The Impact of Housing Finance in Bridging the Affordability Gap for Decent housing in Pakistan - Sana Farrukh

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The Impact of Housing Finance in Bridging the Affordability Gap for Decent Housing in Pakistan

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Being a dissertation submitted to the faculty of The Built Environment as part of the requirements for the award of ***MSc Housing and City Planning*** at University College London:

I declare that this dissertation is entirely my own work and that ideas, data, and images, as well as direct quotations, drawn from elsewhere are identified and referenced.

Signature: *Sana Farrukh*

Date: 20th January 2022

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ABSTRACT

The housing scenario in Pakistan is similar to an over boiling kettle. The real estate market has insufficient homes to house the ever-increasing population because there is a gap between household incomes and house prices. The state has inadequate resources to take the responsibility of providing homes and the private developers have no social obligation towards this responsibility either. In such a situation, the housing market runs on the principle of *to each their own.* Those who can afford a home own it, those who can't are either homeless or rent sub-standard housing.

This research delves into the housing market to study the buying power of the demand side and investigate the level of housing finance available to them from the public sector and private banks. The research uncovers banks are reluctant to provide loans to the middle class consisting of 35% of the population. This is because of the low house-hold income that gives them a high credit risk rating.

After an analysis of the property prices in Karachi, and looking at expenditure patterns, it is uncovered that the middle class might have a large percentage of undocumented income received from other sources. The public sector, therefore, is inefficient at devising policies because it is doing so in the absence of vital knowledge about accurate income brackets. It is unable to also create an incubating environment for financial institutes to perform in.

The research tests the validity of the assumption that there is an affordability gap in Pakistan that is influenced by a scarcity of finance provision through a quantitative analysis.

The study concludes that housing finance is paramount to enhance purchase power and therefore accessibility to decent housing. It recommends that income is formalized and documented so that there is ample provision of housing finance in the market.

1 CHAPTER: INTRODUCTION

Shelter: the most rudimentary need for any individual, has become an asset that is acquired rather than a right that is possessed. In Pakistan the populace of 220 million, continues to grow exponentially in sharp contrast to the sluggish supply of decent housing.

The housing stock that is produced is largely by private developers who look for profit maximization and have no social obligations. Thereby only those who have the financial capacity to pay for housing can seek the right to shelter.

The economically challenged groups in Pakistan make do with substandard rented housing that infringe upon their quality of life.

1.1 THE HOUSING SCENARIO IN PAKISTAN

Pakistan's demographics establish that there is a wide base in lower income classes and a relatively thin middle class with income concentration in the least populous upper class. Therefore, due to the prevalent income disparity, there has been a strong trend of urbanism as people travel to large cities such as Karachi, Lahore, and Islamabad (Alam, 2011).

The heaviest influx is faced by Karachi, which despite being the metropolitan city was not planned to host such a high population (Qureshi, 2010). As a result, the city has been lined by slums and sub-standard housing. Furthermore In the absence of planning a vital connection between housing need and allocation of land is not made because household projections is a procedure that is missing from the planning process ('1 th Five Year Plan 163 Physical planning and housing PHYSICAL PLANNING AND HOUSING', 2013). It is unknown where exactly, what type and how many houses are needed to fulfil Karachi's housing deficit

1.2 THE PUBLIC AND PRIVATE SECTOR

The public sector is burdened by excessive borrowing with PKR 38,006 million outstanding in 2021 (Public *et al.*, 2021), this along with a lack of other resources due to tax evasion with only 2.85 million active taxpayers out of a population of 220 million render the government incapable of providing affordable housing subsidies. ('Fiscal Development', 2018; FBR, 2021)

The public sector has also been inefficient with regularizing prices and creating a favorable economic environment. The construction sector is in an embryonic stage unable to cope with the backlog of more than 10 million units of housing. The shortfall continues to grow logarithmically by 270,000 units annually (Fariha *et al.*, 2018). This is despite the awareness that a thriving housing industry can probably revitalize a flagging economy better than any other industry (Glossop, 2008).

As a result, the housing market is left at the mercy of developers who have value maximizing objectives. The developers shoulder high land prices due to plots being used for parking illegal income as most real estate transactions are cash based underreported(Dawn, 2017). This has artificially risen land price and the cost is transferred to the price tag of built properties, making up large portion of the price. The developers have no formal means of capital raising and rely on inventory sale leading to inflated prices to account for inflation and contingencies (Haq, 2010).

The demand side consists of a minority that has the purchase power to afford large mansions and then in contrast a large portion of the population that lives in informal housing (kaccha makan). In between the two extremities is the middle class that is occupies 35% of Pakistan's population (Nayab, 2011) and is the focus of this study. The middle class is faced with the dilemma of housing unaffordability and its options for housing finance are limited both in terms of internal sources; equity and saving and external sources; mortgages and subsidies.

Similar to the limited role of the public sector, private institutes have a limited real estate portfolio. Apart from a handful banks that risk lending consumer and developer finance, the government-led organization House Building Finance Company Limited

(HBFC) is the only housing finance institution in Pakistan, that provides loans to non-market segments and the middle-class ('Housing Finance in Pakistan', 2010) . The contribution of home financing by commercial banks was Rs. 88.3 million in 2019, while HBFC had a share of Rs. 15.6 million (*SBP Home Finance*, 2021)

The housing finance sector in Pakistan is dominated by high interest rates, low LTV ratios and short loan periods (*HOUSING FINANCE REFORMS IN PAKISTAN* , 2006a). Therefore, housing finance is not an avenue for those challenged groups who live in inadequate rental properties, rather it is for those who are already owners of a decent house.

1.3 RESEARCH QUESTION

"*How might the scarcity of housing finance impact the accessibility to decent and affordable housing?*"

The research question seeks an answer on the impact of housing finance on the buying power of middle-income consumers in Pakistan. The investigation studies if accessibility to decent housing is dependent on enhanced expenditure (purchase power) via mortgage borrowing, subsidies, equity, or other sources. In the wake of the research other impediments in the real estate market are also studied that are specifically in context to Pakistan.

1.4 RESEARCH OBJECTIVES

1. Analyse key literature on housing finance and its impact on affordability of housing

   CONCENPTUAL FRAMING – Analyse key literature on international debates and Pakistan's context

2. Explore affordable housing frameworks and decent housing criteria

COMPARITIVE ANALYSIS – Understand what constitutes as affordable & decent housing internationally & develop a benchmark to compare Pakistan's housing affordability and accessibility specifically for economically challenged groups

3. Scope the market in terms of socio-economic groups and house prices

   QUANTIATIVE MEASURES - income brackets of Pakistan and house prices by size and quality

   DATA INTERPRETATION – discussion of major findings and trends

4. Investigate the current relationship between housing finance and the affordability gap in Pakistan

   CORELATIONAL ANALYSIS – Discussion of socio-political & economic debates around the affordability gap in Pakistan & its association with finance

   POLICY REVIEW – Analysis of recent housing finance policies

5. Recommend measures to bridge the housing affordability gap in Pakistan in terms of equitable finance provision to enhance accessibility for all income strata.

   CONCLUSIVE SUMMARIZATION – Discussion of international examples regarding housing finance policy & strategies along with the scope of local application in Pakistan

2 Chapter: Literature Review

This section sets a background of the history of housing finance and the impact it has had on the housing market in developed and developing countries. It then progresses on to discussing the present housing finance system of Pakistan and highlighting research on decent and affordable housing criteria to create a framework for further research.

2.1 A HISTORIC RECAP OF HOUSING FINANCE

Housing finance is more than a century old concept and has been a part of various economies around the world, albeit in a primitive form during its inception years, and still in a rudimentary stage in many developing countries today.

The definition of housing has evolved from a self-built home to a house that is an asset and requires the involvement of various actors, this is referred to financialization of housing (Aalbers, 2016).

The above phenomena lead to the need for housing finance when urbanization became rampant in large economies and the demand for housing skyrocketed.

When American dream was popularized, every individual thought home ownership was a possibility (Glickman, 2014) but the 2008 financial crisis shows how dependent the mortgage market is on economic conditions and the level of public sector involvement that is needed for its success (Murphy, 2012).

2.2 HOUSING FINANCE SYSTEMS

The Direct finance system or horizontal borrowing from family and friends for incrementally building housing was the first form of housing finance. This system is presently considered a hallmark of economic backwardness (Blackwell and Kohl, 2018). However, it should be noted that this system was commonplace in the 19th century and 75% of housing in USA was funded through direct finance (Blackwell and

Kohl, 2017) and this is still a viable option for countries with limited resources for housing finance.

