

SOCIO-ECONOMIC DETERMINANTS OF AFFORDABLE HOUSING IN HILLY AREAS OF PAKISTAN

Wawar Amer*, Abdul Waheed**, Rumana Khan Shirwani***, Samia Gulzar****

Article DOI:

www.doi.org/10.53700/jrap3012021_3

Article Citation:

Amer W., et. al., 2021, *Socio-Economic Determinants of Affordable Housing in Hilly Areas of Pakistan*, Journal of Research in Architecture & Planning, 30(1). 17-28.

* M. Sc. Student, Urban and Regional Planning Department, National University of Sciences and Technology, (NUST), Islamabad. sedcopk@hotmail.com

** Assistant Professor, Urban and Regional Planning Department, National University of Sciences and Technology, (NUST) Islamabad. waheedabdul@live.com

*** Assistant Professor School of Architecture and Planning, University of Management and Technology, Lahore. rumana.shirwani@umt.edu.pk

**** Professor School of Architecture and Planning, University of Management and Technology, Lahore. saima.gulzar@umt.edu.pk

ABSTRACT

In developing countries like Pakistan, affordability to own a decent house is a critical issue for middle to low income households as the cost of plot and construction has increased enormously over the last couple of years as compared to household income. It affects the socio-economic environment of the country and the households. Hence to provide affordable housing not only is it required to lower the cost of the house but a range of social and economic determinants need to be addressed. This paper examines these social indicators, like household size (HH), marital status, education, unit/plot size, location and economic determinants (income, expenditures, unit cost) of affordable housing and its relationship to affordability. The paper presents findings from household questionnaire survey in Murree urban area. Findings show that lack of affordable housing has resulted in overcrowded low quality housing with substandard infrastructures that have highly affected the socio-economic status and well being of the households. The majority of the respondents demanded small size unit and plot as per their affordability. In spite of lower income the respondents preferred to own their houses.

Keywords: Affordable housing, socio-economic status, location, low-income housing, hilly areas, Pakistan

INTRODUCTION

Affordable housing is the basic need and dream of every household. Affordable housing provides a sense of dignity, pride, physical safety, security and well being to the households. Housing plays a pivotal role in reducing poverty and promoting socioeconomic development (UN-Habitat-2011).

In developing countries housing sector is of great socio-economic value. Ten percent of the global GDP and seven percent jobs are related to the housing sector (Wallbaum et. al., 2012). Housing as adequate shelter for all is recognized as a basic human right, related to vital living standards, housing, food, health care and clothing (Zuo, Armaan and Wilson, 2009; Choguill, 2007; GOP, 2001). The historical gap between rich and poor communities can be identified by the living conditions and housing standards (UN-Habitat,

2010). To tackle the increased housing demand of households, in the next twenty years, about eight hundred seventy-seven million housing units would be required (UN-Habitat-2008-09, Bredenord and Lindert, 2010). In Asian cities, each year, there is an addition of about forty four million due to urbanization. This equals to an addition of one hundred and twenty thousand people per day in the urban population. This means about twenty thousand new dwellings per day are needed (UN-Habitat, 2010).

One of the important determinants related to the development and socio-economic stability of a country is housing affordability. Housing affordability intends to make certain that housing provided to every income household is affordable (Suhaidab et. al., 2011; Baqutaya, et. al., 2015).

In developing countries with rapid urban growth, governments need to tackle two issues, upgrading the housing quality in

existing slums and squatter settlements and provision for land and housing to the homeless at affordable cost (Bredenord and Lindert, 2010). The present housing sector does not have the capacity to meet the housing demand. This gap between supply and demand pushes the construction of in-efficient and costly solutions and informal dwellings. Affordable housing provides opportunities for economic growth, environmental improvement and social equity (UN-Habitat, 2011). "Affordable housing is broadly defined as that which is adequate in quality and location and does not cost so much that it prohibits its occupants meeting other basic living costs or threatens their enjoyment of basic human rights (UN-Habitat, 2011). There are three determinants to assess the ability of a household to purchase a house. In 2009, estimated housing backlog was 7.57 million units in Pakistan, of which 2.5 million of these were in urban areas, and the total national housing stock was 20.5 million and about six million of total housing deficit was among middle and low income groups. About two thirds of the population cannot manage to pay for any housing without financial grant and support. Typically affordable housing is defined as not being above a specified proportion of household expenditure, mostly thirty per cent.

The lifetime investment for affordable housing demands extra benefits in the shape of quality, comfort and durability, and focuses on social factors also. For housing affordability assessment, in addition to income and house price factors, there are other factors, like education level, occupation types, number of households that work, number of children, monthly house installment and housing subsidies (Suhaidab et. al., 2011). The purpose of affordable housing is not only to provide essential shelter needs, but to comply with planning and building regulations, fulfilling household requirements, for example amenities, size, location and fulfilling affordability factors (Zuo, Arman and Wilson, 2009).

The shortage of such housing is about 4.5 million units (UN-Habitat, 2011). Affordable housing deficit has promoted the unimpeded expansion of *katchi abadis*, squatter settlements and encroachment of state and vacant land (consisting of fifty percent of urban population) coupled with inadequate water and sanitation, affecting mostly well being of the poor (Zaman, 2011). On the other hand private sector housing projects are meant for higher profits and target only higher and higher-middle income groups.

