

**STRATEGIES TO ENHANCE AFFORDABLE
HOUSING FOR INDUSTRIAL WORKERS
(Case Study of Peshawar)**

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A Thesis submitted in partial fulfillment of
the requirements for the degree of

Master of Science

in

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**DEPARTMENT OF URBAN & REGIONAL PLANNING
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This is to certify that the
thesis entitled

**STRATEGIES TO ENHANCE AFFORDABLE
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(Case Study of Peshawar)**

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has been accepted towards the partial fulfillment of the requirements for

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THESIS ACCEPTANCE CERTIFICATE

Certified that the final copy of the thesis titled “Strategies to enhance affordable housing for industrial workers – A case study of Peshawar.” written by Syed Abubakar Saddique (Registration No. 00000276324), of Urban and Regional Planning (NIT-SCEE) has been vetted by the undersigned, found complete in all respects as per NUST Statutes/Regulations, is free of Plagiarism, errors, and mistakes and is accepted as partial fulfillment for the award of MS degree. It is further certified that necessary amendments as pointed out by GEC members of the scholar have also been incorporated in the said thesis.

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Syed Abubakar

DEDICATION

**You know how it is, You pick a thesis, flip to the dedication, and find that,
once again, the author has dedicated it to someone, but not this time!
This one's for you,
May this thesis suffice your need and enhance your knowledge for the better.**

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LIST OF ABBREVIATIONS

NUST	National University of Sciences & Technology
TMA	Tehsil Municipal Administration
UNEP	United nations Environment Programme
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific Organization
UN-Habitat	United Nations habitat Organization
GOP	Government of Pakistan
CDA	Capital Development Authority
RDA	Rawalpindi Development Authority
PHA	Pakistan Housing Authority
HBFC	House Building Finance Corporation/Company
SBP	State Bank of Pakistan
ADB	Asian Development Bank
WB	World Bank
PHATA	Punjab Housing & Town Planning Agency
LDA	Lahore Development Authority
ERRA	Earthquake Rehabilitation and Resettlement Authority
MIT	Murree Improvement Trust
MDG	Millennium Development Goals
PLDC	Punjab Land development Company
FGEHF	Federal Government Employees Housing Foundation
PGSHF	Punjab Government servants Housing Foundation
NRMP	National Reference Manual on Planning and Infrastructure Standards
UNCHS	United nations Center for Human Settlements
SPSS	Statistical Package for social sciences
SWOT	Strengths, Weaknesses, Opportunities and threats
STD	Standard Deviation
EIA	Environment Impact Assessment
RWH	Rainwater Harvesting

STP	Sewerage Treatment Plant
Govt.	Government
GOP	Government of Pakistan
OPF	Overseas Pakistanis Foundation
DHA	Defense Housing Authority
CDA	Capital Development Authority
FDA	Faisalabad Development Authority
KDA	Karachi Development Authority
HRCP	Human Rights Commission of Pakistan
CWHR	Council for Works and Housing Research
MTDF	Medium Term Development Framework
KPK	Khyber Pakhtoonkhawa
OGDC	Oil & Gas Development Corporation
PAEC	Pakistan Atomic Energy Commission
OPP	Orangi Pilot Project
HAD	Hyderabad Development Authority
CDG	City District Government
EU	European Union
US	United States
OECD	Organization for economic cooperation & Development
Sq.ft/Sft	Square Foot
Mm	Millimeters
M	Meters
Km	Kilometer
Rs.	Rupees

ABSTRACT

There have been efforts to make the world sustainable not only for the existing population but also for the generation to come. Affordable living is one of the important factors in this sustainability effort. The challenge is to not only provide an affordable resident but also to maintain other attached strings, which are safety, adequacy, accessibility, and affordability of daily life amenities. This challenge of providing affordable living is huge, especially for the cities in which the population count is increasing at a rapid pace, that is why even the major cities of the world are falling for this challenge and are unable to manage their residents into affordable living.