The statement, "the way cities are built reflects the way they are financed, because methods of financing dictates mode of construction" (Renaud, 1987) does put into perspective that informal means of finance are insufficient to fund large scale housing development, and lead to haphazard development because the housing stock consists of self-built units (Lea, 2009). Unfortunately developing countries are often forced to rely on this method and they thus face its ramifications.

Deposit based finance is another housing system that gained traction in 19th century. These specialized bond based institutes work as saving cooperatives wherein members save to be eligible for a mortgage (Blackwell and Kohl, 2017). This is a formal source of finance however they have a moderate capital raising capacity. Despite this they increased home ownership in UK during the 70's (*Co-operative Housing*, 2016). During this period mutual building societies had an added advantage of providing marginally lower tax rates to its members, which increased savings and in turn the capacity to roll out mortgages. While researchers have been critical regarding deposit-based institutes, these organizations do have the potential to raise a sizable level of capital and could help in increasing home purchases in developing countries. There is a **Karachi Co-operative Housing Societies Union** (KCHSU) that leases land from the government and sub-leases it to its members (*Cooperative Housing | Karachi Cooperative Housing Societies Union - Cooperative Housing*, 1996)

Bond based finance systems rely on the sale of bonds to originate mortgages. These organizations are either state owned or owned by a cluster of banks (Blackwell and Kohl, 2018). This system is capital intensive and thrived in industrialized countries with wealthy individual forming mutual guarantees with peer solidarity. The member guarantee was later converted into an asset guarantee to secure mortgages, and this inspired the modern day mortgage banks (Andersen, 1996).

A fourth housing finance form is state finance according to researchers. This centralized system uses state savings, bank capital, pension, and treasury funds to

disseminate mortgages or subsidies (Blackwell and Kohl, 2017). This method of housing finance is the most capital intensive and if seen in the context of developing countries such as Pakistan, the state does not have the capacity to contribute actively to the housing sector due to tax evasions and public debt. During the great depression there was a high number of maturity defaults, and the banks were in trouble, the Roosevelt administration used the state treasury to purchase these defaulted loans to prevent bank insolvency (History and Tunneling, 2016). If the state at that point in history did not have the competence, then the housing development in the USA might have been very different.

The premise of discussing the various financial systems is the hypothesis that the type of housing finance and level of state involvement in a country's formative years can have a lasting impact on its housing stock, tenure composition and urban development (Kohl, 2015). This holds true for Pakistan as it was formed in 1945 when people from the sub-continent migrated to the country. In its formative years the housing finance systems were not fully established, and this has indeed left a lasting impact on residential real estate in Pakistan as it still is heavily dependent on direct finance and there is a stark scarcity of formal means of finance.

2.3 Pakistan's Housing Finance Sector History

In 1947 when Pakistan was founded, there was a heavy influx of migrants from India leading to a substantial increase in population and a grave housing shortage. The state launched the herculean mission of building 40,000 houses in 1950 but given the meagre resources and the mayhem that followed the independence , this project was shelfed after 10,000 units (Hasan and Arif, 2018). The ramifications of the way housing stocks were financed in the formative years of Pakistan are apparent today.

Before the partition, utilizing the Co-operative Credit Societies Act of 1904, Cooperative housing societies were formed to aid in the provision of finance to farmers. These cooperatives in the 1970's undertook major housing development when the government leased them 1200 acres of land (*Co-operative Housing | Pakistan Archives - Co-operative Housing*, 2019). However, in the 1990s many

cooperatives were involved in fraudulent activities of forging allotment letters to invite members when at times they owned little to no land (Rizwan, 2010). This goes to show that while mutual building societies in countries such as UK were a success amassing a record £16.1 billion savings inflows in 2007 (*Mutual benefits: a look at building societies*, 2009), they are susceptible to malpractice and require regular auditing and transparent bylaws.

Another initiative of the Government in the 1950s was to provide state finance through House Banking Finance Corporation (HBFC). The funds were supplemented by State Bank of Pakistan (SBP) and then disseminated as loans at subsidized rates (*House Building Finance Company*). However as has been established earlier the state has limited resources, and HBFC was privatized and had to depend on consumer repayments to originate loans ('HOUSING FINANCE REFORMS IN PAKISTAN Strategy for Strengthening the Real Estate Development Process', 2006b). The high level of defaulted loans and lack of regularization deemed it an unsuccessful organization by World Bank, however it had 80% share of the formal financing loans in 2006 (World Bank, 2008). HBFC faced several setbacks and lacked the capital reservoir needed to fund mortgages at below market rates, nevertheless it has been a fundamental part of Pakistan's housing finance sector.

Development finance Institutes are another Government funded organization that initiated providing housing finance on the supply side. Their funds were mainly dependent on the interbank market (Analysis and Institutions, 2017). The funds were scanty and therefore their presence in the housing finance market has shown similar traits.

Other sources of finance include REITS (real estate investment trusts), private mortgage banks and NGOs but for similar reasons as those discussed above they are few in number and remain risk averse when it comes to real estate (Securities, 2005)

This historical analysis of the literature on housing finance sector is fundamental for the research because it sets a baseline for the past performance of the sector and

how it has impacted the housing sector by offering little to no support in bridging the affordability gap due to the scarcity of housing finance (Kohl, 2018).

This sets the background for the next section that reviews the new policies introduced in 2019.

2.4 CURRENT FINANCING SYSTEM

The Naya Pakistan Housing Program (NPHP) launched by the current government in 2019 aims to build 5 million homes within 5 years, with an average home price of 3 million (*NAPHDA | Naya Pakistan Housing & Development Authority*, 2019)

The Government will play the role of a facilitator by acquiring the land, approving builders, and duly allocating the units. The developer will not be granted subsidized land but the option of deferred payment by using sale of inventory (Khalil and Nadeem, 2019). A potential drawback of pre-selling is price hedging to account for inflation and results in delay in project delivery because construction is dependent on consumer instalments (Edelstein, Liu and Wu, 2012; Costa Nicodemou, 2017)

The focus of NPHP is single family low rise units as it makes up 58% of the housing stock in major cities (*NAPHDA | Naya Pakistan Housing & Development Authority*, 2019) these will be constructed on the urban peripheries to avail low land costs, however they will result in a transport cost burden on the residents.

Additionally in the city centres high-rise building stock will be constructed to justify high land costs but low budget and lack of maintenance could result in ghettoization (Khalil and Nadeem, 2019).

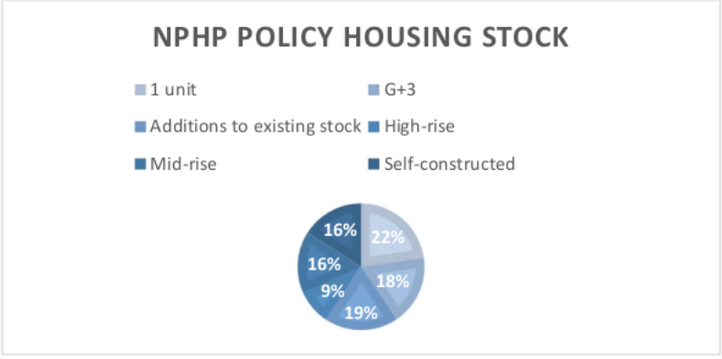


Figure 1: NPHP Policy Housing Stock

NPHP has reserved 81% of residential units for low-income groups whereas 19% units are for the accommodation of middle-income groups as can be seen in figure 1 (Nadeem, Asim and Muiz, 2020). The down payments from potential residents can help the project work towards its aims but it is still a very ambitious project when the public sector has limited means at its disposal.

In order to deliver 5 million homes in 5 years, an average of 2,740 homes need to be constructed daily (Nadeem, Asim and Muiz, 2020). Given that 4 years have already gone by and there is a lack of documentation on the number of units built the project can be called unrealistic.

The dissemination of information about this scheme has been scanty and potential borrowers have complained about the lack of awareness and knowledge the banking staff have of the policies and terms of NPHP. There is also a high non-refundable processing fee that ranges between PKR 2500 to 8000, (Nadeem, Asim and Muiz, 2020). The loan application can be rejected despite this fee.

This shows that banks are trying to mitigate risk and unconsciously deter providing consumer finance and the borrowers are equally reluctant.

2.5 HOUSING STANDARDS

2.5.1 Decent Housing Standards

The definition of decent housing is subjective and might change according to the economic capacity and condition of countries. This section will draw international and local comparisons to discuss some key universally agreed feature that qualify housing as decent and livable.