In developing countries, the well being of millions of people is being affected by the substandard, inadequate, overcrowded housing condition in densely populated urban areas (Sengupta, 2010; UN-Habitat, 2011). The affordability, availability,

quality and quantity of housing plays a major part in national economic development and socio-economic uplift of moderate to low income households. The households migrating to cities from rural areas in search of better living standard anticipate to get a decent and safe house at affordable cost. So the provision of affordable quality housing is directly related to the social cohesion of the households (Earnest and Young, 2012). Many socio-economic issues are the result of poor quality housing and lack affordability (Parilo, 2002; Baqutaya, et. al., 2015). From social point of view, in addition to shelter, affordable housing provides security, relief from stress enhance the well being, self-esteem and provides opportunities for better education (Arman, et. al., 2009; Wallbaum, et. al., 2012). From economic point of view housing is the largest lifetime investment for a household and affects to a great extent the socio-economic well being (Baqutaya, et. al., 2015; Bujang, et. al., 2010, Bujang, 2006; Wallbaum, 2012).

Efficient land use planning provides equal accessibility to housing, facilities and transport for various socio-economic groups and marginal household in a society. This enhances the social environment by upgrading the living conditions and improving community social cohesion (Butterworth, 2000). Land use decision regarding housing, transport and economic progress are main determinants of households living choice (Hugh, 2009). If the incomes are lower as compared to high unit prices, with poorly managed housing and land supply, it results in rising social segregation in housing markets (Barker 2004; Hugh, 2009). In addition to population and urbanization trends, planners must consider affordability level of household in planning affordable housing keeping in view, household income, capacity to pay, choice/criteria for price and location, and selection regarding tenure, type and quality of housing (Bujang, et. al., 2010). Limited affordable housing provision prohibits the capacity of an area to offer housing in sufficient quantity and quality for the needy. While a steady supply of affordable housing guarantees the community social cohesion (Roween and Almaden, 2014).

A family's social status and socio-economic factors include age, household size, gender, education, income and employment, unit cost location, occupation, earning members and transportation cost affecting the housing requirements and choice. All these factors impact the household configuration and therefore are major determinants of housing demand, supply and affordability (Rosen-1974; Bujang, 2006; Rossi, 1955; Lowry, 1974; Suhaidab, et. al., 2011).

The ownership of housing has many social and economic benefits for the households and the overall community. House ownership enhances the living environment, self esteem, satisfaction level and is regarded as a vital gain in a lifetime (Tan, 2009 and 2012; Rohe, et. al., 2001). Household's life cycle is highly associated with marital status and HH size. An increase in household size will lead to high ownership rate and will impact the housing demand and affordability (Coulson, 1999; Goodman, 1990; Haurin and Kamara, 1992; Tan, 2012). Married households highly impact the housing ownership/ affordability and male household heads are also likely to affect the ownership of house with more income as compared to females (Coulson, 1999; Tan, 2012).

Larger household sizes need to spend more on housing and non-housing expenses as compared to small size household. Adult earning children living with parents help in additional income of household. Women household heads face more housing cost liabilities (Salleh et al., 2014).

Affordable housing can enhance the educational status of households also overcrowded housing conditions, leading to stress among children and women. It also affects the educational outcomes of children living in such condition, as compared to those living in better quality housing (Roween and Almaden 2014; Braconi, 2001; Spencer, 2010; Bratt, 2002). There is significant positive relationship between affordable housing and benefits in health and education level in a community.

House affordability is where a household has the capacity to save part of their income for house construction/ improvement as well as to pay other non housing expenses during their life time (Bujang, et. al., 2010; Roween and Almaden, 2014).

The lower incomes group have low and irregular incomes, so they cannot afford to avail the finance in the current terms (Wallbaum, et. al., 2012). Rising income and job insecurity is highly related to affordable housing (Berry, 2003; Rohe and Stevert, 1996). Low to moderate income household should spend thirty percent or less for affordable housing.

Stone (2006) describes as housing being beyond the poor's reach, after meeting the basic non-housing expenses. A household's well being is severely affected if the major part of income is reserved for housing, resulting in reduced saving for meeting the basic non-housing expenses i.e, for food, clothing, health, transport, education and recreation (Stone, 2006).

LAND COST AND LOCATIONAL ACCESSIBILITY

High housing price is associated with socio-economic factors (Bujang, et. al., 2010; Quan and Hill, 2008). Affordability level is essential for a family to purchase and own a unit (Bujang, 2006). The initial construction cost is the major factor for most of the household with low income. So the low income of poor household should be taken in account as the key constraint, while planning should be done for construction technologies and techniques (Tan, 2011a). Affordable housing considers those households who have insufficient income to own adequate housing without financial help (Roween and Almaden, 2014).