Pakistan is not an exception to this scenario. Its population has crossed the 220 million mark, making it difficult for policymakers and the government to narrow down the gap in house shortage. Pakistan is currently facing a backlog of 4.3 million units. This figure includes the housing needs of the general public, taking into account the housing needs for upper middle, lower middle, lower, and lowest income groups of the country. However, the story is different for the low- and lowest-income groups, which due to the rise in inflation are in the vicious cycle of poverty. In the face of high prices of daily life amenities, the low-income group finds it near impossible to sustain their lives, when these are laden with the burden of high house rents. The labor class working in industries of Pakistan is part of this low-income group that is facing above mentioned phenomenon.

To evaluate the condition of industrial workers, the Industrial Estate of Peshawar was selected as a case study for this research. Both primary and secondary sources were used in gathering data for this research. Suiting the purpose of this research, data were collected through interviews about socio-economic status, their living style preferences, accessibility to various components, their priorities, information about the land and houses workers living in, the general administration of the colonies, availability of affordable housing, housing finances and much more. While the secondary data was collected from various journals, articles, reports, and documents polished online related to the scope of the study. The data analysis was done using SPSS software and a correlation test was applied. SWOT analysis and need assessment was carried out for the provision of affordable housing.

At present, there is a total of 3 residential colonies inside Hayatabad industrial estate namely Old Labor Colony (Constructed 1986) Benazir Labor Colony (Constructed 1996), and Musharraf Labor colony (Constructed 2006). 750 housing units are having an overall population of 6000 individuals. It was noted that the housing construction quality was good but mostly overcrowded, the resident tempered the original design to make space for their living, and the literacy rate for the children of the workers was high, as almost all of the children were studying in the government-provided education facilities. Through the data analysis of the economic variables, it was found that most of the residents were unable to save for activities apart from their routine life including marriages, buying healthy food and good clothes, etc. However, the rent that the government was charging for these residential units was very low and affordable for the residents.

As for the analysis of the data collected through questionnaires, the locals expressed their satisfaction over the indicators of educational quality, health care facilities, availability of water, and accessibility of amenities, but expressed their dissatisfaction over the indicators of cleanliness, waste management, and sanitation, open and green spaces, and leisure facilities, etc. the residents also expressed their views regarding the shortage of housing units, the political allotments and old age benefits.

Based on data analysis, literature review, and stakeholder interview, to address the major challenges, recommendations and conclusions were drawn for filling the gaps in the provision of affordable housing for industrial workers.

The recommendations covered the topics of housing ownership, housing for informal workers, government to workers relationships, a conflict resolution mechanism, fair use of funds, addressing the issue of illegal residence, a mechanism for performance evaluation, increasing the density and points related to the improvement of leisure facilities and green spaces

1 INTRODUCTION

The introduction part presents a general idea about the content of this thesis. Since the main theme of this study is affordable housing, hence starting from the general discussion on the condition of affordable housing in Pakistan this part will narrow down to the main topic. The factors, the benefits, and the objectives of this research topic will be discussed within the first chapter of the introduction

1.1 Research Problem

Masses in Pakistan are facing issues in having affordable living. Gaps in governance coupled with economic conditions have created a challenge of widened demand and supply gap in the provision of affordable housing. This widened gap has affected all classes of the population in the country specifically the low-income group. Mass inflation has made it difficult for this group to finance their daily life needs, and in the face of such difficult conditions, the high rents for houses have added to the miseries of the low-income group. Hence, the research problem of this study is to sort out the possible ways to provide an affordable place of living for the low-income group, with a special focus on the low-income Industrial workers, a facility of living that does not affect the standard of living of its residents

1.2 The purpose of this Study

Pakistan is facing the problem of affordable and sustainable houses. Peshawar is one such city in Pakistan where this problem persists. As compared to other cities of Khyber Pakhtunkhwa, Peshawar is the only city of its kind which can provide mass-scale earning opportunities for the low-wage working class of its province. The industrial estate of Peshawar is home to around 1200 small and large industries (industries.kp.gov.pk), while the number of workers it has employed has increased and is increasing over the year. The industrial Estate of Peshawar has accommodated thousands of such workers and employees who find it difficult to finance their residences within their earnings. To accommodate the

employees of the industries located in the industrial estate, housing programs were initiated, which resulted in the construction of three Labor colonies having an average of 250 houses each (Worker Welfare Board, Peshawar). For almost a decade and a half, the housing programs for the workers were on halt, while the migration of workers from other regions to Peshawar was on the rise. The last such residential colony built was in 2006, and no new progress has been made in this regard until 2018.

