is rental prices bracket assessment of housing market in the area (Brooks, 2014).

2.6. Housing Policy of Pakistan

The concept of affordable housing started in 1960 when a private construction firm builds low income housing societies named as "*AL Azam"*. First time government of Pakistan took initiative to build low cost housing for poor in 1986 in Sindh named as "*Khuda Ki Basti*". In this scheme, there were multiple stakeholders to help the government for providing affordable housing which consists of all type of infrastructure. During 1990, private companies started to invest in housing societies. Government of Pakistan takes initiative to make housing policy in 2001 during Musharaf regime. Government of Pakistan also offers financial assistance for house construction in 2005. Now provincial governments and federal governments are building housings for government sector employees according to their basic pay scale.

National housing policy 2001 raised 9 issues which need to be address by government of Pakistan which are following.

(1) Population Explosion (54% increase from 1981 to 1998), Rapid growth
(2) Shortage of houses (4.3 housing units gap)
(3) Illegal settlement on public land increased slum areas (50 percent urban population lives in slums)
(4) Supply of land for low income group
(5) Housing stock is rapidly aging (50% are more than 50 years old)
(6) Shortage of finance
(7) Increasing price of housing material because of inflation in economy

(8) There is lack of innovative use of technology

(9) Regularization of planning and building under the institution of local government

According to national housing policy, government raise some issues and propose strategies to overcome the issue specially increase the affordable housing by offering housing finance, purchasing land and reduced housing standard are proposed strategies in policy draft.

According to state Bank of Pakistan, there are only 1-2 percent financial resources transferred in formal sector for housing finance with the help of commercial banks and house building finance corporations (HBFC). These are only two institutions for financial assistance in Pakistan while people arrange their finances informally but it is impossible to meet the demand of low income housing in Pakistan with this supply.

Pakistan is now following vision 2025 by setting 25 targets aim to achieve. Fast growing urban population and the issue of housing also discussed in the agenda but there is no target to achieve the housing gap in Pakistan that is rising.

Chapter 3. Data and Methodology

3.1. Research Methodology

In this study, mixed approach (qualitative and quantitative techniques) has used to collect and analyze the data. Primary sources of data used for analysis and the locale of study is Rawalpindi and Bara Kahu by using convenience sampling for quantitative data enumeration in the study. Study consists of two parts, first one comprises on household survey of Dhok Kala Khan (Rawalpindi City) and Bara Kahu (Islamabad) and second is key informants interviews and information about housing market from stakeholders of local housing market. The study has collected information from government and private sectors housing market stakeholders in which Banks, contractors, property advisors and municipal officers. This information will assess market rate of residential plots and cost of construction in specific areas.

3.2. Sampling and Data Collection

Non-probability sampling technique opted for household survey to collect information from urban housing units as primary source of information by using face to face interviews in the study. Total population of Islamabad is 2,006,572 people and 2,098,231 people in Rawalpindi according to provisional census results. Only two towns from Rawalpindi city and Islamabad has chosen to conduct household survey. Dhok Kala khan from Rawalpindi city and Barra Kahu from Islamabad has chosen randomly from both cities. In this study, each town has assigned the sample of 100 households and the total sample was 200 households from both blocks in the study while 15 key informants had added to analyze the supply side.

By using household survey technique, information about socio economic status of selected household enumerated from urban residents from locale of the study. Cost of housing or rents of housing including utility bills and transportation cost information also collected in survey.

Household survey was helpful to analyze demand side analysis of households in which their socio-economic conditions impact on affordable housing. It also helped to determine significant factors affecting population affordability. First of all, quantitative data has collected from two towns of Rawalpindi and Islamabad by using face to face interview technique while key informants interview conducted later by using in-depth interviews technique.

In-depth interviews were also part of study to extract information about lower income housing and determinants of affordability analyzed in qualitative way. There were 15 key informants' in-depth interviews from government employees, construction agencies, private banks and private sector housing market. Non-probability sampling technique has used to select the sample by snowball sampling in the study.

Table 1: Sampling of Key Informants

Key Informants	Sample
House Building Finance Corporation	**2**
Private Banks	**5**
Constructors/Builders Companies	**4**
Housing Plots and flats provider	**2**
Municipal Authorities	**2**
Total Sample	**15**

3.3. Variables

Affordability has measured by using two techniques as literature suggests, rent to income ratio and rent including transport cost to income ratio. If the household has 30 percent rent to income ratio that will consider affordable and 45 percent rent including rent of income level is consider affordable. Second technique also opted by America to measure affordability as literature suggests. Household paid rent has used as it is while those owned the houses has asked for rent if they rent out the portion which they are residing called imputed rent in the study.

Income of household, expenditures on education, health, transportation and utility bills, employment status, number of rooms, rent of housing unit, residential status and household size are independent variable in the model. Data of all these independent variables collected from household survey. All expenditure related rent and utility bills to income ratio variables are dependent variable while all social factors, economic factors, demographic factors and housing characteristics are independent variables in the study.

Table 2: Variables in the Study

Variables	Definition
Rent	Per month Rent of the house, Imputed rent will be used if house is owned by household
Income	Household total Income
Rent to Income Ratio (dependent variable)	Rent/income
Transportation Cost	Total cost of transportation per month by household
Rent + transportation to income ratio (dependent variable)	Rent of household + Transportation cost / income
Expenditure	Total utility bills in a month including transport cost
Rooms	Total number of rooms in housing unit
Household	Total members of the household
Housing Status	Whether house is owned or rented
Waste Management System (WMS)	There is a authority, company or person to collect waste from the house
Drinkable Water	Whether supply of water connection used for drinking or not
Distance	Distance of housing unit from market and work location (minutes)
Employment	Head of household employed or not

3.4. Statistical Model

All type of utility bills and rent of household including transportation cost to income ratio has computed and analyzed in regression model. Expenditure to income ratio has treated as dependent variable that is continuous and rest of socio economic and demographic factors are independent variables. Therefore, the study is using OLS to determine significant factors for affordability. In this study, there are two OLS models in which first one include rent with utility expenditure to income ration while second one does not includes utility expenditure only with rent to income ratio.

$$\frac{R + \text{transport}}{income} = \alpha + \beta 1(housingstatus) + \beta 2(Household) + \beta 3(Rooms) + \beta 4(Dwelling\ size) + \beta 5(WMS) + \beta 6(Drinkable\ water) + \beta 7(Distance\ of\ Market) + \beta 8(Distance\ for\ work\ location) \mu$$

$$\frac{\text{Rent}}{income} = \alpha + \beta 1(housingstatus) + \beta 2(Household) + \beta 3(Rooms) + \beta 4(Dwelling\ size) + \beta 5(WMS) + \beta 6(Drinkable\ water) + \beta 7(Distance\ of\ Market) + \beta 8(Distance\ for\ work\ location) \mu$$

R= House rent if rented otherwise imputed rent

Transport= Expenditures on transportation per month by Household

3.5. Qualitative Research Themes

In this study, Supply side constraints has analyzed by using in-depth interviews of key informants regarding affordable housing and questions raised about provision of housing for lower income group, finance for lower income and informal sector and why private sector is not investing on affordable or housing for low income in cities? Lack of Infrastructure and facilities in poor housing areas as constraint and role of local government in this perspective. There are three major themes in the study and one policy question, housing for lower income, financial assistance, and infrastructure for poor housing area and why government or private sector is not investing on low income housing.

3.6. Data Analysis Techniques

For analysis of data, frequencies cross tabulations and regression analysis (OLS) has used to determine significant variables for affordable housing in the study. Housing unit expenditures to income ratio has used. Cross tabulation of housing characteristics and demographic characteristics.

Household questionnaire survey has conducted in the district Rawalpindi while all variables in the questionnaire are quantitative so study has opted quantitative data analysis tools by using SPSS V20 in the study. Affordable housing variable has produced by computing expenditures including utility bills and housing rent by dividing their monthly income in the statistical software. In the second part of study, personal survey of housing market and construction market has visited and data has collected from supply side stake holders. All sort of quantitative data and variables has analyzed in SPSS V20 for analysis by using quantitative tools in the study.

Chapter 4. Data Analysis

4.1. Data Analysis

In this study, statistical and qualitative techniques applied to determine supply and demand side perspectives of affordable housing. There are two parts of data analysis in the study, first one is quantitative part analyses household perspectives that is demand side in which household affordability, facilities in the house and status of house asked to the respondent. Second part is qualitative analyses with key informants interviews in which information that is provided converted into summarized but segregated according to topic area. The study has used mixed approach so first quantitative part that consists of frequencies with mean and cross tabulations with percentages and regression analysis is following.

After collection of data from Dhok Kala Khan and Bara Kahu, the study has extracted results by using SPSS in this chapter. There are 100 households interviewed from Dhok Kala Khan that is core area of Rawalpindi City but with poor and moderate housing structures while 100 were being interviewed from Bara Kahu that is periphery of Islamabad but both located near Murree Road. While, there are 15 key informants from banking sector, public financial institutions, construction companies, property advisors and housing schemes developers.

4.2. Demand Side

Table 1 is showing age group of sample population locale wise. Second and third column are showing sample population but with the division of age groups. Within Dhok Kala Khan Sample population, the number of people increased as age group increased but sample population decreased after 30-34 years age group. The same proportion of sample population is showing in Bara Kahu Column that is part of Islamabad but occurred in its periphery. Overall, there are higher number of sample population belonging to 25-29 years age group while 55-60 years age group

have lowest number of sample population within total number of sample population according to age groups. The total number of sample population in the study is 200 household that were interviewed at the same time.