If the cost of purchasing/ constructing a decent quality house is more than the disposable income of what households can afford, then households face issues of affordability (Stone, 2006). Housing cost is directly related to households well being. Households that hardly meet their housing and non-housing expenses may face health issues and are prone to stress conditions (Bratt, 2002). Poor households use sub-standard/cheap construction materials that reduces house durability and its resistance to humidity and hazards increase the repair and maintenance cost (Wallbaum, et. al., 2012).

Location of housing type and socio-economics determines the affordability and housing demand (Bujang, et. al., 2010). Lack of access to school, health and park can lead to adverse social impacts and well being of households (Hugh, 2009). Availability of commercial area, health services and parks at walking distance has a strong relation to the well being and affordability and enhances social cohesion (Hugh, 2009). While constructing/buying or renting a house/plot, households consider aspects of location, cost and living environment and amenities (Tan, 2012 and 2009). House/plot purchase criteria of household is highly dependent on location determinants i-e, distance to school, employment, shopping, health, parks and public transport at walking distance (Tan, 2012). Reduced distance to employment saves time, cost of transport, enhances job security and efficiency (Tan, 2012).

A good housing location consists of accessible public facilities (i-e education, health, park) proximity to workplace, public transport, and a healthy living environment. Whereby due to high cost of housing the poor get pushed to find housing in suburb of cities away, from workplace/social network, lacking public facilities, mostly slums/informal settlements (Salleh, et. al., 2014).

RESEARCH METHODOLOGY

Simple random sampling technique was used to select the sample population and area under study (Murree city). Based upon the current population and number of household in Murree city, about one hundred thirty households were surveyed. The city was divided into four sample zones for household survey namely Sunny Bank, Lower Bazaar, Jhika Gali and adjoining areas. About twenty five percent of the survey sample was conducted in Lower Bazaar, nineteen percent in Sunny Bank, eighteen percent in Jhika Gali and thirty eight in other adjoining areas. Apart from that, secondary data about the population of the city, present housing stock and requirements, and cost of land was collected from various government departments, population census and TMA office Murree.

INTRODUCTION TO THE CASE STUDY

Murree is becoming overcrowded with the influx of tourists, specially during the summer season, who opt to live in multistory apartments or hotels. Many shopping areas, hotels and recreational facilities have developed to accommodate the tourists. The quantity of housing required has increased over time, because of population growth and investment on part of the government and private and developers. Many of these are seasonally occupied. Tourist population have increased manifold due to the development of roads and infrastructure. An estimated eleven thousand tourists visit and stay there during the peak season and holidays. Murree has witnessed an increase in real estate development activities, which includes many housing projects spreading from Murree hills to the periphery of Islamabad. However, there is lack of adequate and affordable housing.

RESULTS

Housing Demand and Supply in Murree City

The population of Murree city has increased from fourteen thousand persons in 1998 to about twenty seven thousand persons in 2013 (Punjab Statistical Report, 2013). The average household size is about 6.2. The total housing units in Tehsil Municipal Authority (TMA) limits of Murree are five thousand units as of June, 2015, which were two thousand and eighty eight units in 1998 as per 1998 census. The major urban settlements are Lower bazar, Kashmir point, Jhika Gali, Motor Agency, Sunny Bank, Kuldana road, Pindi point and other adjoining areas. The housing situation in areas like Sunny Bank and Lower Bazaar is in poor condition and they have become densely populated. Overall there is a

shortage of twenty thousand and seventy housing units in Murree.

Social Determinants

Socio-Economic Status of Households

The average household size in Lower Bazar is 6.52, with average 3.76 males and 2.76 females. Median age of the household head is between 40-60 years, while the median education level is matriculation. In the Sunny Bank area, the average household size is 8.17, with 4.36 males and 3.77 females, median age is 40-60 years and median education level is bachelors/university. In Jhika Gali area, the average household size is 6.09 with 3 males and 3.25 females, median age is 40-60 years and median education is secondary level.

In other adjoining areas, the average household size is 5.96 with 3.07 males and 2.76 females and 40-60 years is the median age, while median education is secondary level. In Murree city, about 8.5% of the respondents were unemployed, while 2.3% retired from government or private departments and majority (89.2%) were employed in various fields. About one third (35.4%) were working in private sector, one fourth (23.1%) in government departments and 22.3% were self-employed. 7.7 % were working on daily wages.

Table 1 shows the income range for various households in Murree. Most of the respondents are working in private sector or self employed, either in hospitality or related businesses. The respondents were reluctant to disclose their actual household income due to many reasons. It was evident from the survey results that about half (45%) of the households were earning less than Rs.25000/- (US\$ 159) per month and only one third (33%) were earning more than Rs.30000/- (US\$ 191) per month. While one fifth (21.5%) of the household income ranged from Rs.2500/- (US\$ 159) to (US\$ 191) per month. 3.1% of the respondents were earning Rs.8000/- (US\$ 51) or lesser per month and 6.9% of the household's monthly income ranged from Rs.8000/- (US\$ 51) to Rs.13000/- (US\$ 83) per month. The 11.5% of household's monthly income ranged from Rs.13000/- (US\$ 83) to Rs.18000/- (US\$ 114) per month. It can be seen from Table 1 that the average monthly non-housing expenses that the households had to meet were their daily living needs. Non-housing expenses included the expenses incurred on food/ kitchen items, clothing, healthcare, education, utility bills, general repair and maintenance and costs associated with travelling for availing various daily activities i.e, health, shopping, education, job recreation. Average food/kitchen expenses of household in the lower bazar area was about