It has been a dream of every citizen of Pakistan to own a house. But if having your own house is not possible, the priority is to live in an affordable place. Affordability is a multidimensional concept and its definitions change for the different schools of thought. The focus of this research is to analyze the housing program for industrial workers with a special focus on the industrial workers of the Industrial Estate of Peshawar City.

In the current situation, inflation is on the rise and the minimum and average earning employees are facing difficulty in financing their social and basic needs. Such research is a dire need of the hour, which will help in assessing the impacts of the non-availability of affordable housing schemes on industrial workers. This research will also help in sorting out a way forward to initiate public-private partnerships to construct and provide affordable houses to low-wage workers and employees.

1.3 Benefits of Study

Since the purpose of this study is to evaluate the existing housing schemes in-place for the workers inside the Industrial Estate of Hayatabad Peshawar. Since these schemes are built all across the province of Khyber Pakhtunkhwa and Pakistan, by their authority that is Workers Welfare Board, hence this evaluation will not only help in understanding the pros and cons of the workers in focus but also the housing schemes all across the country built for workers. Further, the factors behind the slow pace of provisions will also be investigated and a set of new recommendations will also be framed. Further, this study and its findings will be helpful for the policy makers and professionals for future consideration. Industrial workers can get higher access to affordable housing. Further, the living environment, the standard of planning, construction and design, and the working of administration can be improved.

1.4 Research Objectives

1. To evaluate affordable housing programs for Industrial workers in Peshawar.
2. To investigate factors behind the halt of affordable housing initiatives for Industrial workers.
3. To explore the consequences of non-provision of affordable housing on Industrial workers.
4. To recommend a framework to enhance the provision of affordable housing to Industrial workers.

1.5 Scope of this Study/Research

The area under the shade of this study is a public housing

1.6 Organization of Thesis/Research

The introduction is the first chapter of this thesis which provides a general overview of the condition of affordable housing in Pakistan then narrow down to the condition of workers concerning the availability of houses and finally culminate on research objectives. The Second chapter is the literature review, which is in view of the research topic and the research objectives followed by the methodology of research which

include the path adopted to fulfill the objectives of this research. Further, it also introduces the procedure of sampling, the size of the sample, and techniques adopted for data collection and analysis. There is an explanation about the collection of both primary and secondary data. In the light of the procedures adopted in the chapter on methodology analysis of the data will be carried out which will be explained in chapter 4th of this thesis. The last part of this chapter will include the conclusions and recommendations. The references or bibliography will be furnished at the end of this document

Chapter 2

2 LITERATURE REVIEW

The Literature review is added to this research to bring into the limelight the issue of housing and the primary cause of the shortage of houses for industrial workers. In the first phase of this chapter, the international importance of affordable housing provision will be highlighted as briefed by the International Labor Organization (ILO), further take of various research scholars on the provision of housing for industrial workers is presented here in this section. In the next part, the best practices of various countries for the provision of affordable housing to the low-income group are explained. The last part of this chapter contains the importance of evaluating the affordability of a housing program by the tools which are apart from the traditional evaluation criteria that are traditionally the affordability is seen as the product of financial affordability, so here in this chapter, will be briefed that how other components impact the affordability of a housing scheme.