An important standard of decent housing is size of the unit. In Pakistan 1 bedroom apartments can be as small as 27.5 m² (33 sq. Yds) (*Pakistan Real Estate - Zameen.com*, 2021). As there is no data regarding the average residential floor space per capita in Pakistan, the 1-bedroom figure of 27.5 m² can be used to compare the floor space per person in developed countries in table 1. The average space per capita in Austria is more than 3 times the space in Pakistan (*Average house size by countr*, 2009).

Table 1: Average Residential Floor Space (How big is a house? Average house size by country – shrinkthatfootprint.com, 2009)

Country	***Average Residential Floor Space per Capita (m²)***
Austria	*89*
United States	*77*
Canada	*72*
Denmark	*65*
Germany	*65*
France	*43*
Greece	*45*
Sweden	*40*
UK	*33*

Countries such as UK since 2009 have worked on increasing minimum size standards. The new standard stipulates a one bed, one person unit would have to be a minimum of 37m² while a three bed, five person unit would be a minimum of 93m². (RIBA, 2015). Unfortunately, there is no minimum statutory standard in Pakistan due to the weak implementation of an overarching planning system.

In 2010 a survey concluded that 25% of the housing stock in Pakistan are 1 bedroom apartments and 69% housing is 2-4 bedroom (Haq, 2010). As the average family size is 6 and on average there are 3 persons per housing unit ('Housing Indicators - 1998 Census', 1998), overcrowding is very common in Pakistan. The lack of space in homes can often be claustrophobic for residents and infringe on personal space and privacy. The middle class forgoes quality for affordability of homes that are not considered decent.

The housing stock in Pakistan is categorized in kutcha housing (temporary and semi-permanent housing) and pukka housing (permanent housing). Pukka housing bears a heavy price tag but does not necessarily imply quality living standards as the building standards are often poor and unsupervised by building authorities (*HOUSING UNITS BY CONSTRUCTION MATERIAL | Pakistan Bureau of Statistics*, no date).

The quality of life suffers when basic amenities and rights such as access to sanitation, ventilation and utilities is not provided and often results in mental and physical health issues.

2.5.2 Housing Affordability Measuring Standards

While there are various international measures of housing affordability, there is a lack of international consensus as they can be subjective and at times do not consider various factors that might impact affordability (OECD, 2020)

In terms of renting, housing is generally considered affordable if it consumes 30% or less of the household income for rent (Meen, 2018). Many other researchers have agreed to the 30% rule (Huduser, 2017) however they have also concluded that 30%

rent consumption can lead to housing stress and may lead to insufficient funds for non-housing consumption (Herbert, Hermann and Mccue, 2018).

The 30:40 ratio rule is more accurate as it investigates the bottom two income quintiles (i.e. 'bottom' 40%) who spend 30% of their income towards rent or mortgage payments (Meen, 2018). Unfortunately, in Pakistan where income brackets are not clearly documented and rental rates are depressed, the 30% rule becomes inapplicable because while rents might be considered affordable, they do not necessarily entail quality housing.

In terms of housing ownership, it is a general understanding that a household can afford an investment that is 2.7 times its annual household income when provided with credit. Personal savings and family loans can stretch this out to 3.5 times the annual income (GOP, 1986). However, the chance of saving large amounts is difficult given the inflated prices of essentials and large family sizes.

Other affordability measures include income to price ratio, mortgage affordability ratio and price to rent ratio (Meen, 2018) and are explored in later parts of the research.

2.6 RESEARCH GAP

An extensive review of the present literature on housing finance and housing affordability affirms that there is a strong relationship between them as housing is essentially an asset that needs to be bought either with equity or external finance.

There is a gap in the literature in context to Pakistan as there is a dearth of research on this subject. It is so because housing finance has not been popular means of funding housing in Pakistan due to various reasons. The study attempts to analyse the housing finance system in Pakistan and how the policies address the income demographics. Income is an important determining factor both for public sector polices and mortgage approval by private financial institutes. The study therefore

aims to contribute to the literature by studying the relationship of housing finance and affordability of decent housing with a focus on income brackets in Pakistan.

3 CHAPTER: METHODOLOGY

This section explains the methods that were used to achieve the objectives of this research and to answer the overarching research question.

3.1 RESEARCH QUESTION

Assumption

The research question: *How might the scarcity of finance impact the accessibility to affordable and decent housing in Pakistan?* is constructed with the assumption that there is prevalence of scarcity of finance provision in Pakistan. The section 3.3 explains how this assumption is tested via the quantitative analysis.

Main Hypothesis

The main hypothesis of the research is that housing finance can impact the accessibility to decent and affordable housing. Section 4 of this research reports on the main findings of this hypothesis.

Sub Questions

- What is decent housing?
- What is affordable housing?
- What factors cause the scarcity of finance?

3.2 METHODS

The study has mainly relied on secondary data found through desk research and records maintained by the Government. It has used this data for quantitative analysis through ratios. The research has also gained insight through informal discussions with industry leaders. This was not recorded and does not compromise the ethics of the research. These discussions helped the researcher tap into the correct sources for information. Grey literature has been used to verify sensitive information that is not published on official sources.

3.3 SELECTION OF CASE STUDY

Karachi has been selected as a case study to analyse the impact of housing finance on housing affordability.

The selection was deemed appropriate because Karachi is the metropolitan city of Pakistan and has faced a high influx of immigrants and refugees in lurch of employment avenues. As a result, it is densely populated and has expensive property prices in city centres.

There is a high demand for housing but there is a deficit of units because of insufficient funds on both the demand and supply side coupled with various other interlinked factors. Therefore, Karachi has been used in the quantitative analysis specifically however examples from Pakistan at large have been taken to construct this research to create a holistic discussion.

3.4 DATA COLLECTION

The data for this research has been collected through desk research given the limitations of COVID-19. The two sets of data are property prices and income brackets that have been used to calculate the affordability ratio and mortgage affordability ratio.

3.4.1 Income Brackets

Income brackets are a measure of the economic capacity of a household or an individual and determine the quality of housing a household can afford. This data is vital to the study because tests the assumption that there is a scarcity of housing finance in Pakistan.

The data of household incomes has been collected from Pakistan Bureau of Statistics (PBS) that conducts the census in Pakistan and keeps demographic, educational, medical, and social records. However, the data appears to be inaccurate as it depicts an unrealistically low average household income. To corroborate this speculation, experts in the banking industry have been consulted who advise an examination of consumption patterns and income sources. The data of consumption patterns of

necessity goods and vehicles has been compiled and interpreted to comment on the reliability and validity of the data on income brackets.

Data collection was a particularly challenging part of the research given that a national census is not an annual feature of Pakistan, and it takes place after a gap of 2-3 years. The census that does take place has been criticized for being biased and lacking transparency for political reasons.

After cross checking the data quality of income brackets through consumption and expenditure patterns, it was established that the official data is erroneous hinting towards an undocumented economy. To further strengthen this assumption, other sources of income were studied such as remittances. Other undocumented livelihood sources such as unregistered business revenues and unethical practices of tax evasions were also investigated.

This was done to quantify the size of the undocumented economy of Pakistan alongside the study of literature on this phenomenon. However, the existing literature did not show unanimity of scholarly opinions therefore an explicit quantification of the size of the undocumented economy could not be made in the findings of the research. However, there is sufficient evidence of its existence to label income bracket data inaccurate.

This finding has been integral in formulating a conclusion in the later sections of the research regarding the scarcity of housing finance in Pakistan.

3.4.2 Property Prices

This data is divided into two subsets – rental data and purchase prices. This data has been used to construct the affordability ratio and the house price to rent ratio in the quantitative analysis of the research.

To study the real estate market of Karachi, 9 major areas were selected and classified into 3 groups. This was done based on the level of property prices, with group 1 having the lowest prices and group 3 having the highest prices.

These submarkets were selected because they are densely populated residential hubs with a vast range of economic groups residing within them.

The prices and rental rates were collected from Zameen.com a reliable residential and commercial real estate website that specifically caters to property in Pakistan.

The data was corroborated with experts in real estate advisory and appears to be reliable.