Table 1: Socioeconomic Characteristics of Respondents

Items		Sunny Bank (%)	Jhika Gali (%)	Lower Bazar N(%)	Adjoining Areas N(%)	Average
Sample Size (N)		25	23	33	49	-
Household Size (N)		8.04	6.09	6.52	5.96	6.52
	<i>Male</i>	4.32	2.91	3.76	3.10	3.47
	<i>Femal</i>	3.72	3.17	2.76	2.78	3.02
Age of Respondent	25-40	24.0	39.1	30.3	36.7	33.1
	40-60	60.0	47.8	51.5	51.0	52.3
	60 and above	16.0	13.0	18.2	12.2	14.3
Median Education (Year)		14	08	10	08	12
Occupation (%)	Self Employed	3.8	3.1	6.9	8.5	22.3
	Private	5.4	10.0	7.7	12.3	35.4
	UnEmployed	2.3	0.0	3.1	3.1	8.5
	Government Employee	5.4	3.1	3.8	10.8	23.1
	Retired	.8	0.0	.8	.8	2.3
	Daily Wages	.8	1.5	3.1	2.3	7.7
	Othres	.8	0.0	0.0	0.0	.8
Income (Rupees)	8000 or less	0.0	0.0	1.5	1.5	3.1
	8000 - 13000	0.0	1.5	2.3	3.1	6.9
	13000 - 18000	1.5	3.8	4.6	1.5	11.5
	18000 - 25000	3.8	4.6	2.3	13.1	23.8
	25000 - 30000	4.6	5.4	4.6	6.9	21.5
	30000 and above	9.2	2.3	10.0	11.5	33.1
Non-Housing Expenditure (Thousand Rupees)	Food	21.26	14.43	16.29	15.16	16.49
	Clothing	2.28	1.63	1.08	3.04	2.10
	Health	1.78	1.19	.81	1.40	1.28
	Education	5.04	2.89	2.92	2.40	3.13
	Utility Bills	5.43	2.25	3.25	2.83	3.33
	Repair	2.06	.74	1.02	.78	1.11
	Transport	2.89	1.35	1.21	1.84	1.79

Rs.16000/- (US\$ 102)per month, about Rs.1300/- (US\$ 8) for clothing, Rs.1000/- (US\$ 6) for healthcare, Rs.4700 (US\$ 299) for education and Rs.3800 (US\$ 24) for utility bills, Rs.1500/- (US\$ 9) for repair/maintenance and Rs.1600/- (US\$ 10) for transportation.

So the total monthly non-housing expenses were Rs.30000/- (US\$ 191) for a household family. The total of such expenses for households in Sunny Bank area were Rs.41000/- (US\$ 261) per month, with Rs.21000/- (US\$ 6) for food/kitchen items and Rs.5000/- (US\$ 32) and Rs.5400/- (US\$ 34) per month for education and utility bills respectively. The total expenses of households in Jhika Gali area were Rs.25000/- per (US\$ 159) month with Rs.13000/- (US\$ 83) for food/kitchen alone, and Rs.3300/- (US\$ 21) and Rs.2800/- (US\$ 18) per month for education and utility bills. In the adjoining areas the total expenses incurred by the households for these activities were Rs.28000/- (US\$ 178) including Rs.15000/- (US\$ 95) for kitchen/food items.

Housing Conditions

The ownership status of the households survey revealed that more than half (57.4%) of the households were owners of their dwellings, One fourth (26.4%) of the respondents were tenants, while 7.8% lived in inherited houses, and 7% living with parents (Table 2). Lower Bazar was a high density area, with poor condition of housing and infrastructure. The average age of the building is 43.50 years old, while the houses in Sunny Bank Area were fourteen years old on average. Sunny Bank was also a low income area with poor construction and infrastructure facilities. The respondents of Jhika Gali informed that their houses were thirteen years old on average.

The houses/units in adjoining areas were 18.65 years old. While the type of dwellings survey should that 15.4% of the units were detached houses and 84.6% were semi-detached. About half (45%) of the housing units consisted of two to three bedrooms, 5.2% had one bedroom, while one third of the dwelling were *pacca* (35%) had four to five bedrooms. Rest of the units had more than five bedrooms (Table 2).

As reflected in Table 2, majority (about 74%) of the respondents were living in eighteen hundred square feet house or less (about 6.5marla and less-based on two seventy two square feet for one Marla). Out of that about one fourth (22.7%) were living in seven hundred or less area, (about 2.5 marla) while one third (32.8%) were living in houses/units with areas ranging from eight one to thousand two hundred square feet and one fifth (18.8%) of the respondents were

living in units with area range of one thousand three hundred to one thousand eight hundred square feet. The households of Lower Bazar had to travel 5.23 km to their work place, their children travelled 1.83 km to attend school either by walking or via public transport. For health facilities they traveled 2.65 km, for shopping 1.45km and for any recreational activities 3.20 km (Table 2). The households of Sunny Bank traveled 2.10 km for their jobs, 1.21 km for school, 1.87 for health and 1.49 km for shopping and 0.61 km for recreational activity. While the respondents of *Jhika Gali* said, they had to travel 10.41 km for jobs, school facility was at 3.12 km, for health 3.59 km, for shopping 3.07 km and 2.34 km for recreation. Similarly the households of adjoining areas described that on average they traveled 5.06 km for job, their children travel 2.38 km to attend school, for health 3.33km, for shopping 2.84 km and for recreation 1.78 km.