2.1 Introduction

The sustainability of the world cannot be met if only a few can afford to live. It's the basic need and right of every person to have a safe and quality place to live in. But the challenge persists. Even the major cities of the world are finding it difficult to manage the population and provide housing that is not only safe but also adequate for the population. This challenge persists especially in the cities which are growing at a rapid pace both in terms of population and area. This trend of the increasing population gives rise to a hike in rents. One of the major trends noticed has been paying off as much as 50% of income in rents each month. (Denedo et al. 2020). This trend has affected the lower- and middle-income group. Which mostly comprises the working-class people. These include the people working in police departments, fire departments, medical departments, and education and services departments. One other major negative of not being able to afford a house in the nearby area of the workplace is the hurdles and difficulty of commuting between the workplace

and living area. The list of the reasons for high prices and non-affordability is very long. But the prominent of them are the gap in supply and demand, the high hike of prices concerning the income of the families, scarcity of such land which is to be developed for affordable and low-income houses, population boom, and most importantly the changes in household composition. (Ejiogu et al. 2020) It's the dire need of the hour for the cities to make sure the land is utilized for the social, economic, and environmental benefit of their residents.

2.2 Concept of Housing

"Housing is generally defined to embrace both shelter and the basic infrastructure for urban services which urban residents need" (Choguill 1994). 10% of the global GDP and 7% of all jobs are associated with the housing sector (Ostermeyer et al. 2012). Housing as "enough shelter for everyone" is recognized as a fundamental human right in the Universal declaration of human rights and endorsed in the 1996 UN-Habitat summit. This right relates to housing, food, health care, and clothes, all of which are essential living conditions. (United Nations, 1948- Article-25; (Arman, Zuo, et al. 2009). The MDG-7 (Millennium Development Goals) aims to create 'cities without slums' with a target to accomplish 'considerable progress in the lives of at least 100 million slum inhabitants, (Target-11) by the year 2020' with Indicator 32: Proportion of people with access to secure tenure; (UN-Habitat, 2003)

Governments in the developing world have the hardest time figuring out how to house the poor in cities. In Asia, Africa, & Latin America, most countries are dealing with huge housing shortages both in quantity & quality (van Lindert 2010). About 2.8 billion people without adequate shelter will require decent housing by 2030. In the next 20 years, about 877 million homes will be needed to meet the growing need for housing among households (Bredenoord 2010). It means huge housing production with land, materials, and finance is required, which is a challenge for the developing world (van Lindert 2010). In developing countries, most of the poor are living in inadequate housing conditions. Few megacities in the developing world are facing challenging issues of slums, due to the rapid growth of slums (Sengupta 2010).

Approximately 44 million people are added to the urban population of Asian cities each year because of urbanization, which equates to an increase of 120000 people every day. Therefore, around 20,000 new homes every day are required (Habitat 2011).

Asia's urban population is 50.3% of the total World urban population. Eight out of the ten fastest growing cities are in Asia (1950-2000) i.e. Tokyo, Mumbai, Delhi, Dhaka, Jakarta, Karachi, Kolkata, and Seoul. In Asia, land and housing faced significant pressure due to urban growth in cities. In the developing world, Asia has over half of the total slums. 61% of the population in Asia lives in slums (UN-Habitat, 2011). For maximum financial gains, housing development in the private sector is preferably planned for the higher-income group which results in poor demand & supply match, i.e. in Bangladesh, there is a surplus of housing for the upper-income group, and a huge shortage in the supply of affordable housing. Furthermore, the upper-class purchases such housing for investment and rental purposes. As a result 1/3rd of housing is developed informally. In Asia middle- and upper-income households try to get/own housing in gated communities usually financed by private developers, which is not in access to most of the lower income group, Which gives rise to slums, squatter settlements, and informal housing, low-quality housing in most cities of Asia (UN-Habitat, 2011). In South Asia, there is a significant housing deficit of 38 million units, excluding housing units requiring repair, while south central Asian Countries facing huge housing deficits will include homeless and housing with deteriorated conditions. It is estimated that housing deficient has increased from 400000 to 650000 units from 2000 to 2010 in Srilanka. In 2001 there was an urban housing shortage of 7.1 million units. Indonesia requires 73500 newhousing per year and Malaysia needed 709400 new housing units up to 2010 (UN-Habitat,2011). In many Asian countries, the housing shortage is both in quality and quantity. The fast urbanization has caused a shortage of housing and dilapidated condition housing. Pollutedwater and poor sanitation, poor quality/inadequate and overcrowded housing in densely populated cities are the main causes of poor health, affecting largely the well-being of millions of populations residing in such conditions. Providing the access to affordable andadequate housing reduces diseases, and environmental degradation increases the national and household income. Over the past few decades, countries have shifted their approach to providing accessible, adequate & affordable housing in National policies, strategies, and legislative frameworks (UN-Habitat, 2011).