- Group 1

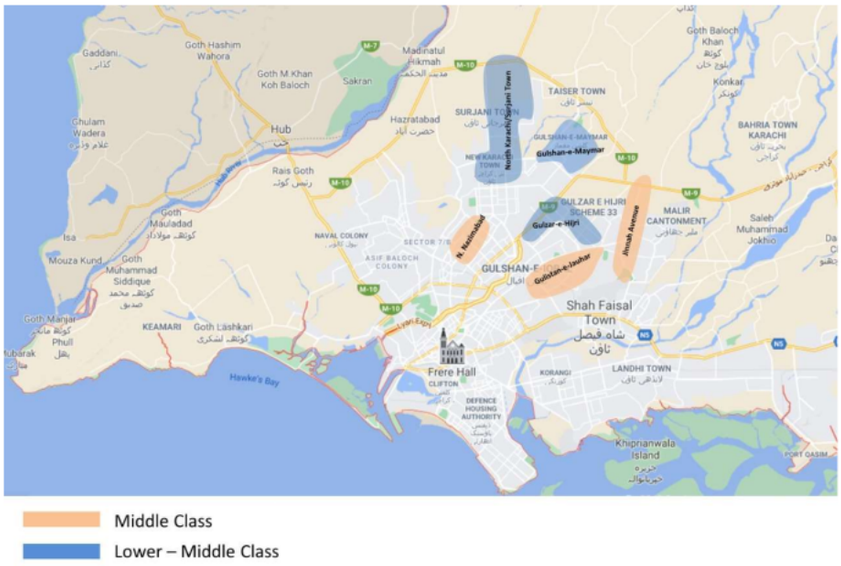
Group 1 comprises of Surjani Town, Gulshan-e-Mayamar and Gulzar-e-Hijri. These sub-markets attract lower-middle class families and are dubbed as affordable housing. The inclusion of these sub-markets aids in studying the assumptions; (1) this might not constitute as decent living, (2) these are rented by most residents and not owned, (3) rental rates are depressed in Karachi.

- Group 2

This group consists of Jinnah Avenue, Gulistan-e-Johor, and North Nazimabad. These are categorized as mid-range properties in Pakistan; therefore, they are presumably targeted towards the middle class. The data from these properties is not only vital in constructing the affordability ratio of Karachi but in also drawing further evidence of the undocumented economy of Pakistan. This is discussed in the main findings section.

- Group 3

This group is a collection of some of the most expensive sub-markets of Karachi. It includes Clifton, PECHS and Shaheed-e-Millat that have one of the costliest properties of Karachi. This data aids in creating a comprehensive situation of the residential real estate of Pakistan. It enables a comparative analysis in standards of decent housing and adds to the debate of the undocumented economy of Pakistan.



Picture 1: Area Mapping of Properties

3.5 QUANTITATIVE ANALYSIS

3.5.1 Affordability Ratio

An affordability ratio has been constructed to study the assumption that there is a scarcity of housing finance in Pakistan and therefore an affordability gap.

The two key variables are house prices and income brackets that have been set up as a ratio using the formula below.

$$\frac{\text{House Price}}{\text{Income}}$$

The housing affordability ratio has been made on excel by averaging property prices based on number of bedrooms. Separate affordability ratios have been calculated for1, 2-, 3- and 4-bedroom apartments respectively. This is because the research investigates affordable yet decent accommodation. The premise of this logic is to facilitate in the argument that large families often live in crowded conditions and just because the rent or house price is affordable, it is not always decent accommodation.

The results from this data are compared to the average family size which has been derived from PSB.

3.5.2 Mortgage Affordability Ratio

This ratio studies the percentage that debt service payment consumes of the monthly income. The purpose of this ratio is to understand the debt burden and to comment on how realistic it is in Karachi.

The mortgage terms have been acquired from the Naya Pakistan Housing Policy under their product Mera Pakistan Mera Ghar. The loan terms with mild variances are available on all leading bank's website in Pakistan but for the purpose of this research, Meezan Bank has been selected.

The major variables in this calculation are average income, average property price, interest rates, KIBOR rates and loan period along with policy guidance and restrictions. The average property price of a two-bedroom apartment has been used as this is the most common accommodation for families in Pakistan.

An amortization schedule has been set up on excel to calculate the monthly payments that consumers are to make. As these are fixed mortgage loans but with two interest rates for the first and last 5 years respectively, there are two monthly payment amounts.

The monthly payment amounts have been used in the ratio along with the monthly average income by using the formula below

$$\frac{\text{Monthly Pmts}}{\text{Monthly Income}}$$

This ratio is vital in the discussion of the performance of the new housing finance policies in Pakistan and how viable they are in catering to the masses.

3.5.3 Housing Affordability Index

A housing affordability index has been calculated using the median household income sourced from appendix 1 and the required income to qualify for a mortgage using the debt terms in table 6.

$$\text{HAI} = \frac{\text{Median Household Income (MHI)}}{\text{Required income to qualify for a mortgage (RI)}}$$

3.6 RENT TO PRICE RATIO

As the study claims there is an affordability gap and that the incomes are undocumented, it is essential to investigate the most common tenure type in Pakistan.

The formula given below utilizes two variables; average house price that has been derived from group 1 and 2 (appendix 1) and average rent (multiplied by 12) is extracted from table 9

$$\frac{\text{Average House Price}}{\text{Average Annual Rent}}$$

3.7 HOUSING STANDARDS

A key objective of this research is to determine what constitutes as decent housing to ascertain quality of living standards that should not simply be based upon an affordable price tag.

For this purpose, a thorough literature review has been undertaken to stipulate housing stands across various countries. The lynchpin of this section of the research is to set up a benchmark through which housing standards and the average affordable housing can be compared to with variables such as family size, number of rooms, house area and availability of amenities.

3.8 RESEARCH ETHIC & RISK

The methodology and research herein have maintained the ethical guidelines submitted in the risk assessment and ethical clearance questionnaire. All data considered herein is publicly available and includes no personal details.

4 CHAPTER: MAIN FINDINGS

4.1 THE DEMOGRAPHICS OF PAKISTAN

Pakistan has a young population as 60% of it under the age of 30. Traditionally there are large households as combined families live together. However, given the stark rise in property prices and family sizes, households have started to break into nuclear families living in rented apartments. New parents are seemingly unable to afford the type of housing, the generation before them was able to.

As housing has been financialized and is an asset, this research looks at the income demographics of Pakistan to see what the average market can afford. The research's focus is affordability and availability of housing finance therefore as stated before the middle-income bracket has been studied.

4.1.1 Pakistan's Middle Class

The income distribution of Pakistan suggests that 35% of the populace makes up the middle-class demographic. The data gathered from Pakistan Bureau of Statics (table 2) results in an average middle class income of 41,128.4 (PBS, 2019b). While a large mass of the population does have incomes as low as this and even lower, the general expenditure and consumption patterns make this number look unrealistic. Further investigation led to finding the economic indicator survey conducted by the same organization, the monthly household income was PKR 53,010 and the monthly expenditure was PKR 47,362 (PBS, 2019a)

There is a lack of uniformity in the data collected by the same organization during the same period of 2018-19 and this initiated further exploration into the reliability of the data. This data set is fundamental to the research because of the research's hypothesis that scarcity of housing finance leads to limited accessibility of decent housing. Equity is a fundamental source of housing finance and therefore its sources were explored.

Table 2: Income Brackets by Pakistan Bureau of Statistics

Q	U	R
1st	24,365	22,819
2nd	30,210	29,743
3rd	34,789	31,705
4th	41,084	38,094
5th	75,194	56,244
Q=Quintiles, U=Urban, R=Rural		

4.2 THE UNDOCUMENTED ECONOMY

The differences in the information on income bracket and the observably low average income led to the assumption that there is a large proportion of undocumented income in Pakistan. The findings from other income sources are reported below

4.2.1 Remittances

The middle-income bracket families usually have a family member abroad who sends in remittance that helps enhance the financial capacities of the family. An estimated of $29,371 million remittance was transacted in FY21 (*State Bank of Pakistan*). However, the high transaction cost of the transferring funds through official channels has led families to rely on illegal mediums such as the hawala system (Informal Value Transfer System). This has also adversely affected the exchange rate (Maimbo *et al.*, 2005). Nearly 50% of remittances are received from informal sources amounting to $14.7 Billion (*State Bank of Pakistan*).

A research reported that remittances has a positive impact on housing demand and is also a solution to over-crowding as people are able to move to larger homes with remittance funds (Ahmed, Iqbal and Mustafa, 2020). Therefore, remittances are a vital contributor of household income and help bridge the affordability gap. However, quantifying their impact is difficult due to undocumented funds.