Table 1: Age group of Respondents

Age Groups	Dhok Kala Khan (RWP)	Bara Kahu (ICT)	Total
15-19	5	4	9
20-24	12	10	22
25-29	20	26	46
30-34	24	20	44
35-39	13	12	25
40-44	7	5	12
45-49	7	9	16
50-54	4	7	11
55-59	3	3	6
60 and Above	5	4	9
Total	100	100	200

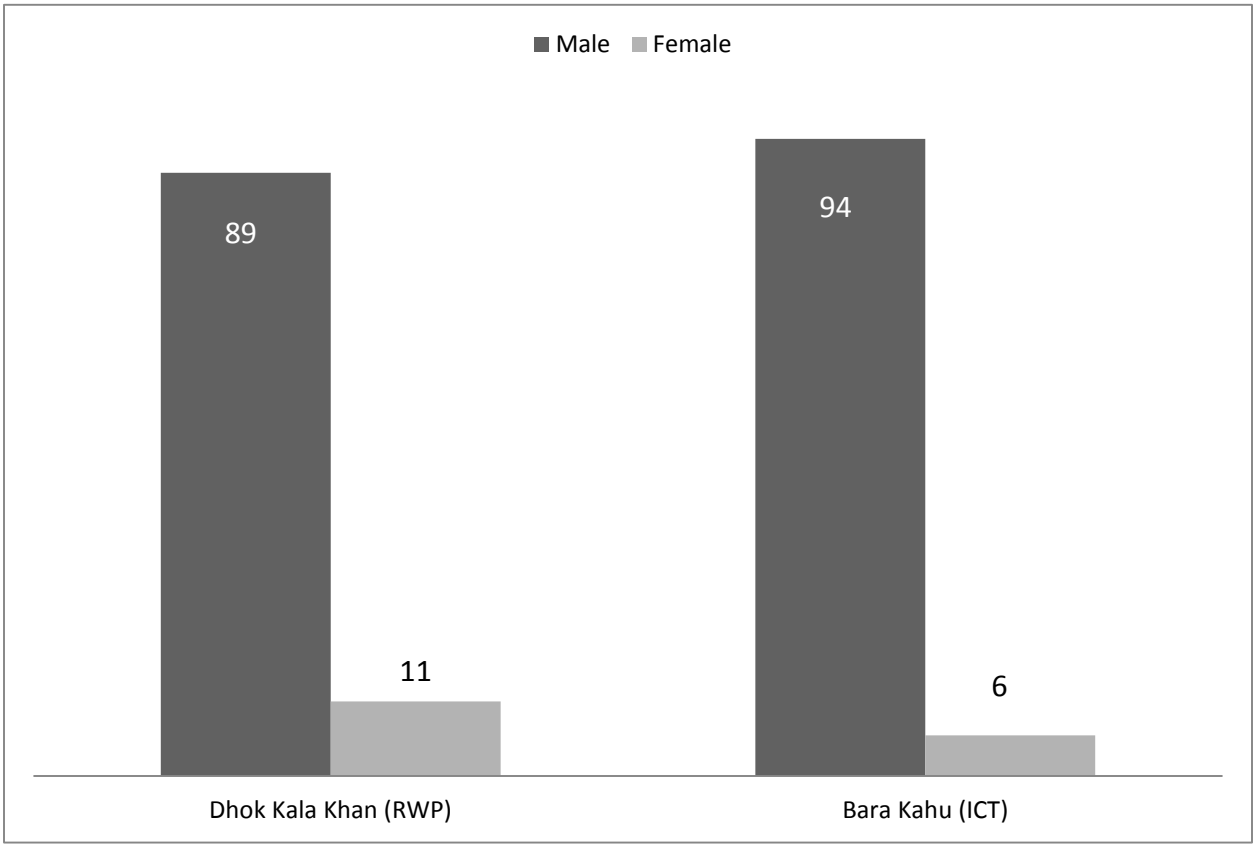

Figure 1 Gender of respondents

Figure 1 is showing sample population those interviewed according to their gender. The numbers of females interviewed from Dhok Kala Khan are 11 and 89 males while 6 females interviewed from Bara Kahu and 94 males interviewed from their respective area. Overall, the numbers of male interviewed are greater than females while the numbers of females interviewed from Dhok Kala Khan are higher than Bara Kahu but number of male interviewed from Bara Kahu are higher than Dhok Kala Khan in this study.

Table 2 Educational Level of the respondents

Educational Level	Dhok Kala Khan (RWP)	Bara Kahu (ICT)	Total
No Formal Education	15	7	22
Primary	12	11	23
Middle	19	17	36
Matriculation	38	22	60
Intermediate	3	18	21
Graduation	7	14	21
Master and Above	6	11	17
Total	100	100	200

This table 2 is showing educational level of interviewer in the study. Dhok Kala Khan and Bara Kahu have 200 interviewer respectively and 100 from each area. There are 15 persons illiterate from those interviewed from Dhok Kala Khan, 12 have primary level education that consider 1-5th grade in schooling system while 19 have middle level (6th-8th) educational level. There are 38 from 100 have matric level education that is highest number of sample interviewer within Dhok Kala Khan than rest of educational level sample population in the study. There are 3 people with intermediate level education, 7 with graduation and 6 have master and above level of qualification. Overall, majority of people have less than matric level education and 16 have more than matric level education while 15 have never attend school according to study results.

There are 7 people those having no education from Bara Kahu, 11 have primary level education, and 17 have middle level education while 22 have matriculation in the study from Bara Kahu.

There are 18 persons with intermediate level education, 14 people with graduation and 11 have master and above level of education. It is interesting that the numbers of people with less than matriculation are less than those residing in Dhok Kala Khan while above intermediate are greater than those residing in Rawalpindi town even it's far greater in each category of educational level above intermediate. So, overall, the levels of education among Bara Kahu residents are higher than Dhok Kala Khan Sample population. As total sample population categorization of education is showing in last column, the numbers of literate are greater than illiterate and the number of persons increased as level of education increased in the study till matriculation and after that number of persons decreased with the increase of education in the study.

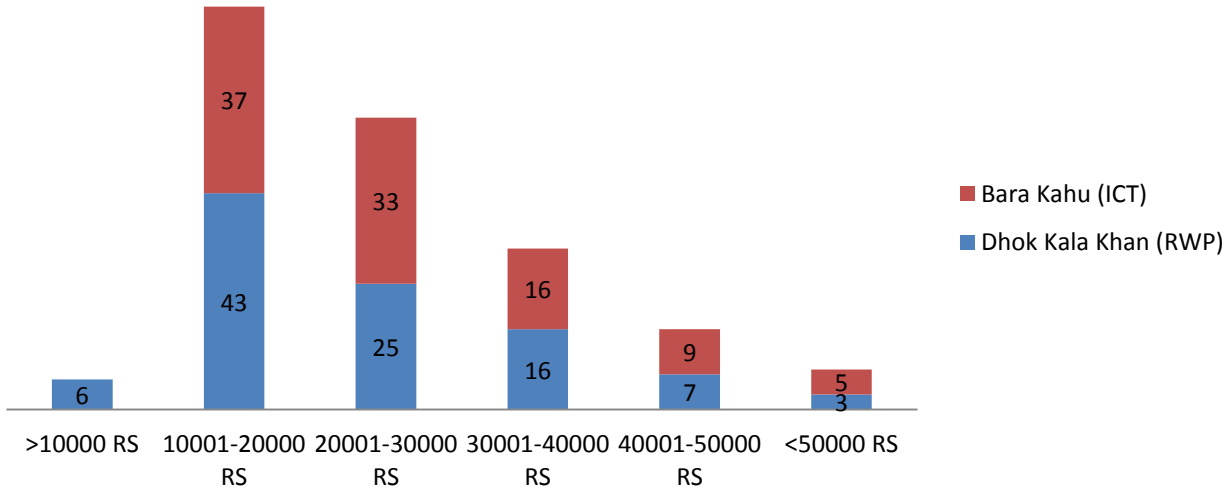

Figure 2 Income Groups of the respondents

Household income is showing according to resident area in above chart. X axis is showing income groups and trend lines are showing number of residents accordingly in figure 2. There are 6 households with less than 10000 rupees income residing in Dhok Kala Khan of Rawalpindi city while no one is from Bara Kahu in this income group as showing in above chart. Under 10000 to

20000 rupees income group, there are 453 households of Dhok kala Khan and 37 from Bara Kahu while number of household decreased under 20000 to 30000 rupees from last income group overall. There are 33 households from Dhok Kala Khan and 25 from Bara Kahu under this income group but 16 households from both towns have 30000 to 40000 rupees income group. In the second last category, there are 7 households from Dhok Kala Khan and 9 from Bara Kahu having 40000-50000 rupees income group and 3 households from Dhok Kala Khan and 5 from Bara Kahu having more than 50000 rupees income.

Overall, the numbers of Dhok Kala khan residents are higher than Bara Kahu with low income group but number of households reduced as income increased of Dhok Kala Khan as showing in above figure. There are 37 households with less than 30000 rupees income from Bara Kahu and 49 from Dhok Kala Khan that shows residents of Rawalpindi town have less income than Bara Kahu overall according to study findings. Both towns having middle and low income group population.

Table 3: Housing Characteristics according to area

Housing Characteristics	Dhok Kala Khan (RWP) (Average)	Bara Kahu (ICT) (Average)
Income	25450	28770
Housing Rent	9915	11655
Floors (story)	1.66	1.55
Rooms	2.25	2.53
Occupy Floor	1.21	1.26
Dwelling Size	4.01	4.49
Persons Per Room	3.18	2.30

Table 3 is showing household characteristics according to sample area. Households have 25450 rupees average income those belong to Dhok Kala Khan while Bara Kahu households have 28770 rupees average income according to study finding. It is a difference of 3000 rupees average income from two different areas that significantly impact on housing and choices of facilities because some houses even rented on 4000 rupees according to this study. There is a 9915 rupees average rent by occupying 1.2 floors, 2.25 rooms, residing in on average 4 marla dwelling size house with 3.18 persons per room.

The story from the Bara Kahu side is, households on average pay 11655 rupees rent for 2.53 rooms with dwelling size of 4.49 on average marla while occupying 1.26th floor to live with 2.30 persons per room. Both areas have significant difference of their incomes, average rents, occupying floors, dwelling size and even persons per room.

The reason behind lower rent is occupying floors. In the town of Rawalpindi, total number of floors of houses are higher so rent decline as family shift from lower to upper floor even they reside close to ground floor in the town with less rented because of total number of floors those are higher. Therefore, it increased the income of supplier (owner) ultimately. While Bara Kahu have comparatively less story house so people occupy even on average upper floor than Dhok Kala Khan occupying floor but paying higher rent. Other factors are dwelling size and numbers of rooms, Bara Kahu residents are living in 4.49 marla house with 2.53 rooms while Dhok Kala Khan residents are living 4 marla house with 2.25 rooms that shows change in rent also happens accordingly. It means the impact of dwelling size and number of rooms is significant as it shows difference in average numbers in above table.