Cost of the Unit/House and Plot

Overall analysis of the survey shows that the market rate of new units/house was too high to be afforded by the low income group. About 8.1% of the respondents described the market rate of their unit is 10 Lac Rupees (US\$ 6,542) or below, while one fourth (22.5%) said that the market rate of the unit ranged from 10-25 Lac Rupees (US\$ 6,542-16,352). Nearly 17.8% described it in the range of 25-40 Lac Rupees (US\$ 16,352-26,162) and 14.7% said that market cost of the unit lied between 40-55 Lac Rupees (US\$ 26,162-35,973). About 1/3rd (29.4%) did not know about the market cost of the unit/house (Figure 1).

Discussion

The analysis of data shows that average HH size is 6.5 in all the residential areas of Murree city, while it is highest (8.1) in Sunny Bank and its adjoining areas including Motor Agency and Kuldana Road. HH size has a direct relationship with housing affordability in many aspects. On one hand the increase in HH size tends to increase the earning members, (Salleh et al, 2014) which in turn adds to the income of household leading to rise in affordability and increases the housing and non-housing expense, which tend to lower the affordability (Stone, 2006). Increase in HH size raises the housing demand and desire for house ownership and need for extra housing.

In line with research of Tan (2012) higher HH size demands more housing on ownership basis as witnessed in the present research. Analysis shows that majority (62%) of the respondents were married, and as per Coulsen's (1999)

Table 2: Housing Conditions in Muree

Items		Sunny Bank (%)	Jhika Gali (%)	Lower Bazar N(%)	Adjoining Areas N(%)	Average
Sample Size		19.2	17.7	25.4	37.7	100
Ownership Status	Tenant	10.0	10.0	11.5	11.5	43.1
	Owner	9.2	7.7	13.8	26.2	56.9
	Other	0	0	0	0	0
Housing Type	Pacca	13.1	12.3	20.3	25.4	70.8
	Semi Pacca	6.2	5.4	5.4	12.3	29.2
Dwelling Type	Detached	3.8	5.4	1.5	4.6	15.4
	Semi Detached	15.4	12.3	23.8	33.1	84.6
Age of Building (Years)		14.00	13.01	43.50	18.65	23.85
Plot/Unit Size (Sq.ft)	700 or less	3.1	4.6	10.0	4.6	22.3
	800 - 1200	4.6	6.2	6.9	14.6	32.3
	1300 - 1800	3.1	2.3	6.2	6.9	18.5
	1900 - 2500	3.1	.8	1.5	2.3	7.7
	2600 - 3200	1.5	2.3	0.0	5.4	9.2
	3300 - 4500	3.8	.8	0.0	3.1	7.7
	Othres	0.0	.8	.8	.8	2.3
Average Distance Traveled to Avail Facilities (km)	Employment	2.10	10.41	5.23	5.06	5.55
	Health	1.87	3.59	2.65	3.33	2.92
	School	1.21	3.12	1.83	2.38	2.15
	Recreation	61	2.34	3.20	1.78	1.99
	Shopping	1.49	3.07	1.45	2.84	2.27

Annual Rent in Thousand Rupees	Annual Rent in Thousand Rupees
20 and Below	6.5
21- 45	16.1
45 - 70	16.4
71 - 95	19.4
96 - 120	25.8
121 - 150	12.9
121 - 150	3.2
Total Tenants (31)	100