In Bangladesh Government has initiated programs for rural landless and homeless to reduce migration from rural bangle to urban areas and offer employment opportunities as motivation measures to urban slum residents to shift to their native villages. In Malaysia, many housing development programs have been shared to add to housing construction. In Sri Lanka national housing development authority has initiated one million housing programs to raise housing & to own homes with subsidized loans. In 1994 due to scarcity of land, the focus shifted from slum upgrading to re-locate into high-density apartments (Bredenord & Lindert, 2010). As per UN-Habitat "slums are defined with five measurable indicators at the household level, known as shelter deficiency. About four indicators determine the physical lexis of slum situation, non-durable housing construction, lack of water & sanitation, and overcrowding. The fifth indicator tenure security has to do with validity. Housing that is recognized by one or more of the above shelter deficiencies is supposed to be inadequate (UN- Habitat & UNESCAP, 2008). In most Asian cities, a common trend is to relocate the slum dwellers in multistory flats block at the peri-urban area/periphery. As the only option to achieve proper urban area densities, to compare the local planning regulation is to have a multi-story apartment (UN-Habitat, 2011).

2.3 Understanding Affordable Housing

Affordable housing demand has increased at the international level and it is assumed that it will keep on the same pace of growth. Further, it is considered that private developers have less interest in the sector of affordable housing. As such, there are several opportunities for development put forward by the affordable housing sector with many barriers to tackle (Wallbaum & Ostermeyer et al. 2012). Improving the housing quality in slum areas and quarter settlements and the supply of land and low-cost housing to the people without houses, are the two major challenges for the Governments in developing countries (Bredenord & Lindert, 2010). Most of the Government's primary focus is on resolving the housing issues of middle-income groups while neglecting the dominant low to lowest-income families. In the developing world, the demand and supply gap is higher for affordable housing. The Governments must concentrate on resolving the challenging issues of adequate & affordable housing shortage (Bredenord & Lindert, 2010).

The smartest and most affordable mode for the provision of sustainable housing is financing self-help. (UN-Habitat-2005) which is practical, inexpensive, flexible, and useful. As incremental self-help/owner-built housing has been recommended by many authors as a useful way of achieving affordability in housing provision. If the poor or low-income households have the facility of financial assistance and minimum standards, then the households can better manage the construction/improvement of their housing as per their changing needs, time, available resources, savings/income and its location, priorities/desires in use of designs, skills/techniques of their own choice. As most of them keep on spending on housing improvement/additions, incrementally throughout their lifecycle (Sengupta, 2010). In most of the developing world & Asian countries, the major issue is access to affordable and adequate housing. Partly the housing is expensive due to income being too low and partly where income is higher, housing supply and finance are less than required. Due to the lack of availability of quality and affordable housing people have no choice but to live in slums and informal settlements. The low-income community spends most of their income on housing as compared to other necessities of daily life i.e., food, education, and health (UN-Habitat, 2011). Through policies Singapore, Chile and Hong Kong have successfully provided access to adequate housing to cope with the issue of slums and affordable housing. The participation of the low-income groups in housing provision was ensured through the policy framework. Here large-scale high-density apartment complexes were implemented. In Asian cities urbanization has put housing affordability under Stress (UN-Habitat, 2011; Bredenoord & Lindert, 2010). The supply of affordable housing is much lower as compared to urban growth in most Asia countries. The growth of slums and informal settlement is mainly attributed to the affordable housing deficit in Asia. About 21% of the population lives in slums in Bangladesh, and 50% population lives in slums in Pakistan. As per UN-Habitat the

a major cause of Asia's growing slums is the poor access to decent, secure, and affordable land (UN-Habitat, 2011).