In terms of affordability, households from both towns are paying greater rents than on average affordable house. If we divide on average rent on average income of both towns households, outcomes are not ideal. Dhok Kala Khan Residents are paying 38 percent of their income for rent on average while Bara kahu households are paying 40 percent of their income for rent. Literature and policy perspective suggests living in a house with good condition but paying 30 percent of income for rent. It means majority of households lives in both towns paying 8 and 10 percent higher for rent than affordable house that shows there are very less people living in affordable house in both town even they are living 4 marla dwelling size with greater proportion of persons per room with 2.25 to 2.5 rooms. Ultimately, lower income group is unable to live in affordable

house because if the poor household has less than 20,000 or 10,000 rupees income then what sort of choices will made to select the house by reducing rent accordingly that ultimately reduce dwelling size, rooms and persons per room. Therefore, poorest of poor in Rawalpindi town residing in 1 or less than 1 marla house with more or less facilities to reduce the cost of housing. It is the question mark on policy and housing providers, how to accommodate low income group population under this type of housing with higher rent? This question may address in supply side perspectives by interviewing key informants, financial institutions, housing authorities and providers in qualitative part of the study.

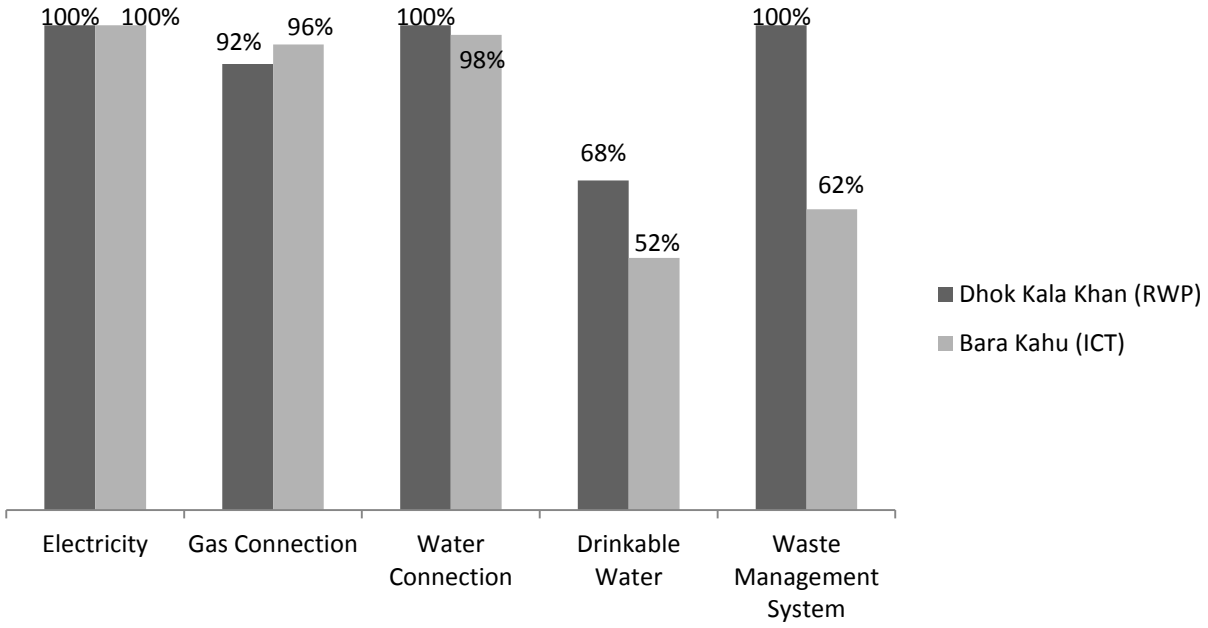

Figure 3 Housing Facilities in the Household

Figure 3 is showing housing facilities according to residential areas. Electricity facility is enjoying by all households in both towns but 92 percent households in Dhok Kala Khan have gas connections and 96 percent in Bara Kahu having their gas connections. It was also interesting

during enumeration of data that newly built houses having difficulty to acquiring connections because of delaying tactics in Sui Gas authorities as mentioned by residents. Dhok Kala khan residents have water connection in each house but 98 percent households in Bara Kahu having water connection. It is also noticed that some households are having their own electric motor pumps but majority having government water supply connection according to study findings but the problem is to drink that water. There are 68 percent from Dhok Kala Khan and 52 percent from Bara Kahu drinking the water that is supplying in the house and rest of households do not drink that water because it is not drinkable as residents mentioned. They explained about drinking the water that it is polluted water because of drainage in pipeline that make it smelly as well so Dhok Kala Khan residents arrange water from public sector motor pumps that claimed drinkable water with no cost but spend more than 30 minutes by foot to fill the water tanks for household use while Bara Kahu residents purchase the water from market because there are no public motor pumps. Therefore, Bara Kahu residents spend 100 rupees to 8000 rupees for drinkable water while Dhok Kala Khan residents spend 30 minutes on average to access the clean water. Both towns are paying cost in terms of time and money both as well. It is also clear that there is no scarcity of water in both towns but management of water through supply and pump is an issue therefore they are paying heavy cost that ultimately increased the household expenditure otherwise it causes illness as literature indicate.

Waste management is another facility that is related to housing from supply side perspective in the study. AL-Buraq is the Turkish company that is providing waste management services to collect the garbage from the Rawalpindi city by city district authority and city government is not charging any fee from Dhok Kala Khan residents also. During my visits in the locale of the study in Rawalpindi, streets are clean and conduits are not draining as well but Bara Kahu was more

polluted with garbage in streets and somewhere near the walls of the houses and somewhere in unplanned plots with bad smell ultimately disturbance for residents and also cause health hazard in the area. There are only 62 percent households having waste management system. Garbage collector guy is the only source to collect it by charging the fee of 150 to 250 rupees monthly while rest of households have no waste management system so they waste their garbage in streets or unplanned plots in the area.

Overall, Dhok kala khan residents enjoy more facilities than Bara Kahu residents despite having less on average their incomes and rents according to study findings as showing in figure 3. The question arises, if Dhok Kala Khan residents having significantly supply of facilities then why Bara Kahu residents are paying more rents? The answer is, as table 3 is showing that Bara Kahu residents are occupying higher dwelling size than Dhok Kala Khan. Rationally, supply demand approach must act in the market like lack of facilities reduces the rent but not showing significantly in case of this study. So it does not mean that supply of housing facilities have no worth for housing rent. There is a slight difference observed during enervation but not significant as showing in above table 3 and figure 3. Local residents in Bara Kahu claim that the tag of Islamabad territory is the big factor of higher rent with fewer facilities. As we analyses the supply of facilities with housing demand then it may increase the significantly the cost of housing in terms of rents with the increase in supply of facilities in the town.

Figure 5 Housing Status

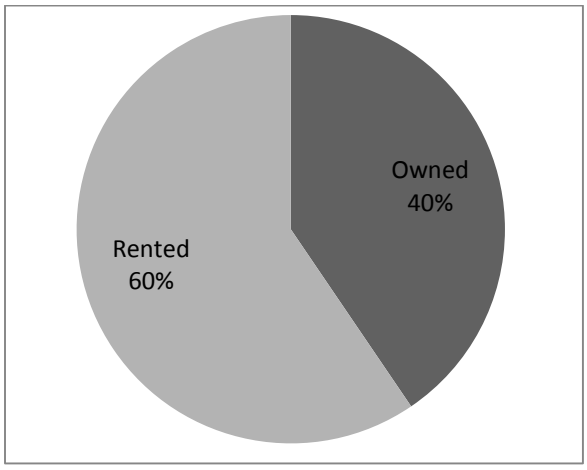

Figure 4 Constraints to build own house (%)

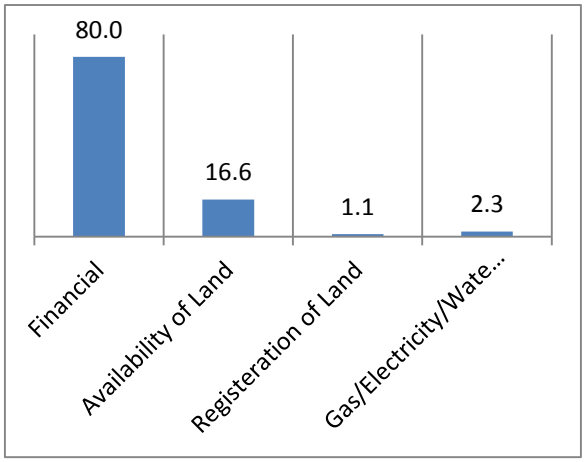

Figure 5 is showing residential status of the sample population in the study. There is 40 percent sample population owned the houses while 60 percent are living in rented house. Overall, there are 81 households owned the houses and living in their own houses while rest of 119 households are living in rented house. So, it is clear that majority lives in rented houses supplied by those owned the houses. In terms of supply and demand, owner of houses are suppliers and those living in rented house demand the housing.

Those living in rented house ask what sort of constraints are facing to own the house. Figure 4 is showing the responses in percentage with each category. There are 80 percent households residents claim they have no finance to build or own the house according to study findings while 16.6 percent respond about availability of the land respective area, 1.1 percent has fear to register the land and 2.3 percent said utility connections are constraint because cheap housing plots are far from the main area. During informal discussion with household residents about financial problem, they claim having no finance and no institutions provide financial assistance if someone is providing they provide only middle and rich families. Therefore lack of finance is not the only reason, its

lack of information about financial institutions and misperceptions as well among residents in both areas. If someone is able to save the money to build or own the house then prices of available housing plots comes as hurdle while if land is available to build the house then its registration and electricity, gas and water supply is not available in that area. Overall, figure 5 is showing financial constraint for urban resident is big problem therefore they are unable to own the house in the city or its periphery.