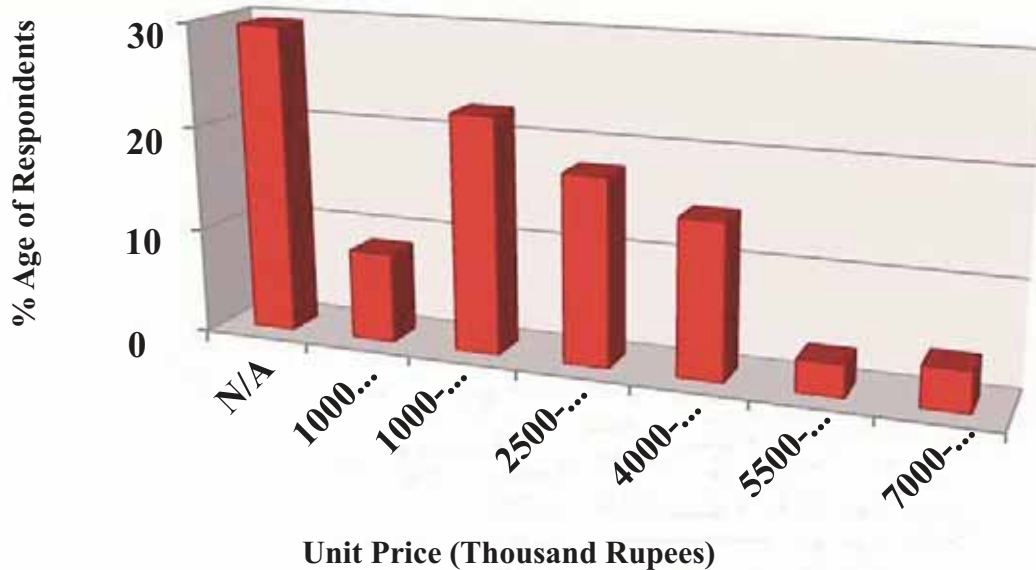


Figure 1: Relationship between age of respondents and house prices

research, which supplements the analysis that married couples desire to own a house to have more privacy and healthy living for their children, thereby affecting the ownership rates. Higher HH size indicates overcrowding, especially in smaller units particularly in Sunny Bank and Lower Bazaar areas. A separate room or even new housing facility is arranged when a male household member is getting married, which requires additional money for housing. According to the local people they usually manage the additional money through borrowing from relatives and close friends. On the other hand, research of education level shows that residents of Sunny Bank and its adjoining areas were highly educated with median education status of Bachelor/University level. The median education level of Jhika Gali and adjoining areas, including Kashmir Point and MIT colony was secondary level. The lowest level of education was found among the respondents of Lower Bazar Area, which represents the oldest living areas of Murree. One of the reasons as stated by previous studies (Roween, et. al., 2014; Braconi, 2001; Spencer, 2010; Bratt, 2002), of low level education is related to the poor quality and overcrowded housing conditions, that tends to create stress and leads to lower education outcomes and low paid jobs. Thus more affordability problems are faced by these households as compared to those living in better housing conditions with good education status (Saleh, et. al., 2014). Research results also elaborate that higher education status in particular areas leads to enhanced living conditions and increased demand for affordable housing which affects ownership rate (Tan, 2012; Clark, 2006). Highly educated

households have more chances of getting good paid jobs and avail these on priority, and in turn meet their housing and non-housing expenses.

The findings also revealed that more than half of the respondents (57.4%) were house owners and one fourth (26.4%) of households were tenants due to various reasons, i.e. lacking finances to buy a property. The reasons also cited for living in rental property were accessibility to job and other facilities. In owned properties people incrementally improve and add space horizontally or vertically to the houses. In Sunny Bank and Jhika Gali the average age of housing unit was thirteen-fourteen years, that included new constructions (2008-09) in MIT colony and Motor agency, and Kashmir point.

The size/area of majority (55.5%) of the housing units was below twelve hundred square feet. The research by Saleh, et. al., (2014) resonates the findings as high density areas comprise mostly low quality, small size houses and old age units resulting in overcrowding, low education, low paid jobs and safety issues. The results indicate that the households are forced to live in congested living environment, due to low income, high land and construction cost. Due to housing deficit and tourist influx, the rents of units have increased enormously, further creating affordability issues for medium to lower income households. In Murree most of the housing located along the valleys and hillside slopes face land sliding hazards due to heavy rainfall, therefore households have to spend most of their income on repair and maintenance.

Land sliding damages the housing, infrastructure and livelihoods, which in turn affects the safety of life and property (Khan, 2001).

Due to hilly and undulating terrain of the city, it is easier to walk than to move by transport within the city's adjoining areas, as narrated by the respondents. Most households prefer locations near social network, apart from other factors. Apart from Jhika Gali, all the respondents from other areas have job and other facilities like, school, shopping, health at accessible locations. As per Tan (2012) job distances have positive significant relationship with affordability, if the house is located in proximity to employment. This way household affordability increases. The respondents complained about the lack of parks/playgrounds, that affect their wellbeing, which is important for relaxing, playing and social cohesion, as argued by Hugh (2009). Stone's (2006) research argues and the case study shows that household incomes and non-housing/housing expense are correlated and it is extremely difficult for most of the families to meet their daily non-housing/housing needs within these incomes.

About three fourth (67%) of the respondents were earning US \$ 191 or less per month and monthly income of nearly one fourth (21%) of households was below US\$ 115. On the other hand the household's major share of income was spent on food/kitchen expenses, apart from other non-housing expenses, which averaged to US\$ 96 per month for majority of the households. It became extremely challenging for poor and middle income households to save for housing improvement or expansion. So mortgage finance becomes important to assist such families to have adequate housing. In line with Stone's (2006), research it has been observed that higher the income level, higher will be the affordability, as the non-housing expenses will almost be the same for higher and lower income families. In addition, due to higher HH size, more income is spent on non-housing expenses. Higher education increases the income level and affordability, and also increases the living standards, and when living standards are raised it reduces affordability. With increased income, the higher priced unit can be purchased or constructed, and larger loan can be availed. In accordance with the research of Wallbaum, et. al., (2012) the lower income households not only have lower incomes but it is irregular, as most of them are employed in tourism related jobs, which leads to regular income in peak season and irregular in off-peak season. Moreover incomes of most of the lower strata has not increased as compared to the rising prices of food items, education and other utilities. So our findings are in line with previous research of Stone (2006),

as majority of the households are unable to save for housing, while spending for basic non-housing needs, and face affordability problems. Research by Roween, et. al., (2014) show that due to ban on construction, households involved in construction activities remain jobless, further aggravating their financial problems in addition to affordability problems of house ownership.