Housing affordability is an important aspect related to the socioeconomic stability and development of a country, that is to make sure that houses are to be provided to each household, that is households having low, middle & high income are affordable. Malaysian Government in its 10th Plan has a target of 78000 affordable housing constructions. Various policies were formulated and implemented for providing affordable housing to low-income groups (Suhaida, Tawil, et al. 2011). In Sri Lanka, there are a lot of projects to enhance affordable housing quality and access to the poor including three major programs. First is a sustainable township plan in Colombo that is self-financing voluntary re-housing, in which slum dwellers willingly leave their unit/land and re-located in multistory flats. The second is a special housing project for the poorest. In it, housing finance in the soft term is to be provided to the poor for improving housing. Affordable housing for plantation workers with 200000 housing units provision. (UN-Habitat, 2011).

2.4 A brief of Concept & Definition

"Affordable housing is generally defined as that which is adequate in quality & location and does not cost so much that it proscribes its dweller, meeting other essential living expenses or intimidate their pleasure of vital human rights. Housing affordability is influenced by several aspects. Affordability is primarily set by two key variables: capital variables (house buy costs) and occupation variables (costs linked with the caring house). The capacity of a household to buy a house is influenced by the purchase cost (which is the aggregate cost of land, infrastructure, labor, building materials, and profit) and the capacity to sponsor purchase (principally set by finance down payment requisite and balance of household savings)" (UN-Habitat, 2011).

"There are three features to judge the capability of a household to buy a unit. That is; purchase, repayment, and income affordability. Purchase affordability considers whether a household is capable to lend sufficient funds to buy a house. Repayment affordability considers the load forced on a household to reimburse the mortgage. Income affordability

merely measures the ratio of house value to income. The earlier two ideas consist of extra factors that illustrate down payment ratio, the per period mortgage-payment to income ratio, length of the mortgage, and mortgage interest rate" (Gan & Hill 2009). As per International standards of demography, Housing markets are affordable at or below 3 times gross annual household income and critically unaffordable at or below 5 times income (Gandhi, 2012). Typically, 'affordable' housing is that, as not being above a specific share of household expenses, often now 30 percent. Even taking point-in-time contrast at face value, critics of this approach argue that 30 percent of a low income may be less 'affordable' than 40 percent of a high income because 60 percent out of a high income still leaves a household much more disposable income. Stone has highly stressed a residual income approach to affordability (Gurran & Whitehead 2011)

Affordable housing's notion is multifaceted and diverse but can be clarified in economic terms. An affordable house is defined as a house that a family group can attain within a given period, which normally varies from 15-30 years. That period is directly linked to the purchase ability of the group and the financial assistance that they can attain in terms of mortgages, credits, and subsidies (Wallbaum & Salzer, 2012). The long-term goal of affordable housing calls for more benefits in the form of quality, ease of use, and durability, so that social issues can also be brought to light. Affordable housing is "housing that costs less than 200USD/m² to fabricate, including the costs related to construction and finishing details" (Wallbaum & Salzer, 2012).

Stone defined housing affordability as "a relationship between housing, people and family's decision option between housing & non-housing expenditures" (Suhaidab & Basria, 2011). In addition to income and house price, there are other factors, such as education level, type of job, number of households that work, number of children, monthly house payment, and housing subsidies, that are used to figure out how much a family can afford to pay for a house (Suhaidab & Basria, 2011). Housing affordability could be established by achieving a balance between house price, mortgage interest rate & household income (Gandhi, 2012). The measures for affordability may

include housing consumption, that is housing payments, Government subsidies, returns (rising prices), costs related to housing location (transport cost), design (energy & water efficiency) maintenance & management (Gurran & Whitehead, 2011).