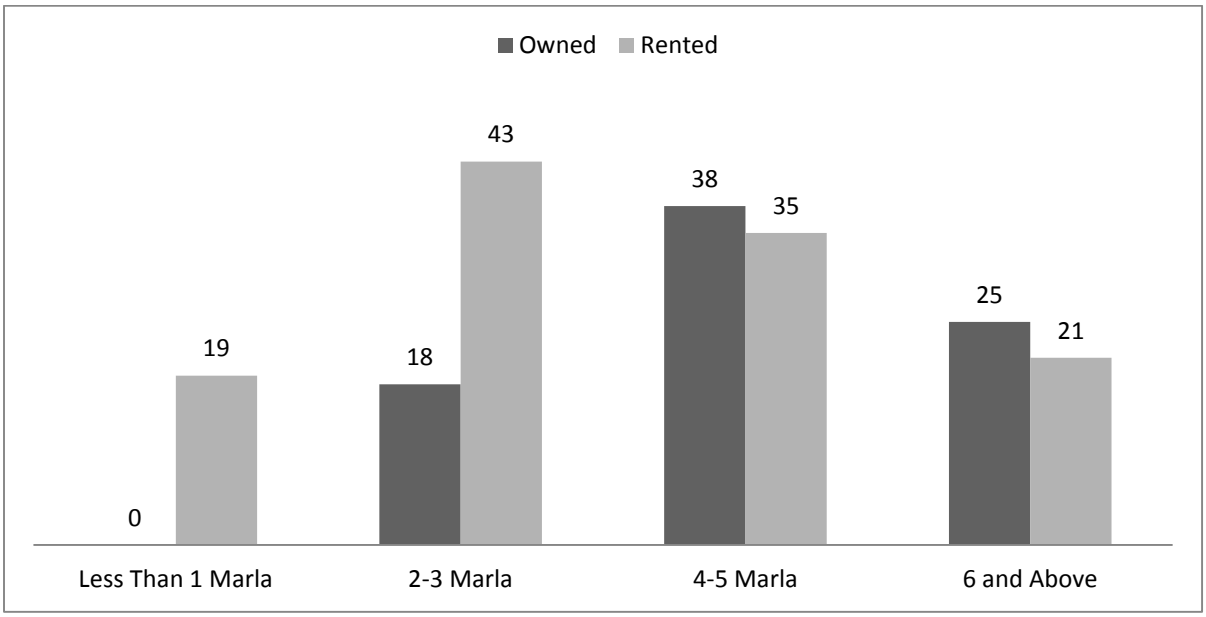

Figure 6 Housing status according dwelling size

Figure 6 is showing occupying dwelling size in which they are residing overall but distributed columns according their residential status that they are living in owned house or in a rented house. There are 19 households occupying one or less than one marla house for residence in which all are living in rented dwelling. All these are occupying one room dwelling but overall house have more number of rooms but they are paying for only one or less than one marla house with single room because of unable to pay for higher dwelling size house with more rooms. There 43 households living in rented house with 2-3 marla dwelling size house and only 18 households living in their

own house under than same category of dwelling size house. Under the category of 4-5 marla housing size, there are 38 households owned the house and residing in their respective house but 35 residing in rented house in 4-5 marla house while 25 living 6 marla or above dwelling size house and owned it. There are 21 residing 6 marla and above dwelling size rented house according to study findings.

Overall, majority of households lived in rented house but under one or less than one marla dwelling units are occupied by rented households only while small number of households own the 2-3 marla size dwelling unit and majority lives in rented house with the same dwelling size. As we know, on average 4-4.5 marla dwelling unit have on average 10000-11000 rupees rent as showing in table 3 so the small income group population prefer to live in small size of dwelling unit regardless of facilities and interestingly these small size dwelling units are more occupied in Dhok Kala Khan because majority of Dhok Kala Khan sample population have less income than Bara Kahu residents as showing in figure 2 in the study. It means small income group population occupy small dwelling unit for residence even with one or two rooms to reduce the cost of housing. As showing in above figure, small size dwelling units occupied by those living rented house and as size of dwelling increased, the number of households those owned increased respectively and those living in rented house reduced accordingly. There is an inverse relationship observed in case of dwelling size and residential status in the study.

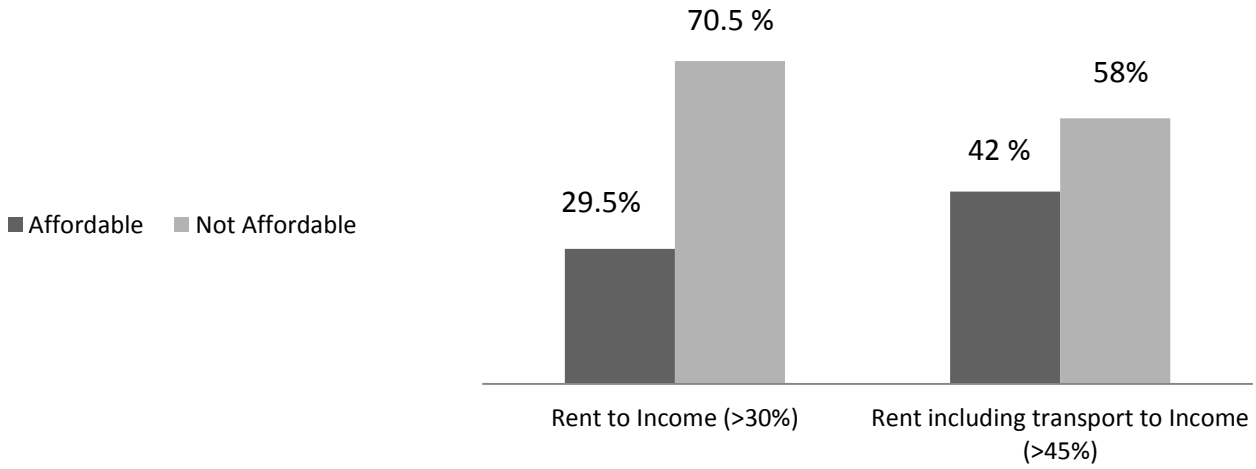

Figure 7 Affordability of Housing

Figure 7 is showing affordability of housing regardless of owned or rented residential status. The study has collected data on rents of dwelling unit and household income with their respective daily and monthly expenditures as well. Rent has divided on total household income to extract proportion of rent to income. As literature suggest, if the household re4sidents are paying rent less than 30 percent of income that consider affordable otherwise it's not affordable. According to rent to income ratio, there are 29.5 percent households living in affordable house while 70.5 percent are paying rent more than 30 percent that is not affordable according to standard criteria of affordability. It is also clear in table 3 in which mean rent to mean income of both town residents are greater than 30 percent so majority of households are not living in affordable house in terms of rent to income ratio.

There is another criterion of affordable housing that includes transportation with rent cost and it must be less or equal to 45 percent of income (Rent + Transportation < 45%). Under this criterion, there are 42 percent living in affordable housing and 58 percent are not living in affordable house. It is interesting that there are fewer households comes under rent to income ratio affordability

criteria than rent including transportation cost to income ratio criteria. Rent including transport criteria, the number of households under affordable category increased from rent to income ratio criteria. With the addition of transport in rent reduce the unaffordability than rent to income ratio criteria.

It is interesting to observe that one criteria shows 70 percent unaffordability while second one that includes household's transportation cost increase affordability to 42 percent from 30 percent (rent to income). How it is possible to change in criteria leads to affordability? In fact, weightage of transport assumes 15 percent of income by standard criteria by American policy makers but in Pakistani cities, majority of people spends less than 15 percent of income to transportation therefore rest of proportion fills the rent to income ratio burden and affordability increased as showing in below figure. In summary, small proportion bracket of affordability [30 %] shows 30 percent households residing in affordable dwelling unit but with increase of criteria bracket [30%+15%] that includes transportation cost reduces in proportion of households with unaffordable housing according to study findings.

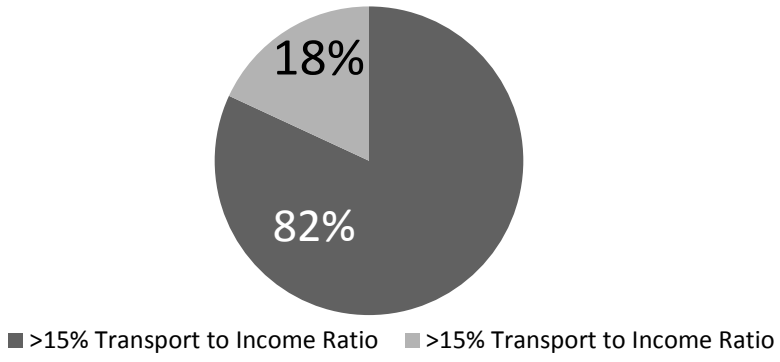

Figure 8 Transport cost to Income Ratio

Table 3 Household characteristics according to affordability

HH Characteristics	>30 % Rent to Income (Average)	<30 % Rent to Income (Average)
Income	36491.53	23184.40
Household Members	5.42	5.93
Floors	1.32	1.20
Rooms	2.07	2.52
Dwelling size	3.4153	4.5922

In this table, housing characteristics are shown and average rent to income according to affordability by using the criteria of rent to income ratio. According to affordability, those living in affordable house on average earns 36491 rupees with 5.46 household size, occupy 1.32th floor of 3.41 marla dwelling unit with 2.07 room on average. On the other side, those residing in unaffordable house earns 23184 rupees on average with almost 6 household members, occupy 1.20^{th} floor of 4.59 marla dwelling size with 2.52 rooms on average.

It is indicates the difference of income, higher income group lives in affordable house but specifically they are able to pay 30 percent of income for rent but interestingly occupying less number of rooms, small dwelling size unit and occupying upper floor than those living in affordable house with less income, higher dwelling size with more rooms and occupy on average close to ground floor house. According to this table, as rooms increased for unaffordable house resulted increase in household members with the same proportion of rooms on both sides but difference of their income resulted unaffordability and higher dwelling size as well.