4.2.2 Unregistered Businesses

The most common sources of household income is through employment amounting to 54%, however, 24% of the population is self-employed (PBS, 2019b). There is a strong trend of home businesses in Pakistan wherein people offer goods and services either on an online platform or at their residence. Many of the businesses operating from home often do not have a commercial activity permit nor are they registered. These unregistered enterprises amount to 2.787 million nationwide excluding Karachi (Khan, 2019).

While the earning from such business improves the quality of life and positively impact the economy, they remain unregistered earnings. Thus, the official income strata statistics are unrealistic and inaccurate.

4.2.3 Tax Evasion

Tax evasions are a common phenomenon in Pakistan as window dressing and unregistered businesses drastically reduce the net worth of taxpayers thereby, they either pay less or not at all. The total tax paid in the August 2021 was PKR 2.85 million (Government of Pakistan, 2021) in a country with a population of 226 million.

Therefore, the proportion of the income that should have been tax is withheld and acts as an added source of income. This also enhances expenditure abilities and purchase power but is again undocumented.

4.2.4 Consumption Patterns

A typical family with an average household size of 6 will spend 48% on essential food items and 5% on utilities (Siddiqui, 1982). This already accounts for more than 50% of the monthly expenditure with the remanent spent on housing (12%) and other miscellaneous expenses. The recorded average income by PBS is insufficient for ownership of an average priced 2 Bed apartment costing PKR 9,537,250. However, there is some level of home ownership along with vehicle ownership in the average income bracket of Pakistan, albeit it is low. The highest quintile of Pakistan has a monthly income of PKR 75,194 however the number of car sales in just August 2021 were 20,669 and motorcycle sales were 145,197 (Pama, 2021)

The consumption patterns in Pakistan indicate that the income distribution pyramid has a wide base consisting of an economically challenged strata, with low household incomes and a narrow top that has an income that is much higher than recorded, as luxury goods are rampantly consumed.

4.3 DATA RELIABILITY RESULT

The consumption patterns and data from remittance transactions, tax payments, and unregistered businesses indicate that large proportions of income are unrecorded. Therefore, the data extracted from Pakistan bureau of Statistics is unreliable because the census does not take place yearly and the last census was in 2017.

It is difficult to determine the size of the undocumented economy but various experts in the field have made estimations due to the lag of transparent census data. Various sources have used different methodologies to estimate a figure between 35-56% of the GDP of the economy. (*Informal sector - Newspaper - DAWN.COM*, no date) (*Eco Nano | Pakistan*, no date) (Schneider, Mughal and Schneider, 2018).

Therefore, the research establishes that the official data on income brackets is inaccurate and unreliable due to various political agendas. The unavailability of reliable data poses several challenges for the research and infringes upon its empirical soundness. Thus, the international definition of middle-class income by World Bank has been consulted. The GNI per capita of lower middle economies is up $4,095 which is PKR 58,911 (*World Bank Country and Lending Groups*). A newspaper article makes reference to world bank's definition of middle class and states that an average middle class individual earns up to $300 a month (*Profit by Pakistan Today*, 2020). This is PKR 51,000 when the dollar rate as of FY21 is equivalent 170 Rupees. The dollar has recently appreciated against the rupee.

That Pakistan Bureau of Statics records the average income to be PKR 41,128 or 53,010 and world-bank defines lower middle economies to have an average income of PKR 51,000-58,911. These data sets and the gap within them have led the researcher to estimate the average middle-class income to be PKR 56,000. This income is the average for the 35% of the population and does not represent the average for the whole population.

It is important for the analysis of this research to identify that the Income data is skewed because it directly impacts the outcome of the research. The quantitative

analysis uses the estimated figure based on the undocumented income evidence and world-bank definition however the Naya Pakistan housing policy is still made according to the data by PBS. This issue and how it influences the scarcity of housing finance in Pakistan will be discussed further in the latter part of this section.

Table 3: Income Bracket sources and coding

Source	Code	Average Income Bracket
PBS b	IB1	493,541
PBS a	IB2	636,120
World Bank	IB3	672,000

4.4 The Affordability Ratio

The affordability ratio forms a part of the quantitative analysis of the research. The two variables utilized in this ratio are income and house prices as explained in section 3. As established earlier that the income data by PBS is skewed therefore 3 different average incomes have been utilized in the ratio analysis. The average income figure that this study deems reliable is IB3 in table 2.

The reason for including the unreliable data of PBS in the analysis is to further demonstrate its unrealistic portrayal of the residential real estate market of Karachi, this will be discussed further later.

The rationale for conducting an affordability ratio was to investigate whether there is an affordability gap in Pakistan because the study has assumed in its research question that affordable housing is inaccessible to many households.

This section will first report results from the affordability ratio followed by an interpretation of results, using the affordable and decent housing criteria discussed in section 2.

Results

The major observations from the affordability ratio are reported below.

R1. All the 36 properties used in the quantitative analysis are unaffordable.

R2. The properties categorized as group 1 are the most affordable whereas group 3 has the highest affordability gap.

R3. The greater number of rooms a housing unit has the higher the affordability ratio.

R4. The affordability ratio of source IB1 and IB2 is unrealistic.

Interpretation

The results of the affordability analysis affirms that there is a predominant affordability gap as the personal equity of the average middle-income family is insufficient to purchase the lowest priced properties in the market.

To understand the performance of the housing market in terms of affordability, a contrast with the affordability ratios from other developed countries has been made. The affordability ratio in England is 7.84 and 11.78 in London due to expensive properties. These figures are representative of the entire population including the lower quartile. Whereas the affordability ratio conducted by this research only takes the average income on the middle-income quartile consisting of 35% of the population.

The criteria that make accommodation affordable is that it is 2.7 times the annual income. While saving is not an option for many families due to the large size, saving approximately 2.7 years of income over a long period of time might be possible. However, none of the properties are accessible in this amount and it would require saving the income of 3.7 years to be able to afford the most basic 1 room apartment. The average family size is 6 and as mentioned in R3 above, the price of properties escalates when there are a higher number of rooms. The affordability ratio in group 1 for a 3-bed apartment is 16.22 and the properties in this group have the lowest cost.

This potentially means families are living in over-crowded accommodations with more than 2 people per room.

The validity of the affordability ratio results is dependent on the reliability of the income brackets. As it has been established that there is an undocumented economy in Pakistan, it is safe to remark that the affordability ratio is high in Pakistan due to the large affordability gap, however it is assumed that it is lower than the calculated ranges in (tables 3,4 & 5). Otherwise, it would be a paradox as to how people are living in large homes ranging up to Rs. 33 million and above when the highest salary bracket is Rs. 75,194.

Table 4: Affordability Ratio for Group 1

	Average Price	Source	Affordability Ratio
1 Bed	2,350,000	PBS b	4.76
		PBS a	3.69
		World Bank	3.50
2 Bed	6,109,455	PBS b	12.38
		PBS a	9.60
		World Bank	9.09
3 Bed	10,900,000	PBS b	22.09
		PBS a	17.14
		World Bank	16.22

Table 5: Affordability Ratio for Group 2

	Average Price	Source	Affordability Ratio
2 Bed	9,508,182	PBS b	19.27
		PBS a	14.95
		World Bank	14.15
3 Bed	16,525,000	PBS b	33.48
		PBS a	25.98
		World Bank	24.59

Table 6: Affordability Ratio for Group 3

	Average Price	Source	Affordability Ratio
2 Bed	28,550,000	PBS b	57.85
		PBS a	44.88
		World Bank	42.49
3 Bed	37,488,889	PBS b	75.96
		PBS a	58.93
		World Bank	55.79
4 Bed	57,312,500	PBS b	116.13
		PBS a	90.10
		World Bank	85.29

4.5 MORTGAGE AFFORDABILITY RATIO

The Mera Ghar Mera Pakistan scheme that is being offered by private banks currently allows the borrower a mortgage for a house worth PKR 3.5 million as the maximum limit. While this is a large sum it might not be sufficient for a 3-bedroom house given the steep land costs. This amount however has been used for the mortgage affordability ratio against the average middle-class income of 56,000, using the formula stated in section 3.3.2. The terms of the loan are in table 6 below.