CONCLUSIONS

This paper has highlighted that housing affordability is related to social and economic determinants. The findings suggest that supply of affordable housing should meet the needs of all households belonging to various socio-economic group. The important social and economic determinants that have a strong relationship to affordability are household size, education status, location, unit/plot size, household income, housing and non-housing expenses, savings, and finally the house construction cost including land/material cost. The construction cost of the house is on rise along with cost of availing facilities, i.e, education, health, utilities, transport, whereas income remains dormant and irregular for most of the middle to low- income households. This makes it difficult to own a house. The variables of the study show that location determinants i.e, distance to school, shopping, job, health, have significant relationship to affordability. In hilly areas like Murree, it would be difficult to avail such facilities if not in proximity.

Most of the respondent of households are willing to improve their housing condition, but lack finances due to low income and higher non-housing expenses. While higher household size and low education in Lower Bazaar area has also highly affected the housing affordability with low savings. Most of the households in such areas are living in overcrowded living conditions, with substandard infrastructure impacting their health, education, income levels and productivity. Findings show that the main constraint in meeting housing requirement is the low income of economically weaker segments of urban community. Reduced and irregular incomes are related to low education and low job skills, due to ban on construction, and especially during off-peak season of tourism.

It is advisable to provide decent and affordable housing with healthy living environment in close proximity to employment and amenities with well-planned infrastructure. The government of Pakistan and private developers should join hands to assist the households in reducing the land and construction cost, with free education and health

facilities, and support income generating activities for middle to low income groups. Furthermore, there should be well conceived and comprehensive master plan with well-planned

infrastructure and amenities focusing on middle to low income group.

REFERENCES

- Arman, M. Zuo, J. Wilson, L. Zillante, G. Pullen, S. 2009, "Challenges of Responding to Sustainability with Implications for Affordable Housing", *Ecological Economics*, vol. 68: 3034-3041
- Bredenoord, J. P., V. Lindert, 2010, "Pro-Poor Housing Policies: Rethinking the Potential of Assisted Self-Help Housing", *Habitat International*, 34: 278-287.
- Bratt R. G., 2002, "Housing and Family Well-Being", *Housing Studies*, vol. 17 (1): 13-26.
- Baqutaya, S. A., S. Ariffin, and F. Raji, June 2015, "Affordable Housing Policy: Issues and Challenges among Middle-Income Groups", *International Journal of Social Science and Humanity*, vol. 6 (6): 20-29.
- Bujang, A. A., Hasmah, A. Zarin, Norhaslina, J., 2010, "The Relationship Between Demographic Factors And Housing Affordability", *Malaysian Journal of Real Estate*, vol. 5 (1): 131-140.
- Bujang, A. A., 2006, "Pemilikan Harta Tanah Kediaman, Satu Kajian Penilaian Ke Atas Pencapaian Matlamat Peraturan Kuota Lot Bumiputra Di Daerah Johor Bahru, "Kuala Lumpur: Tesis Doktor Falsafah, UM.
- Butterworth, I. 2000, "The Relationship Between the Built Environment and Well-being: Opportunities for Health Promotion in Urban Planning", *Victorian Health Promotion Foundation*, Melbourne.
- Braconi, F. 2001, "Housing and Schooling", *The Urban Prospect*, vol. 7(2): 1-4.
- Berry, M. 2003, "Why is it Important to Boost the Supply of Affordable Housing in Australia and How Can we do it?", *Urban Policy and Research*, 21 (4): 413-435.
- Barker, K. 2004, "Review of Housing Supply: Final Report and Recommendations", HMSO, London.
- Bujang, A. A., 2006, "Pemilikan Harta Tanah Kediaman", Satu Kajian Penilaian Ke Atas Pencapaian.
- Coulson, N. E., 1999, "Why are Hispanic- and Asian-American homeownership rates so low? Immigration and other factors", *Journal of Urban Economics*, vol. 45: 209–227.
- Choguill C. L., 2007, "The Search for Policies to Support Sustainable Housing," *Habitat International*, 31:143-149.
- Earnest and Young, 2012, "The Growing Crisis of Affordable Housing in Mena", Jeddah, Affordable Housing Institute.
- GOP, 2013, "Punjab Statistical", Report, Islamabad, Government of Punjab.
- GOP, 2001, "National Housing Policy," Government of Pakistan, Pakistan.
- Goodman, A. C., 1990, "Demographic of Individual Housing Demand", *Regional Science and Urban Economics*, 20: 83–102.
- Hugh, B. 2009, "Land use Planning and Health and Well-Being", *Land Use Policy*, vol. 26: 115-123.
- Haurin, D. R., and Kamara, D. 1992, "The Homeownership Decision of Female-Headed Households. *Journal of Housing Economics*, vol. 2 (4): 293–309.
- Khan, N. A., 2001, "Impact of Landslide Hazards on Housing and Related Socio-Economic Characteristics In Murree (Pakistan)," *Pakistan Economic and Social Review*, vol. Xxxix:1: 57-74.