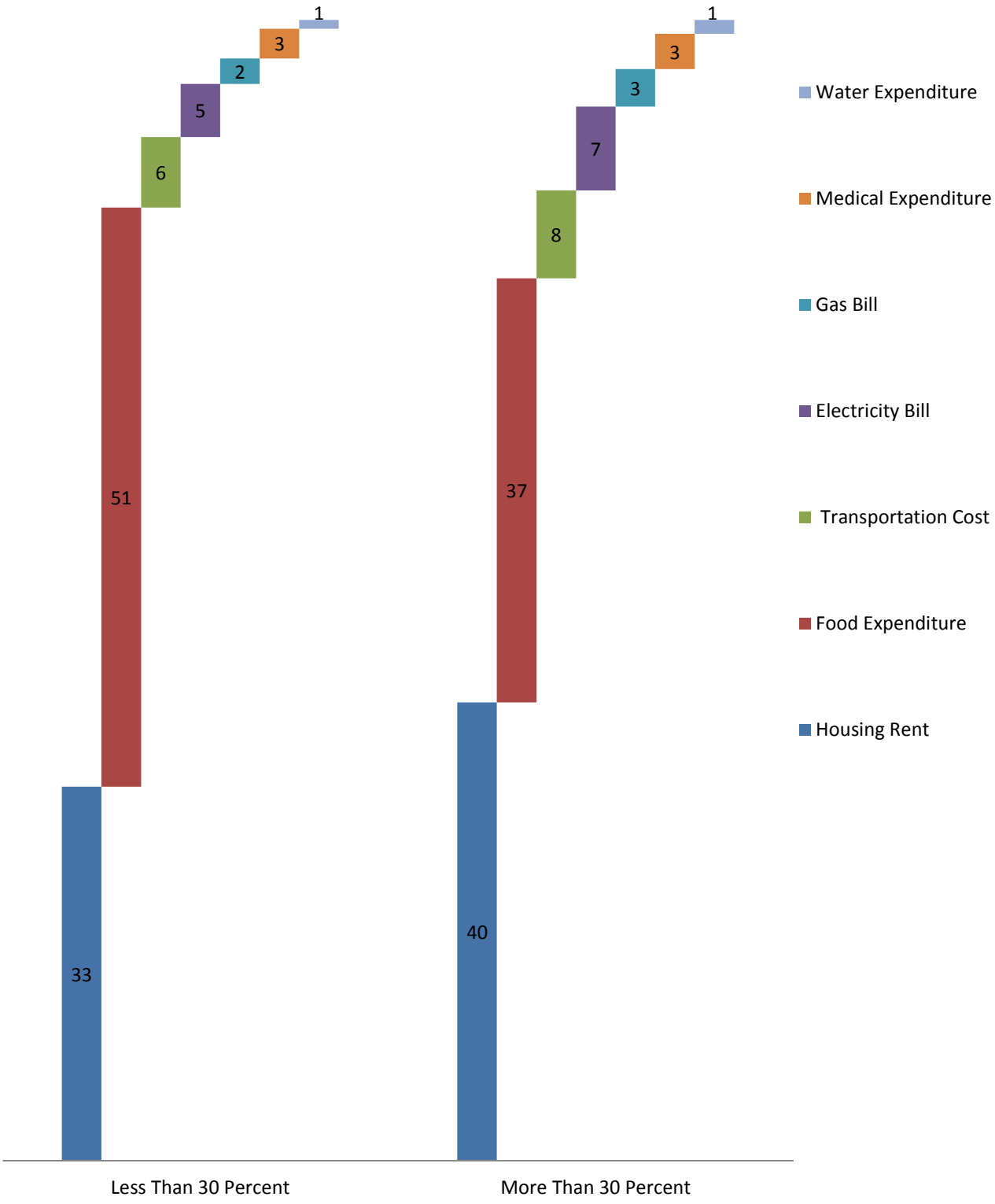

Figure 9 Allocation of Income for Housing Expenditures (in percentage)

Figure 9 is showing allocation of income for housing expenditures with categorization of rent to income ratio affordability. Mean expenditures of each category according to rent to income generated from continuous variables in the study and then convert them into percentages within expenditures. There are two main categories in terms of affordability, affordable (rent to income ratio less than 30 percent) and unaffordable (rent to income ratio more than 30 percent) as shown in figure 9 above with distribution of mean expenditures for each. It tells us, how allocation of expenditures differs if someone lives in affordable or unaffordable housing unit? Those households come under affordable housing brackets showing their allocation of income for specific expenditure. It is also important to keep in mind before analyzing, rest of expenditures and savings are excluded so these percentages are based on all specific expenditures as shown above.

On average, affordable house will spend 33 percent of their income to pay the rent of house, 51 percent allocate for monthly food expenditures, 6 percent allocate for transportation cost and 11 percent allocate for medical, water and utility bills while those living unaffordable house allocate 40 percent of their income to pay their rent for house, 37 percent of their income allocate for monthly expenditures and 8 percent allocate for transportation cost. In the last, those residing unaffordable house, they allocate 14 percent of their income for utility bills including medical expenditures.

Now time to compare those living in affordable and unaffordable house according to rent to income ratio criteria. It is already clear that allocation of rent is less than 30 percent for affordable house but within specific expenditures distribution, they allocate less on rent than food expenditures but greater than their utility bills. The reason behind to allocate less on rent and utilities is small dwelling size and less number of rooms as showing in table 4 while unaffordable house spend more on rent and utilities than affordable house that ultimately resulted to less allocate their income

on food expenditures. It means unaffordable house are paying more for housing expenditures that are comparatively. To higher dwelling size that reduces food expenditures and increased transportation cost and utility bills according to the study.

As question arise, what happen if everyone lives in affordable house? The answer is, household affordability does not mean only to live in cheap house because it is related with household choices that can made easily by allocating significant proportion of income for food, health and clean water that ultimately reduce medical expenditure. The difference in allocation of income for food, transportation and electricity bills in terms of supply and demand, supply of housing according to family size and their income resulted in affordable housing and demand side can spend more on food and rest of things as showing in above figure.

Table 4 Household characteristics according to affordability (<45%)

HH Characteristics	>45 % Rent including transport cost to Income	<45 % Rent including transport cost to Income
Income	33821.43	22250.00
Household Members	5.52	5.97
Floors	1.29	1.20
Rooms	2.14	2.57
Dwelling size (Marla)	3.7262	4.6207

Table 4 is showing household characteristics according to affordability criteria of rent with transportation cost to income ratio. As per criteria, if the household is spending 45 or less than 45 percent cost to income called it affordable housing otherwise it is unaffordable housing according to the literature and study. There are five variables to show household characteristics in which income (mean income of households), household members (mean HH members), occupying on average floor, occupying on average rooms of the house and its mean dwelling size (marla).

Income difference is showing significantly in the above table. There is a 33821 rupees average income for those residing in affordable housing with the criteria of rent with transport cost while those are not living in affordable house according to 45 percent criteria having 22250 rupees average income. So, the difference of income define housing affordable or not significantly. It is clearly telling about those living in urban areas with low income comes under the umbrella of unaffordable housing according to the study results. On demand side perspectives, income is a vital role that defines affordability but according to rent and transportation cost. Overall, how much household can reduce their rent and transportation cost to live in affordable house is really tough because they have slightly higher household's members and occupying close to ground floors with higher dwelling size. It is possible to live in higher floor with less room and small dwelling unit to reduce the cost to income ratio.

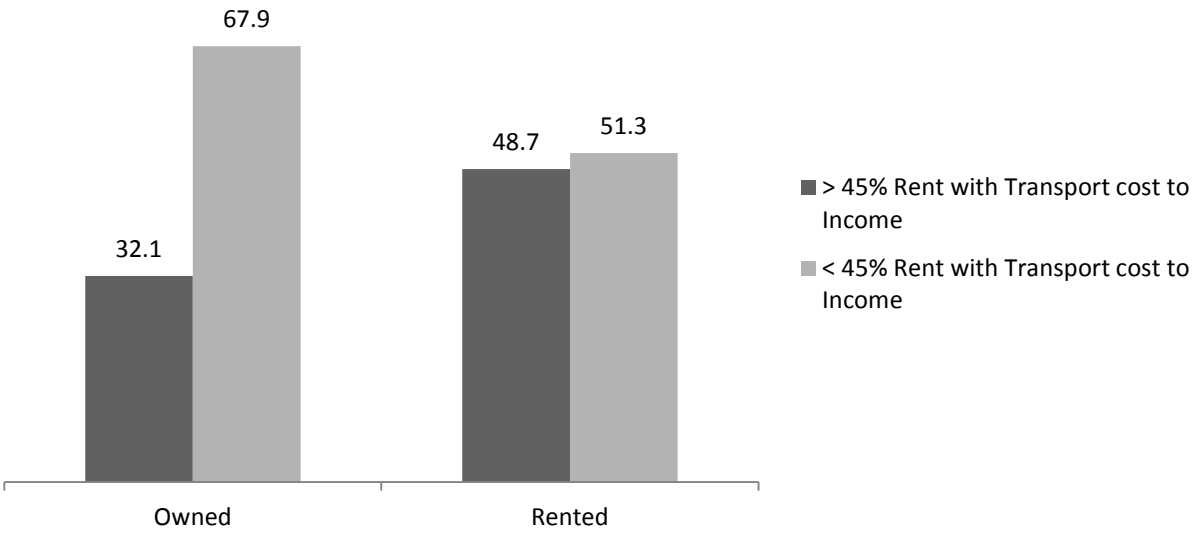

Figure 10 Sample Population distribution according to housing status and affordability

There is a slight difference of household members in the house but with the perspectives of difference, lesser the household members leads to affordability and higher the members leads to unaffordability as showing in above graph. Therefore, these low income group populations occupy more rooms with higher dwelling size unit but the question remains unaddressed, why unaffordable households occupy close to ground floor? While higher income group with less household members are residing in higher floor than unaffordable households on average. The answer comes from data, majority of owned households have less income but they are counted in imputed rent so their less income made them unaffordable but they are not paying rent and residing in ground floors as well so therefore, with less income but with higher dwelling size occupying close to ground floors represent different picture overall. But by using this table and in depth analysis, it is clear to conclude that if household members reside in rented house in upper floors with on average 3.50 marla dwelling unit can reduce the rent and transport cost to income ratio and the probability to reside in affordable house is higher. As showing in figure 9, sample

population distribution according to housing status and affordability. These percentages are within housing status, the proportion of unaffordability among owned housing is higher but those residing in rented house have less difference between affordable and unaffordable housing. In fact, the same case is with the criteria of 30 percent rent to income in which mean income of unaffordable is lesser but occupying more rooms and close to ground floors. These household owners also found significantly higher among unaffordable houses as showing higher proportion in above figure of the study.