Table 7: NAPHDA Loan Terms

Tiers	Size of Housing Unit	Maximum Price of Housing Unit	Maximum Financing	Minimum Contribution from customer	Rental Rate
Tier 1 (T1) (NAPHDA Projects)	125 sq.yds	Rs. 3.5 million	Rs. 2.7 million	10% of property value	3% (fixed) for first 5 years and 5% (fixed) for next 5 years. For period exceeding 10 years = 1-year KIBOR+2.5%

The interest rates offered by the scheme are 3% for the first 5 years and 5% for the last 5 years, resulting in a monthly debt service of Rs. 26,361 and 27,685 respectively. KIBOR is not applicable as a 10-year loan has been used. However as maximum financing amount is Rs. 2.7 million, 22% down Rs.770,00 is applicable. This might be difficult for most middle class families to pay upfront.

To calculate the mortgage affordability ratio the higher payment amount of 27,685 has been used as banks look at the creditworthiness of the borrower when underwriting loans. This ratio is also known as the debt burden ratio (DBR) or qualifying ratio (QR) and Naya Pakistan Scheme allows a maximum of 45% DBR (*Meezan Bank Naya Pakistan Housing Scheme - NPHP*, 2021). The ratio that the research has computed results in a 49% qualifying ratio. This could potentially mean that the average middle income bracket family will not qualify for the loan. This is because the mortgage will be a heavy burden of the monthly household income leaving just about half of the income for expenses such as groceries, school fees, medical bills, and utilities. Therefore, the mortgage is unaffordable with the given median income. As the section on affordable housing criteria has depicted, even 30% weightage for rent or mortgage is high and can lead to stress (Herbert, Hermann and Mccue, 2018)

Table 8: Summary of Loan Amortization Schedule

House Price	3,500,000.00
Down Payment	**770,000**
Principal Amount	**2,730,000**
Time Period	**10.00**
First 5 years	
Interest p.a.	**3%**
Interest p.m.	**0.25%**
PMT	**26,316**
Last 5 years	
new Principal amount	**1,467,056**
Interest p.a.	**5%**

Interest p.m.	**0.42%**
PMT	**27,685**

4.6 HOUSING AFFORDABILITY INDEX

The "Housing Affordability Index" (HAI) is a measure of typical family's ability to purchase a median priced home by qualifying for a mortgage (Darmanin, 2008). The HAI computed by this research is not representative of the "typical" family in Pakistan because as established earlier 35% percent of the population consisting of middle class is being studied in the research.

The HAI has been calculated according to the same loan terms and principle discussed in table 7. The formula that has been used to calculate HAI is mentioned in section 3.3.3

The required income is a ratio of the monthly mortgage payments multiplied by 12 and the qualifying ratio of 49% (covered in above sub-section). The required income ratio computed, results in Rs. 672,000 and the median income is divided by this figure to result in an HAI of 8.33. The calculation can be seen in table 8.

An HAI of 100 denotes that a family has just sufficient funds for the home purchase and a lower than 100 HAI indicates that median priced homes are unaffordable. The house price used in this ratio is not the median priced house due to the loan restrictions set by NPHA. However, the HAI is exceptionally low and demonstrates the inaccessibility to housing finance and in turn inaccessibility to decent housing.

However, as the HAI is unrealistically low it lays emphasis on the undocumented economy.

Table 9: Housing Affordability Index Computation

Qualifying Ratio (QR)		
Monthly Mortgage PMT	27,685	
Gross Monthly Income	56,000	

QR	49%	
Required Income to qualify for mortgage (RI)		
Required Monthly PMT x 12	332,222	
Qualifying Ratio	49%	
RI	672000	
Housing Affordability Index (HAI)		
Median Household Income	56,000	
RI	672,000	
HAI	8.33	

4.7 THE PRICE TO RENT RATIO

The price to rent ratio is important to the research because it shows the tenure type that is more common in Pakistan because the decision to buy or own is influenced by the affordability of the accommodation.

The areas in the group one and two have been used in this ratio to find an average house price and average rental rate. This is because it is more common to own housing in group 3 areas.

The average house price is Rs. 7.1 million extracted from group 1 and 2 in appendix 1. These areas are the most relevant as the target market is middle income earners. The average monthly rent is Rs. 25,667 extracted from table 9. The annual rent is Rs. 308,000. This results in a ratio of 23 utilizing the formula mentioned in section 3.3.3.

Table 10: Rental Rates of Properties

	Property	RENT
G1	Olympic Pride Phase II	14,000
	Al Ghafoor Atrium Tower	16,000
	Daniyal Towers	17,000
	Pioneer Castle	25,000
	Diamond City	15,000
	Wasi Country Park	20,000
G2	Lania Arcadia	17000

	uro Twin Torre	32,000
	Euro Clock Tower	30,000
	Aero Duplex City	32,000
	Saima Pari Star	45,000
	Al-Minal Tower	45000

The interpretation of the ratio is that is, it is much cheaper to rent housing in Pakistan because a ratio above 21 signifies that house prices are too high. If the ratio is below 15, the consumer is better off purchasing the house.

The ratio is prepared with limited data as the availability of rental rates is scarce. Therefore, there are chances that the ratio is even higher because rental rates are depressed in Pakistan. Rentier capitalism has not evolved in Pakistan because the monthly rent is not calculated based on the standard 1% of the value of the property per month rule. The rents are less than half of 1% and are depressed because of the inability to afford and the lack of demand for build residential real estate.

As plots are a highly coveted product in Pakistan and there is immense demand for it because it is an inflation defying commodity that will give high yields in the future, there is over investment in this arena. This along with plots providing a means to park undocumented income has led to steep spikes in price of land plots. In result to this build real estate has faced heavy competition and therefore commands low rental yields. Thus because of rent depression, the customer base prefers to rent, and the supply side prefers apartment development of mediocre quality to justify the exorbitant cost of land.

Thereby the middle class opts for apartment living on a rental basis as it is 9%-12% of their monthly income (Siddiqui, 1982).

4.8 The Scarcity of Housing Finance in Pakistan

The above sections have established that there is an affordability gap and that necessary housing finance sources are limited and therefore impact the accessibility of decent housing. The income of 35% of the population is insufficient to own a house. This section explores the perspective of financial institutes to understand why they

are reluctant to provide housing finance, keeping the vital real estate industry bereft of their support.

4.9 Financial Institutes

Banks have shied away in Pakistan to provide housing finance to consumers and developers due to the strong element of undocumented income in the real estate sector.

The malpractice of parking undocumented income in empty plots and registering land on up to 1/8th to 1/10th its actual market value, to evade taxes is a routine practise in Pakistan. Most real estate transactions have a very large cash based component almost 70 to 80 percent in most cases. (Dawn, 2021; Pakistan, 2021)

Thus, plots have become a popular means of investment and saving. In this context rather than the banking sector acting as the primary source of transactions the real estate acts as the biggest depository of the large informal economy. Plots are a highly coveted real estate product because they are an inflation defying commodity that will give high yields in the future, so there is over investment in this arena.

This in turn creates the following issues: the banking sector is deprived of deposits and the real estate sector and its related transactions act as the alternate depository of surplus income and savings. This fuels the real estate prices increasing the affordability gap for the economically challenged part of the population and the bank's loss of deposits further heightens its inability to provide housing finance. A look at the financial statement of banks shows cost of deposits was 4.0% for Allied Bank which is quite low (*Financial Reports - Allied Bank Limited*, 2021).

The high cost of land is added to the price tag of housing unit. The high price increases the principal amount that needs to be borrowed. Given that middle has a large proportion of undocumented income, they receive a high credit rating with high interest rates. Therefore, the Banks are reluctant to lend, and consumers are reluctant to borrow.

The general economic environment and lack of law implementation has not been conducive for the housing finance industry. Land records, registration and titling is not systemized and monitored, it is maintained by patwaris, who keep record of land and tax (GUPTA, 2021). The patwaris use obsolete methods to keep records via books that no authority has access to. They are involved in malpractices to avoid heavy stamp duty.

Furthermore, there are inefficient land dispute resolution mechanisms and foreclosure laws. There have been cases when banks have been given a stay order on the land of a defaulter. This discourages banks in doling out high risk loans.

The economic conditions underpin high inflation rates with the consumer price index at 8.5 points which increases the cost of living and reduces the ability of consumers to pay back debt('Pakistan Economic Survey', 2021). The currency devaluation has resulted in further deterioration as public liabilities increases and the burden is transferred to the citizens in terms of taxes.

In conclusion the public sector has been unsuccessful as an enabler to the private banking sector and has been unable to provide housing subsidy to its populace. As a result, the affordability gap in Pakistan is not bridged by housing finance and accessibility to decent housing remains limited.