-
- Lowry, I. S., 1974, *A Model of Metropolis Santa Monica*, California, Rand Corporation.
- Parrillo, V. N., 2002, *Understanding Race and Ethnic Relations*, Boston, Allyn and Bacon.
- Pakistan Bureau of Statistics, 1989, "Population Census", Islamabad, Government of Pakistan.
- Pakistan, A Case-Study," *Canadian Social Science*, vol.7 (4): 58-66.
- Rohe, W. M., and Stewart, L. S., 1996, "Homeownership and Neighborhood Stability," *Housing Policy Debate*, 7(1): 37-81.
- Rosen, S. 1974, "Hedonic Prices and Implicit Market: Product Differential in Pure competition," *Journal of Political Economy*, vol. 82: 34-55.
- Rossi, P.H., 1955, *Why Families Move*, London, Sage Publications.
- Roween, C. C., Almaden, 2014, "Housing Affordability Challenges: the Case of the Median Income Households in Cagayan de Oro City Philippines", College of Arts and Sciences, Xavier University-Ateneo de.
- Rohe, W. M., Van Zandt, S., and McCarthy, G., 2001, "The Social Benefits and Cost of Homeownership: A Critical Assessment of Research, Low-Income Homeownership", Working Paper Series, Joint Center for Housing Studies, Harvard University.
- Suhaidab, M. S., N. M. Tawila, N. Hamzaha, A. I. Che-Ania and H. Basria, 2011; "Housing Affordability: A Conceptual Overview for House Price Index," *Procedia Engineering* vol. 20:346-353.
- Sengupta, U. 2010, "The Hindered Self-Help: Housing Policies, Politics and Poverty in Kolkata, India", *Habitat International* vol. 34: 323-331.
- Suhaida, M. S., N. M. Tawil, N. Hamzah, A. I. Che-Ani, H. Basri, M.Y. Yuzainee, 2011, "Housing Affordability: A Conceptual Overview for House Price Index", *Procedia Engineering*, vol. 20 (2011): 346 – 353
- Stone, M. E., 2006 "What is Housing Affordability? The Case for the Residual Income Approach", *Housing Policy Debate*, vol. 17(1): 151-184.
- Salleh, N. A., N. A. Aini., Yusof, N. Johari, Y. Talib, 2014, "Identifying Variables Influencing Tenant Affordability to Pay Rent in Ipoh City Council Public Housing", *EDP Sciences*.
- Spencer, A. 2010, *The Impact of Affordable Housing on Communities and Households*, University of Minnesota, Humphrey Institute of Public Affairs Minnesota Housing, Research and Evaluation Unit.
- Stone, M. 2006, "What is Housing Affordability? The Case for Residual Income Approach," *Housing Policy Debate* , vol. 17(1): 151 – 184.
- Tan, T. H., 2012, "Meeting First-Time Buyers: Housing Needs and Preferences in Greater Kuala Lumpur," *Cities*, vol. 29: 389-396.
- Tan, T. H., 2009, "Homeowning Motivation in Malaysia", *Journal of Accounting-Business and Management*, vol. 16 (1): 93-112.
- Tan, T. H., 2011a, "Neighborhood Preferences of House Buyers: The Case of Klang Valley, Malaysia", *International Journal of Housing Markets and Analysis*, vol. 4(1): 58-69.
- Quan, and Hill., 2008, "Measuring Housing Affordability: Looking Beyond the Median", Discussion Papers 2008-09, School of Economics, The University of New South Wales.
- UN-Habitat, 2008-09, "Country Programme Document-Pakistan, United Nations Human Settlements Programme," Regional Office for Asia and the Pacific
- UN-Habitat, 2010, "Planning Sustainable Cities Practices and Perspectives- (P-06)," viewed 20-09-2020, from <https://unhabitat.org/planning-sustainable-cities-un-habitat-practices-and-perspectives>.

UN-Habitat, 2011, “Affordable Land and Housing in Asia (Volume 2),” viewed 15-09-2020, from <https://unhabitat.org/affordable-land-and-housing-in-asia-2>.

Wallbaum, H. Y., Ostermeyer, C. Salzer, E. Zea Escamilla, 2012, “Indicator Based Sustainability Assessment Tool for Affordable Housing Construction Technologies,” *Ecological Indicators*, vol. 18: 353-364.

Wallbaum, H. Y., Ostermeyer, C. Salzer, E. Zea Escamilla, 2012, “Indicator based Sustainability Assessment Tool for Affordable Housing Construction Technologies,” *Ecological Indicators*, vol. 18: 353-364.

Zaman, U. K., 2011, “Research Economist, Urbanization of Arable Land in Lahore City in

Zuo, J. M., Arman, L. Wilson, 2009, “Challenges of Responding to Sustainability with Implications for Affordable Housing,” *Ecological Economics*, 68:3034-3041.