Figure 11 is showing allocation of average income for household expenditures according to affordability with the criteria of 45 percent that is rent with transport cost to income ratio. As showing in figure 7, the proportion of affordable households increased from 30 percent to 42 percent with the change of criteria then what sort of expenditures differs between affordable households and unaffordable households as showing in below figure 10 in the study. It has also concluded that criteria contains 15 percent for transport also reduces the number of unaffordable house and increased affordable house according to the study but ultimately from "rent to income ratio" to "rent with transportation cost ratio" decreases household average monthly food expenditure. According to figure 11, affordable houses 34 spend on rent, 49 percent on food, 4 percent on transport and 13 percent on utilities on average. If house comes under umbrella of unaffordable according to this criterion, it will allocate 41 percent on rent, 35 percent on food, 9 percent for transport and 14 percent for utilities on average.

There is a significant difference in rent, monthly food expenditures, transportation cost and monthly utility bills including water. If we assume two houses, as one affordable house and second one as unaffordable house. Affordable house is residing in cheap house therefore allocating significant proportion of income for monthly food expenditures with less allocation for transport

because majority is using motor bikes and public transport. Unaffordable house allocate more than affordable house for rent that resulted spending less on monthly food expenditures even less than their rents as these percentages are distributed within their expenditures.

This criterion is different from first just because of transportation cost. The proportion of spending on transport is higher than those lives in affordable house. It means unaffordable house will spend more on rent and transport that resulted to reduce monthly food expenditures and higher the utility bills. As question arises, why affordable housing is important for us? What will happen, if everyone lives in affordable house? The answer is they will spend more on food and able spend more on rest of things as showing in above graph. Household have a lot of choices to spend but this study focusing on limited household choice and averages expenditures of each one but overall, if the house is affordable then it is more often to spend more on schooling and health but it needs another research to explore the question.

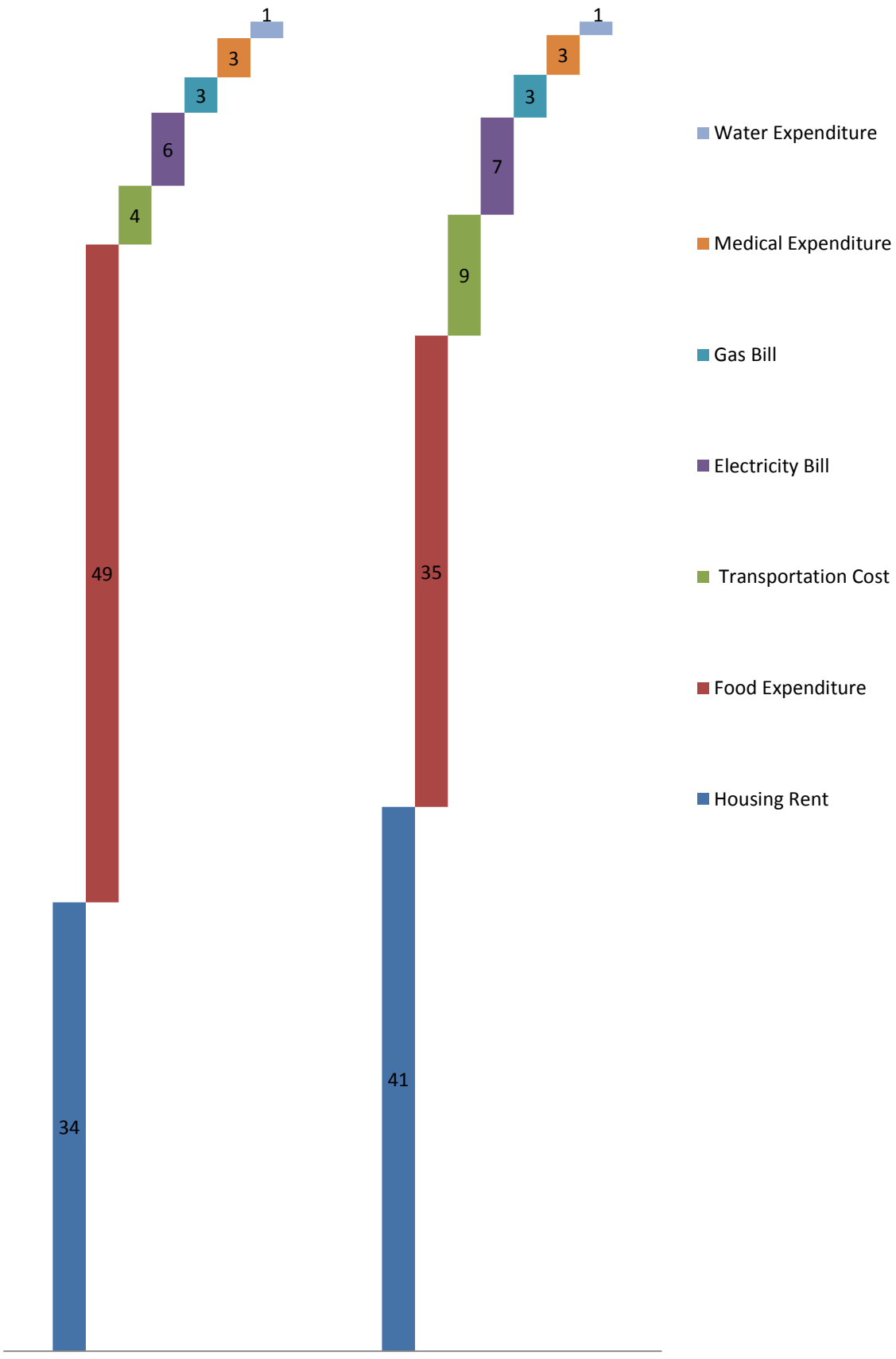

Figure 11 Allocation of average Income for Housing Expenditures (in percentage)

Table 5 OLS Regression

	Rent to Income Ratio	Rent including transport to income ratio
R^2	0.14	0.09
Intercept	0.40*** (0.000)	0.51*** (0.000)
Housing Status	-0.20*** (0.009)	-0.18 (0.108)
Household Members	-0.01 (0.85)	-0.06 (0.39)
Rooms	0.03 (0.80)	0.07 (0.59)
Dwelling size	0.22** (0.05)	0.13 (0.24)
Waste Management System	0.04 (0.56)	0.05 (0.47)
Drinkable Water	0.01 (0.86)	0.003 (0.96)
Distance of market	-0.11 (0.107)	-0.10 (0.16)
Distance of work location	-0.05 (0.04)	0.02 (0.78)

*P Value <0.10 (90% CI)**P Value<0.05 (95% CI) ***P Value<0.001 (99% CI)

Table 5 is showing OLS regression models by using rent to income ratio as dependent variable first with housing characteristics as independent variables and rent including transport to income ratio is second one dependent variable with same independent variables in the study. Dependent variables are continuous therefore ordinal least square model of regression preferred to test the impact and intensity of characteristics in the study and their significance as well.

Rent to income ratio computed by using rent divided by income and their ratios used as dependent variable. There are 8 independent variables in which housing status, household members, dwelling size, no. of rooms; waste management system, drinkable water, and distance of market and work location form the residence. R square of the first model is 0.14 that shows 14 percent linearity. Rests of values those are in front of each variable are beta values (rate of change). These values tell the story of a house if the specific variable changes one unit then how much it will impact the rent to income ratio?

There is a negative value of housing status that shows, by changing residential status increase the rent to income ratio 20 percent but inversely so owned housing status resulted higher imputed rent as observed in the study owners of the residential housing unit is comparative big in the form of occupying space and dwelling size and their rooms but renter prefer to live in small houses to reduce the rent cost so owners occupying increased the rent to income ratio if we used imputed rent of their house. This study also suggests the same finings qualitatively and statistically that an owner rent to income ratio is 19 percent higher than rented according to regression model. Therefore, 67 percent owners of the households come under unaffordable housing just because of imputed rent. By increases one household member in the house resulted to decrease 1 percent rent to income ratio while one room has 3 percent weightage of rent to income that means adding one

more room or getting the house with one room will cost 3 percent of income or increase 3 percent rent to income ratio.

Dwelling size is one of significant and important variable in the study. Under rent to income ratio perspectives, one unit increase of dwelling size (marla) resulted 21 percent increase in rent to income ratio. Size of the house is the only factor that significantly increase the housing cost than rest of housing characteristics in the study.

Now days, waste management system in housing market is also important one. It create health hazard if the lack of waste collection in urban towns. As we mentioned, local government has responsibility to collect garbage from town in Rawalpindi district so they are not paying for this but Bara Kahu residents are paying on average 150 to 300 rupees per month but interestingly it also increase rent to income ratio 3 percent if there is waste management system in the town according to study.

There is a serious issue in urban housing is clean water for drinking. Government has supply of water connection in majority of the towns but it is drinkable or not dependent on its cleanliness as 68 percent from Rawalpindi and 58 percent from Bara Kahu houses used it for drinking while rest of households arrange by purchasing from market or in some cases they travel to refill their water tanks from filtration plant. In both cases, they are paying cost, water supply connection charges does not depend its drinkable or not and second one by purchasing or travelling for this. According to this study model, rent to income ratio increases to 0.08 percent if household has clean water supply. That is little bit higher cost but it matters for low income households.

Distance has measured by using time scale in minutes in the study. It is also interesting phenomenon that one unit increase in distance resulted to decreases in rent to income ratio in both

cases of market and work location. If the household member increase the one minute distance from market resulted 10 percent decrease in rent to income ratio and one percent decrease in rent to income ratio if one minute far from the work location from the house. The interesting thing in case of distance is that market distance is more important than work location distance according to study findings.

There is 9 percent linearity in the second model in which rent to income including transport cost as dependent variable while independent variables remain same those were part of first model. In fact, the study aims to test how much impact of same independent factors on these two dependent variables if the change occur in criteria as found in literature. In this model, there is a 18 percent impact of housing status on dependent variable that means if the house is owned then it reduces 18 percent unaffordability but in another way, if the house is owned then it will increase 18 percent affordability under rent to income including transport cost as dependent variable.