5 CHAPTER: CONCLUSION

The study set out to examine the impact on housing finance on the accessibility to affordable and decent housing. In its wake, it underwent a necessary analysis of the housing market conditions in Pakistan and its demographics. While investigating the income demographics of Pakistan, it became apparent that the data is unreliable and there is a large proportion of undocumented income in Pakistan.

The undocumented income is the root cause of limited provision of housing finance in Pakistan, which in turn impacts the accessibility of affordable and decent housing. Undocumented income leads to the conundrum of unquantifiable purchase power of families and therefore other measures such as price to rent ratios must be considered to evaluate the tenure type and affordability of housing.

Housing affordability measures are often subjective therefore several measures were considered to confirm that there is a large affordability gap in Pakistan that underpins the housing crisis. Even though the reported incomes on Pakistan's bureau of statistics are underreported, the actual income figure of a large proportion of the population is insufficient to own a house. Thereby this research concludes by stating that external housing finance sources are crucial for the upliftment of the housing market. However, the mortgage terms need to be favorable with low interest rates.

5.1 LIMITATIONS OF THE RESEARCH

While the research has contributed to the existing literature regarding housing finance and its relationship to affordable and decent housing by taking into context the income demographics, it has been unable to study the entire population as only 30% of the population, consisting of middle-income earners has been considered.

This is because, the data for low income and high-income groups has an even higher proportion of undocumented income. Also housing affordability is directly associated with income therefore high-income earners do not face an affordability problem.

The unreliable data was a challenge as well as a limitation for the study. Other quantitative analysis measures were taken to ensure the reliability of this research findings however the gap in data and the challenge of its collections still proves to be a shortcoming. Though the nature of the data is an important finding of the research.

While the research has made a definite conclusion about the affordability gap in the 30% of the population and the need for housing finance to bridge this gap, having accurate numbers would render a quantifiable extent of undocumented population and in turn express the extent of housing affordability gap.

5.2 RECOMMENDATIONS

Pakistan is in a housing crisis and that is an observable statement, but how bad is this crisis? How many housing units are needed to fulfil this crisis? How much funding is required to overcome this crisis?

All the above questions, as of now do not have a definite and an accurate answer because there is no accurate database about gross income per capita. In a state of such ambiguity, research and policy might not have the desired impact they target. Planning and housing finance policies cannot be made in the absence of reliable demographic data because policies are targeted and curated according to the socio political and economic conditions of a country. The Naya Pakistan housing policy is proving to be unsuccessful because it is unable to target the local context of Pakistan because it does not know the extent of the housing problem. To solve a problem, it must be identified first and then quantified before it can be solved.

Recent Government reforms have been taken to value property for tax collection. The value of properties in all major real estate markets of the country have been predetermined to avoid undervaluation and tax evasion (Profit , 2021). A strategy to document incomes needs to be implemented, businesses must be duly registered along with prompt tax collection. Remittances need to be recorded and all illegal transactions need to be banned.

Once this exercise to formalize transactions, incomes and property valuation is in place, not only will the real estate in Pakistan gain more credibility, but the public sector policies can also be more impactful in solving targeted housing sector related issues.

Another solution to Pakistan's housing crisis is a public private partnership (PPP) wherein the Government facilitates private developers with land on deferred payment who in turn builds affordable housing on a portion of their commercial project. However, the developer will lease units instead of selling inventory. Once the instalments cover the value of the unit, the property can be transferred to the tenant (Qin, Soliño and de Albornoz, 2017). This model can be useful in a developing country with limited public sector resources.

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7 APPENDIX 1

7.1 TABLE 1

GROUP 1		1 BED		2 BED		3 BED	
		Area Sq. ft	Price	Area Sq. ft	Price	Area Sq. ft	Price
North Karachi	Serena Hills			860	6000000		
	North Point Residency			700	4,000,000	1,000	6,000,000
	Olympic Pride Phase II	350	2,400,000	750	4500000		
	Al Ghafoor Atrium Tower	400	2,300,000	900	5,500,000		
Gulzar-e-Hijri	Daniyal Towers			950	7,000,000	1,700	12,500,000
	Grey Noor tower			750	6,500,000	1,800	13,500,000
	Pioneer Castle			954	7,000,000		
	Aisha Terrace			951	7,000,000		
Gulshan-e-Maymar	Diamond City			700	3,400,000	1,400	6,000,000
	Maymar Pride			1,315	9,804,000	2,376	15,400,000
	PHA Maymar Towers					1,700	12,000,000
	Wasi CoWorld Banktry Park			1,080	6,500,000		

7.2 TABLE 2

Group 2		2 BED		3 BED	
		Area Sq. ft	Price	Area Sq. ft	Price
Jinnah Avenue	Sohni Saiban	970	7,140,000		
	Fatima Golf Residency	1,100	8,500,000	1,650	13,000,000
	Lania Arcadia	1,200	9,500,000	1,800	16,000,000
	Shaz Residency	950	8,950,000		
North Nazimabad	Euro Twin Torre	700	5,500,000	1,298	11,000,000
	Euro Clock Tower	750	7,800,000		
	Aero Duplex City	950	9,800,000		
	Saima Classic	1,050	8,800,000	1,400	12,500,000
Gulistan-e-Jauhar	DWorld Bankdas Tower	1,185	16,400,000	1,285	19,200,000
	The Mega Mall & Residency	1,250	11,200,000	1,750	16,000,000
	Bisma Greens			1,800	29,500,000
	Al-Minal Tower	1,050	11,000,000	1,450	15,000,000

7.3 TABLE 3

Group 3		2 BED		3 BED		4 BED	
		Area Sq. ft	Price	Area Sq. ft	Price	Area Sq. ft	Price
Clifton	Machiyara Springfield			2,200	51,000,000		
	Crystal Hill					2800	55,000,000
	Sky Tower	1,200	23,500,000	2,200	32,500,000		
	Com-3					3300	56,000,000
PECHS	81 Towers	1,868	33,600,000	2,439	46,400,000	3939	95,000,000
	Remmco Tower			1,650	40,000,000	2500	52,500,000
	Roshan Tower			1,700	47,500,000	2200	57,500,000
	Bakshi Tower			2,150	32,500,000		
Shaheed-e-Millat Road	Safa Residency			1,700	30,000,000	2500	47,500,000
	Samrina Residencia			1,650	27,500,000		
	Family Heaven			1,550	30,000,000	2150	45,000,000
	Tai Roshan Heaven					2400	50,000,000

8 APPENDIX #2

Farrukh Risk Assessment Form

by Sana Farrukh

Submission date: 12-Apr-2021 03:12PM (UTC+0100)

Submission ID: 149193725

File name:
753589_Sana_Farrukh_Farrukh_Risk_Assessment_Form_Form_2539948_1768325709.pdf (535.46K)

Word count: 2146

Character count: 11632

RISK ASSESSMENT FORM

FIELD / LOCATION WORK

UCL

DEPARTMENT/SECTION:

LOCATION(S):

PERSONS COVERED BY THE RISK ASSESSMENT:

BRIEF DESCRIPTION OF FIELDWORK (including geographic location):

COVID-19 RELATED GENERIC RISK ASSESSMENT STATEMENT:

Coronavirus disease (COVID-19) is an infectious disease caused by coronavirus SARS-CoV-2. The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Droplets fall on people in the vicinity and can be directly inhaled or picked up on the hands and transferred when someone touches their face. This risk assessment documents key risks associated fieldwork during a pandemic, but it is not exhaustive and will not be able to cover all known risks, globally. This assessment outlines principles adopted by UCL at an institutional level and it is necessarily general. Please use the open text box 'Other' to indicate any contingent risk factors and control measures you might encounter during the course of your dissertation research and writing.

Please refer to page 26-33 of your Dissertation in Planning Guidance Document (available on Moodle) to help you complete this form.

Hazard 1: Risk of Covid -19 infection during research related travel and research related interactions with others (when face-to-face is possible and/or unavoidable)

Risk Level - Medium /Moderate

Existing Control Measures: Do not travel if you are unwell, particularly if you have COVID-19 symptoms. Self-isolate in line with NHS (or country-specific) guidance.

Avoid travelling and face-to-face interactions; if you need to travel and meet with others:

- If possible, avoid using public transport and cycle or walk instead.
- If you need to use public transport travel in off-peak times and follow transport provider's and governmental guidelines.
- Maintain (2 metre) social distancing where possible and where 2 metre social distancing is not achievable, wear face covering.
- Wear face covering at all times in enclosed or indoor spaces.
- Use hand sanitiser prior to and after journey.
- Avoid consuming food or drinks, if possible, during journey.
- Avoid, if possible, interchanges when travelling - choose direct route.
- Face away from other persons. If you have to face a person ensure that the duration is as short as possible.
- Do not share any items i.e. stationary, tablets, laptops etc. If items need to be shared use disinfectant wipes to disinfect items prior to and after sharing.