With the increase of household members, affordability increase 6 percent because of negative beta value of the factor that was 1 percent in case of rent to income ratio. It is also interesting to see 7 percent increase in rent to income with transport cost ratio if the one room increase in the housing unit that was only three percent in case of rent to income ratio model while increase in one unit of dwelling size (marla) increases 13 percent cost of rent to income ratio including transport cost that is higher in first model. But in this model, there is 5 percent cost increases if there is waste management system that has lower value in first model. It means, there is a higher cost of increase in one room and waste management system but lesser increase in dwelling size cost than first model as showing in above table.

Distance of market has inverse impact on rent to income ratio including transport cost as increase one minute distance of house from market decrease the 10 percent rent to income including transport cost according to the model but 2 percent cost increases in case of increases in case of one minute distance increases of house from work location.

Overall, cost of housing (rent to income and rent to income including transport cost) reduces if the house is owned by a respondent in the study. It is the basically answer of the fundamental question why housing is important? If each household owns the housing unit then it will reduce 18 to 20 percent cost of housing that is enough to put majority in the criteria of affordable housing. Poor and middle class population can utilities this reduction on quality of life like health, education, waste management and utilities. According to literature and ground reality, price of dwelling size are higher in urban areas and vary area to area but it is the only factor in the model as well that has significantly higher impact than rest of factors. It means dwelling size is the thing that increases the cost of housing. As per data driven strategies in public policy, government can develop o provide cheap land for housing because ultimately, in case of owning the house it will reduce the cost of housing according to study findings.

4.3. Supply Side

Quantitative analysis focused on demand side perspectives of affordable housing by using primary data from Rawalpindi city and Bara Kahu that is periphery of Islamabad city that concluded majority of sample population lives in rented housing units and their major constraint to develop or own the house is finance and second one is availability of land according to the study. These responses also can interpret in supply side perspectives that there is still lack of provision in

housing that's why majority lives in rented house and financial institutions are not working properly that resulted to suffer in financial assistance for low and middle income group population. So in this section of study, supply side perspectives of affordable housing will be discussed. For the purpose of supply side perspectives, qualitative analysis has been done by conducting key informants interviews from housing builders, housing finance providers and land providers for housing.

4.3.1. Financial Institutions

First, the study will discuss finance provisions for housing. In this regard, house building finance corporation (HBFC) is one of leading financial institutions that provide financial assistance for affordable housing. According to budget 2016-17, there is 0.6 percent of total budget allocated for affordable housing that tell about the priority of government for affordable housing that is alarming and not according to the united nations charter and sustainable development goals. Today HBFC, is the one of major institutions that help to construct or buy the house according to person's income. As per general criteria, if someone is citizen of Pakistan aged 18-60, having sufficient income proof otherwise guarantee of blood relation will be accepted and tenure of repayment will be from 3 to 20 years. They have financial calculators for counting the installment according to person demand and income. For the purpose of understanding, how HBFC will provide finance to average person with average income (as per derived from primary data) for average land acquisition (average dwelling size occupy from primary data).

Table 6 Average Housing Characteristics

Average Income	**27110**
Average Dwelling Size	4.24
Average Rooms	2.39

Source: Primary data from Household Survey

Table 6 is about average housing characteristics of respondents from primary data. Average income of respondents are 27110 rupees that is very low and majority belong to informal economy like taxi driver, vendors, hawkers and daily wages employees those not having sufficient income and they also have not any proof of income in the form of income certificate that is required to access mortgage or financial assistance for housing.

Private banking sector also providing financial assistance for house construction and building. It is so difficult for poor person to avail opportunity. First, poor person cannot access to finance for house building as their terms of reference explain the story. The Bank of Punjab is providing just 0.5 million as housing loan just for salaried class not for those having no salary proof neither as HBFCL is providing based on guarantor. There is three-year tenure of the loan with fix markup. The purpose of the loan can be used for personal necessities. According to bank terms and conditions, salaried person must have more than 14000 rupees' income and employee of the public and private permanent employees can avail the opportunity.

Table 7 Loan Repayment Scheme by Bank of Punjab

	Percent of the Loan					
Loan	1 Year		2 Years		3 Years	
100000	9384	9%	5213	5%	3845	4%
125000	11729	9%	6516	5%	4806	4%
150000	14075	9%	7819	5%	5767	4%
200000	18767	9%	10425	5%	7690	4%

Source: The Bank of Punjab

Bank officials claim, this is one of best scheme for those having constraint to access loan for housing. Table 8 is showing total loan opportunity and its installment per month according to total tenure and we have derived percentages. It looks good to provide loan with 9 percent, 5percent and 4 percent of total loan installment with fix markup rate. First question arise, *is it sufficient to meet the need of customer and demand side perspectives as well? What sort of constraints faced by poor salary person?* As mentioned in terms and conditions of salaried class in which 14000 rupees' salary is minimum criteria. In this study, following table generated according to income percentage of loan repayment (installments) per month year wise that tell another dimension.

It may not meet the need of demand side because amount of loan is not sufficient for house building. Yes, it can contribute for those having savings and need more money to complete the home or renovate the house.

Table 8 Loan Repayment Scheme by Bank of Punjab (percentage of Lowest Income)

	Percent of the Lowest Income (14000 RS)					
Loan	1 Year		2 Years		3 Years	
100000	9384	67%	5213	37%	3845	27%
125000	11729	84%	6516	47%	4806	34%
150000	14075	101%	7819	56%	5767	41%
200000	18767	134%	10425	74%	7690	54%

Source: The Bank of Punjab

Table 9 is showing loan repayment per month installment according to year wise plan but the study has used minimum criteria of the salary that is mentioned in terms and conditions for loan. It is not good scheme for those having low salary because, they will pay 67 percent to 134 percent of their total income. It is also unaffordable for those accessing loan of 1 lac rupees for 3 years because repayment schemes is 37 percent of their income for per month installment. According to international standard, mortgage or installment for housing loan must be up to 30 percent of the income.

It means, it is not possible for poor to get loan for housing from this private bank because repayment scheme tenure is very short and total loan amount is very low that cannot meet the need for those building house and availing opportunity to get financial assistance from bank. It is concluded that financial assistance for poor from The Bank of Punjab is not friendly and neither affordable.

Private bank official (Branch Manager) also provides information about housing loan for specific segment of the society. There is a 50 percent of total income will be charged as per month installment for those doing job under umbrella of Pakistani Armed forces so rest of population or especially poor people or low salary class cannot access to loans for housing.

Another private bank officer is providing loan for home to those areas which are approved by capital development authority (CDA) and right side of Islamabad highway that is Rawalpindi city. According to official source, Dhok Kala Khan is also part of scheme that's why residents can access to housing finance but this opportunity can not avail for left side of the road like Iqbal Town, Khana Pul and ghaouri town even loan can not avail for Barra Kahu because it is also not approved by CDA.

According to Bank official, It is not possible provide loans for low income group because their earnings and livelihood are not stable so bank may remain reluctant to invest on housing. As per terms and conditions, salaried class and if there is any security then bank is not reluctant to provide housing loan. The main reason behind too provision of loan is inflation as well because it remains higher in past decade so bank invest on other products and services rather housing loan. It was notices in our bank that there was more than 45 percent default rate that is also the reason. In case of Bara Kahu, there are a lot of problems, litigation is one of them, property rights are not clear

and even there is no clarity on map about original place so in this situation no one can access to loans because bank invest if the situation remain clear. Affordable housing investment is good but majority of places in Islamabad and Rawalpindi have land ownership issues, land department never help and population of informal sector have also not stable source of income.

As per Bank Alfalah policy, customer can avail housing loan equal to 40 gross salaries. It means, higher income group will avail more than those having lower grades or salaries. If someone interested to own the house that is not possible to build house by using loan because property market rates fluctuate and vary area to area that is another reason to remain reluctant to invest on housing. It is possible, with increase in infrastructural development of the area as happening in Bara Kahu, Banks will invest in housing more than past.

United Bank Limited (UBL) is also providing loan for housing in multiple cities. Our sample is part of their jurisdiction to provide loan for housing. According to their conditions, salary or monthly earning of customer must be more than 50000 rupees and not less than 0.5 million rupees' loan for housing can avail while rest of conditions are same for bank as other financial institutions required. This study is focusing on affordable housing and this matter belongs to those having lower income as quantitative part explain on average income of residents in Rawalpindi and periphery of Islamabad that is not more than 30000 rupees per month. It means, low income group can no access to loan for housing from UBL because of threshold level of salary is too high. The question arises after analyzing role of financial institutions that why they are not providing loans for housing for low income group?

All bank key informants agree to involvement of government sector for provision of affordable housing. According to Bank Managers, government need to provide interest free loans for needy

people because banks are not willing to provide loans for those people which can not payback or working in informal economy and litigation issues of land in peripheries of cities.

4.3.2. Availability of Land

Majority of land for housing sell through property advisors in Bara Kahu and Dhok Kala Khan. According to advisors, people already own their houses having extra land. Their source of income is multiple because they do different business including property. If there is any cheap property available within the city or out of the city, these rich persons purchase the property and marketized again to sell at higher price therefore poor people cannot afford the land for housing. It is also opinion of property advisor that prices vary area to area. Price in the core area remain higher that cannot afforded by low income group or poor person while periphery has comparatively lower prices but these lands occupied by housing schemes now a days like Bahria Town, Fizaia and now government also purchase for federal housing schemes in Bara Kahu.

Fazl e Rabi property advisor describe the situation that elite class is now constructing plaza's in the city for commercial and residential purpose because of higher profit motives and they have money to construct building and this way of development increases the prices of land therefore small plots for housing prices also increased and middle class have a lot of difficulty to construct or purchase the land. There is a availability of land in the peripheries of Islamabad but not in Rawalpindi because city has no more availability of land but there is a market of selling and purchasing already constructed houses that are so expensive. This is also a reason of higher prices of available land in the peripheries of Islamabad like Bara Kahu.

4.3.3. Construction Cost

Construction cost of the house significantly matter because it also varies area to area. Area of the land matter just because of material accessibility and unplanned area also resulted in the increase of cost as "Khan Baba Construction Company" tell about it. Cost of construction reduced significantly If the area is planned and material can reach on trucks without any hazard otherwise cost will increase in Islamabad. Bara Kahu is the mostly unplanned area. New housing schemes and housing are constructed don hills not even private constructors are doing in this way. Recently, government of Pakistan has purchased land from private parties to build affordable housing for federal employees in Bara Kahu. It is interesting that Banks are not ready to provide loans for the area where government has purchased. Banks are reluctant because of litigation issues but government has no problem of litigation because of no problem for government to access land record. In Bara Kahu, following table explain the construction cost.