- If meeting in a group for research purposes ensure you are following current country specific guidance on face-to-face meetings (i.e rule of 6 etc.)

- If and when possible meet outside and when not possible meet in venues with good ventilation (e.g. open a window)

- If you feel unwell during or after a meeting with others, inform others you have interacted with, self-isolate and get tested for Covid-19

- Avoid high noise areas as this mean the need to shout which increases risk of aerosol transmission of the virus.

- Follow one way circulation systems, if in place. Make sure to check before you visit a building.

- Always read and follow the visitors policy for the organisation you will be visiting.

- Flush toilets with toilet lid closed.

-'Other' Control Measures you will take (specify):

NOTE: The hazards and existing control measures above pertain to Covid-19 infection risks only. More generalised health and safety risk may exist due to remote field work activities and these are outlined in your Dissertation in Planning Guidance document. Please consider these as possible 'risk' factors in completing the remainder of this standard form. For more information also see: Guidance Framework for Fieldwork in Taught and MRes Programmes, 2020-21

Consider, in turn, each hazard (white on black). If **NO** hazard exists select **NO** and move to next hazard section.
If a hazard does exist select **YES** and assess the risks that could arise from that hazard in the risk assessment box.
Where risks are identified that are not adequately controlled they must be brought to the attention of your Departmental Management who should put temporary control measures in place or stop the work. Detail such risks in the final section.

ENVIRONMENT	**The environment always represents a safety hazard. Use space below to identify and assess any risks associated with this hazard**
e.g. location, climate, terrain, neighbourhood, in outside organizations, pollution, animals.	Examples of risk: adverse weather, illness, hypothermia, assault, getting lost. Is the risk high / medium / low ? **No environmental risks**

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
	work abroad incorporates Foreign Office advice
	only accredited centres are used for rural field work
	participants will wear appropriate clothing and footwear for the specified environment
	refuge is available
	work in outside organisations is subject to their having satisfactory H&S procedures in place
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EMERGENCIES	Where emergencies may arise use space below to identify and assess any risks
e.g. fire, accidents	Examples of risk: loss of property, loss of life **This risk is not applicable**

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	participants have registered with LOCATE at http://www.fco.gov.uk/en/travel-and-living-abroad/
	contact numbers for emergency services are known to all participants
	participants have means of contacting emergency services
	a plan for rescue has been formulated, all parties understand the procedure
	the plan for rescue /emergency has a reciprocal element
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EQUIPMENT	Is equipment used?	NO	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
e.g. clothing, outboard motors.	Examples of risk: inappropriate, failure, insufficient training to use or repair, injury. Is the risk high / medium / low ?		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	the departmental written Arrangement for equipment is followed
	participants have been provided with any necessary equipment appropriate for the work
	all equipment has been inspected, before issue, by a competent person
	all users have been advised of correct use
	special equipment is only issued to persons trained in its use by a competent person
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

LONE WORKING	Is lone working		If 'No' move to next hazard

[redacted]	**a possibility?**	YES	**If 'Yes' use space below to identify and assess any risks**
e.g. alone or in isolation *lone interviews.*	Examples of risk: difficult to summon help. Is the risk high / medium / low? **Low**		

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
	the departmental written Arrangement for lone/out of hours working for field work is followed
	lone or isolated working is not allowed
	location, route and expected time of return of lone workers is logged daily before work commences
	all workers have the means of raising an alarm in the event of an emergency, e.g. phone, flare, whistle
	all workers are fully familiar with emergency procedures
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

ILL HEALTH	**The possibility of ill health always represents a safety hazard. Use space below to identify and assess any risks associated with this Hazard.**
e.g. accident, illness, personal attack, special personal considerations or vulnerabilities.	Examples of risk: injury, asthma, allergies. Is the risk high / medium / low? **The dissertation has no physical demands, all interviews are conducted online.**

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
	all participants have had the necessary inoculations/ carry appropriate prophylactics
	participants have been advised of the physical demands of the research and are deemed to be physically suited
	participants have been adequate advice on harmful plants, animals and substances they may encounter
	participants who require medication should carry sufficient medication for their needs
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

TRANSPORT	**Will transport be Required**	**NO**	**NO**	**Move to next hazard**
		YES		**Use space below to identify and assess any risks**
e.g. hired vehicles	Examples of risk: accidents arising from lack of maintenance, suitability or training Is the risk high / medium / low?			

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
	only public transport will be used
	the vehicle will be hired from a reputable supplier
	transport must be properly maintained in compliance with relevant national regulations
	drivers comply with UCL Policy on Drivers http://www.ucl.ac.uk/hr/docs/college_drivers.php
	drivers have been trained and hold the appropriate licence
	there will be more than one driver to prevent driver/operator fatigue, and there will be adequate rest periods
	sufficient spare parts carried to meet foreseeable emergencies
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

DEALING WITH THE PUBLIC	**Will people be dealing with public**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**

e.g. interviews, observing	Examples of risk: personal attack, causing offence, being misinterpreted. Is the risk high / medium / low?

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk

- ☐ all participants are trained in interviewing techniques
- ☐ advice and support from local groups has been sought
- ☐ participants do not wear clothes that might cause offence or attract unwanted attention
- ☐ interviews are conducted at neutral locations or where neither party could be at risk
- ☐ OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

WORKING ON OR NEAR WATER	Will people work on or near water?	NO ☐	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
e.g. rivers, marshland, sea.	Examples of risk: drowning, malaria, hepatitis A, parasites. Is the risk high / medium / low?		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk

- ☐ lone working on or near water will not be allowed
- ☐ coastguard information is understood; all work takes place outside those times when tides could prove a threat
- ☐ all participants are competent swimmers
- ☐ participants always wear adequate protective equipment, e.g. buoyancy aids, wellingtons
- ☐ boat is operated by a competent person
- ☐ all boats are equipped with an alternative means of propulsion e.g. oars
- ☐ participants have received any appropriate inoculations
- ☐ OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

MANUAL HANDLING (MH)	Do MH activities take place?	NO	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
e.g. lifting, carrying, moving large or heavy equipment, physical unsuitability for the task.	Examples of risk: strain, cuts, broken bones. Is the risk high / medium / low?		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	the departmental written Arrangement for MH is followed
	the supervisor has attended a MH risk assessment course
	all tasks are within reasonable limits, persons physically unsuited to the MH task are prohibited from such activities
	all persons performing MH tasks are adequately trained
	equipment components will be assembled on site
	any MH task outside the competence of staff will be done by contractors
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

SUBSTANCES	**Will participants work with substances**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. plants, chemical, biohazard, waste	Examples of risk: ill health - poisoning, infection, illness, burns, cuts. Is the risk high / medium / low?		
CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**		

- ☐ the departmental written Arrangements for dealing with hazardous substances and waste are followed
- ☐ all participants are given information, training and protective equipment for hazardous substances they may encounter
- ☐ participants who have allergies have advised the leader of this and carry sufficient medication for their needs
- ☐ waste is disposed of in a responsible manner
- ☐ suitable containers are provided for hazardous waste
- ☐ OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

OTHER HAZARDS	**Have you identified any other hazards?**	**NO**	**If 'No' move to next section** **If 'Yes' use space below to identify and assess any risks**
i.e. any other hazards must be noted and assessed here.	Hazard: Risk: is the risk		
CONTROL MEASURES	**Give details of control measures in place to control the identified risks**		

Have you identified any risks that are not adequately controlled?	**NO**	**NO**	**Move to Declaration**
	YES	☐	**Use space below to identify the risk and what action was taken**

DECLARATION	The work will be reassessed whenever there is a significant change and at least annually. Those participating in the work have read the assessment.

	Select the appropriate statement:
✓	I the undersigned have assessed the activity and associated risks and declare that there is no significant residual
	Risk
	I the undersigned have assessed the activity and associated risks and declare that the risk will be controlled by the method(s) listed above

NAME OF SUPERVISOR

Dr. Lucy Natarajan

FIELDWORK **5** May 2010

The Impact of Housing Finance in Bridging the Affordability Gap for Decent housing in Pakistan - Sana Farrukh

GRADEMARK REPORT

FINAL GRADE

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GENERAL COMMENTS

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