Table 9 Materia and Labor Cost for House Construction in Rawalpindi and Islamabad

Type of Area	**Size of the Area**	Labor **Cost (RS)**	**Total Cost (RS)**
Planned Area	1 square feet	130	1100
	1 Marla (250-272 sq foot)		300000
Unplanned Area	1 square feet	200	1400
	1 Marla (250-272 square foot)		400000

Source: Fazl e Rabi Property and construction associates

According to construction companies, firms and "Thaikedar" builders or constructors informed about construction rates according to per square foot that is around 1100 rupees total cost if the area is planned otherwise it is 1400 rupees in case of unplanned area and material reach the point in difficult way and dig work increase the cost as well. All the cost in table 10 are expected cost of construction those varies areas to areas but remain same in general in Bara Kahu and Dhok Kala Khan. These construction companies charge 130 rupees per square foot of labor cost in planned area and 200 rupees in unplanned area. According to companies, area in which transportation of material and labor is difficult or far away from city location considered unplanned area. In this way, total cost of per Marla in the respective areas are 3 lac rupees and 4 lac for unplanned areas. As our study suggests, sample population occupy on average 2 rooms of 4 Marla dwelling size then it will cost the 1200000 rupees except land cost while some bank provide loans to salaried employees up to 5 lac and some provide 14 lac rupees in specific urban areas. Under these circumstances, salaried employees can just construct the house but cannot purchase land from financial assistance for housing. Saving remains only option to construct and build the house of 4-5 Marla dwelling size while informal sector employees or daily wages labor cannot think about to build the house as government and financial institutions are not supporting this segment according to study.

As study focuses on supply side perspectives in the end of chapter after demand side perspectives. There is availability of land in peripheries of Islamabad but CDA does not recognize or register yet therefore banks are also reluctant to give loans for respective areas that is one of constraints while available land prices are higher because majority of land owned or sell in property market those marketized the housing plots resulted in higher prices and land remains in the hand of elite class. Banks also does not support low income population from informal sector because their

livelihoods and earnings are not stable as mentioned by bankers. If someone can buy or get the housing plot from savings or from inheritance, then its construction cost is also high not just because of labor wages. Material cost is also high that is another constraint from supply side. As our sample population, has mean income of 27000 rupees and their source of income based on daily wages or low paid jobs and their demand is 2 rooms on average of 4 to 5 Marla dwelling size but they cannot get financial assistance because lack of proof of income certificate and available land prices higher and construction cost also double than price of land. Key informants suggest, government play role and provide interest free loans to poor and low income group with easy repayment facility and construct houses as well according to family size with all facilities otherwise there is no solution under current circumstances.

Chapter 5.

Conclusion and Recommendation

5.1. Conclusion

According to study, there are higher number of urban residents living in rented housing than those owned. It means, demand of housing is greater than supply despite having a lot of commercial and housing property builders and developers in the market those are providing housing land and services but the gap remains higher. In fact, there are two perspectives of housing to understand the gap and constraints in the study. Demand side perspectives and supply side perspectives, first describe the housing characteristics of population that demand the house for living and second highlight the supplier of housing characteristics and what sort of constraints faced by population?

It is important for household to live in affordable house and study define affordability with two ways. First is rent to income ratio that means a housing rent is not more than 30 percent of income. In this way, there are 70 percent sample population lives in unaffordable house while only 29.5 percent lives in affordable house. There is a significant difference of average income observed among those living in affordable houses and not. Another important factor is difference of dwelling size and increase in number of rooms as well that can change the affordability status. The impact of affordability observed in the study by dividing household average expenditures allocation between those are living in affordable house and those are not living in affordable house. There are is less spending of income in rent resulted to increased allocation for food but in case of unaffordability houses pay higher rent and reduce their food expenditure. Utilities cost also remain higher of those living in unaffordable housing.

Rent including transportation cost is another way to measure affordability in which rent including transportation cost is less than 45 percent of the income. There are 42 percent people lives in affordable house and 58 percent lives in unaffordable house per rent including transport to income

ratio. It is interesting to observed, there are higher number of population lives in affordable house than first criteria of affordability. First reason is, less spending on transportation. There are 18 percent population allocate more than 15 percent transport cost and rest of 82 percent sample population allocate less than 15 percent of income for transportation. The major difference observed in characteristics of population as using this criterion, significant income difference and difference of dwelling size between affordable and unaffordable housing are main factors.

Average income of affordable housing residents is 36491 rupees as per rent to income ratio criteria and their dwelling size is 3.4 while those are living in unaffordable house having 23184 rupees average income and they occupy 4.58 Marla while according to rent including transport to income ratio the same sort of income and dwelling size differences observed in the study. The impact of affordability in case of rent including transport cost to income ratio, allocation of income for food is significantly higher than those living in unaffordable house and less spending for utilities as well according to study findings.

Overall, those people living in rented house prefer to live in small dwelling size, less number of rooms reduces their cost to income ratio but according to regression results, there is not significant impact of number of rooms on affordability but dwelling size increase the cost in both cases of affordability while waste management system also increases the cost while increase in distance from market and work location decreases the rent to income cost and rent including transportation to income cost.

Utilities are almost connected in all sample houses but drinkable water is big challenge for urban resident that provided by government because 68 percent residents from Dhok Kala Khan and 52 percent from Bara Kahu resident use water supply source for drinking and rest of population

purchase or travel to fill their water tanks from different locations of city. Rawalpindi district government is providing waste collection services so they are paying almost 150 rupees per month for this but 62 percent of Bara Kahu residents having waste collection system and rest of population put their garbage near their houses. It is the city government responsibility to provide utilities connection and waste management system but less number of Bara Kahu residents are enjoying these services.

As supply of housing is less than demand for poor and middle class population and their main constraints are income and availability of land. According to study, sample population has 27110 rupees average income and they are living in 4.24 Marla size house with occupying 2.39 rooms and if someone want to get financial assistance from financial institutions, it proved difficult to build their own house because loan for low income population or those working in informal sector can not avail. If someone can avail the loan, then repayment loan to income ratio is higher for low income population. Banks are using percentage of installment to loan ratio while the study has opted the method of income to installment ratio method that is more appropriate because affordability is associated with consumer's income.

Poor person or middle class population has less savings and low income so they cannot buy the land that is available in the city or in periphery but if land is available then rich persons purchase the land for their own business and sell it to rich person when increased the prices. There is a business perspective to deal housing land and poor cannot purchase the land from their own resources and it is not possible to avail the financial assistance to purchase because how will he/she pay development or construction cost of housing that is also higher in cities. There is a price of 1500000 rupees to 4500000 rupees in the peripheries of Bara Kahu while banks are providing loan 5000000 rupees to 2000000 rupees with higher installment to income ratio that is not possible for

poor population of the society. It is also important to note that banks are only willing to pay housing loan for those government approved but peripheries and unplanned areas landholders also can not avail the loan because of litigation issues.

5.2. Policy Recommendation

There is utmost need to implement the housing policy for poor segment of society with low cost housing through interest free loans or government can introduced small homes schemes for informal sector employees with facilities near cities. Financial intuitions are reluctant to provide loans so government interference can save the poor's to build their own homes and enforce per month income as mentioned economic survey of Pakistan for informal sector employees so government needs to take step to build housing schemes for poor as they are doing for employee's schemes that resulted to reduce the housing cost and increase affordability. Municipal authorities needs to regulate the informal housing with no utilities connection and act against those overrule the original maps of housings that is also resulted in increase of housing cost. There is a housing policy in Pakistan that drafted in People's Party government regime in 2009 that need to revise its facts and figures and new demand pattern of housing with their housing characteristics according to population needs. There is a a lot of potential in housing if government or private sector take step to develop for low income population then it can meet the housing demand and even it can create employment as well for low income groups that will boost the economic growth as well country level. Poor or low-income population must be accommodating in special case to develop cheap houses with all facilities with low repayment installments will be helpful otherwise financial burden of construction and purchasing the land will increase the gap and people may live in slums conditions housings in future.

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Questionnaire

Demographic Section					
Name		**Gender**	Male	Female	Transgender
Age		**Status**	Single	Married	Divorced
Town		**Monthly income**			
Education in years		**No. of Members in household**			
Occupation					

Housing Section						
Housing Status?	Owned	Rent	Other……			
Total No. of Rooms in your housing unit?						
What is the Size of dwelling?						
Is there any water facility available?	Yes	NO				
Which type of water facility is available?	Govt Provided	Water tanker	Motor piped	Hand Pump	Mineral from Bazar	Other……..
Is it filtering water?	Yes	NO				
How much you pay for water in a month?						
Is there electricity facility available in house?	Yes	No				

Which type of electric facility?	Govt. Provided	Solar	Other…….				
How much you pay for electricity in a month?							
Is there any fuel/gas facility for cooking?	Yes	NO					
Which type of fuel/gas facility for cooking is available?	Sui Gas	LPG	Woods	Other…….			
How much you pay for fuel/gas in a month?							
How much you pay for daily food expenditure?							
On average, can you tell monthly food expenditure?							
Which type of diseases you and your family face?	infectious	non infectious	Both	Other…….			
How much you pay medical expenses in a month for your family?							
Which type of transport you used?	Own Motor Bike	Own Bicycle	Own Car	Taxi	Public Van	Metro Bus	Other…….
How much cost you pay for daily transportation?							
Do you pay any tax regarding housing unit annually?	Yes	NO					
How much you pay school fees for your children?							
How much you pay for clothing for your family?							
How much you pay any tax regarding housing unit?							
If you want to own the house face constraints? Rate them accordingly							
1:Financial	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		

2:Availability of land	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
3:Registration of land	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
4:lack of road	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
5:Far from market	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
6:Transportation	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
7:Gas/Electricity connections	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Do you think, you are living in affordable house?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Do you save amount from household monthly income?	Yes	No				
How much you save from your monthly income?						
Distance of office from house (in Minutes)						
Distance of market from house (in Minutes)						