Affordable Housing is described by three parameters, cities are required to adapt as per their local conditions; Firstly, Housing costs that consume not more than 30-40% of household income, Secondly, as per the household's opinion, a socially acceptable, decent living standard housing unit. How much floor space is required in that unit replicates, household choice, regulatory limitations, and market situation? The minimum standard for essential amenities i.e, water and sanitation, access to school, health, and distance to job, is a maximum of one hour. (Woetzel 2014). The goal of affordable housing is not just to meet basic shelter needs, but also to follow the planning and building rules, meet household needs in terms of amenities, size, and location, and be affordable. During economic crises, affordability levels are dependent on household income rather than on house building and land costs, an aspect, which is independent of construction industries (Zuo et al. 2009).

2.5 Dimensions & Challenges of Affordable Housing

There are four dimensions of housing affordability, (1) House purchase costs (Land, infrastructure, building materials, labor/profit) are capital variables as material /house Input. (2) Ability to finance the purchase (Finance-down payment requirements) and saving & other assets are capital variables. (3) House living cost (Land lease /rates, service cost, and unit repairs) as occupational variables. (4) Ability to financially service (Finance-interest rate and loan periods) and under income/expenditure (income minus non-housing expenditure) (UN-Habitat, 2011).

The key challenges of affordable housing are: (a) Lack of resources (b) High cost of construction (material & labor) (c) Lack of affordable land (d) Shortage of affordable finance (e) Ineffective regulations & policies (f) Limited time as against quick demand (g) Lack of trained labor (h) Quality management (i) Quality & Location (j) Community participation (Wallbaum & Salzer, 2012).

2.6 Need for Affordable Housing

In developing and least developed nations, building sectors have been rated as having high economic and social value. Urbanization patterns are being observed in these countries and it is estimated that the world population's 70% will be residing in cities by 2050. This is due to the fact, that people are attracted to cities from rural areas for better life and living conditions. As cities are the center of wealth and progress. At the world level, in developing & poorer countries, the housing sector is of key social & economic value. There will be a huge demand for housing due to the rise in the urban population globally. The current housing market isn't big enough to meet the need for homes. This difference between supply and demand forces people to build homes that aren't very good or cost a lot of money. This trend raises the demand for producing affordable housing for a low-income group who can acquire it affordably. Moreover, for affordable housing, affordable, environmentally sound, and appropriate techniques and technologies need to be introduced in the market, along with skilled labor. It will help to reduce slums/katchi bodies, and environmental problems, and will create job opportunities for low-income groups (Wallbaum & Salzer, 2012).

Many authors described the housing sector as the key user of energy & resources in the present environment. So it is of great concern to develop technologies & native ideas and their potential & performance to be examined. Moreover, sustainable housing should be developed with objectives to reduce energy & flow of materials and reduce environmental impact, during the life cycle. (From Planning, design, construction, use, operation & maintenance, and demolition) (Cradle to grave) (Wallbaum & Salzer, 2012). Affordable housing can help the economy grow, the environment gets better, and people get along with each other, all while being sustainable. It reduces problems related to urbanization, poverty, slums, climate change, inadequate housing, energy consumption and water scarcity, and economic crises and their impacts. The houses are built without due consideration of the needs of residents & their connectivity to the services. Construction costs are reduced, using substandard materials & techniques rather than finding affordable & sustainable solutions, for all income groups, especially the poor. In such kind of informal

housing people are forced to live in, as no other option, being a source of health-related problems (sick building syndrome) and unaffordable running costs. Affordable housing will be in access to the poor, fulfilling their social requirements affordably, and will provide a safe, healthy living environment & well-being as well. Moreover, it will be beneficial for the built & natural environment and long life (UN-Habitat, 2012).

2.7 Socio-Economic Determinants and Affordable Housing

Millions of lives are affected in developing countries due to housing-related issues. These issues mainly are the substandard quality, huge gap in demand and supply, and overcrowding and congestion, especially in densely populated urban areas. (Sengupta, 2010; UN-Habitat, 2011). The main deterrents of economic development and socio-economic uplift of low-income to moderate-income households in a country are the affordability, availability, quality, and quantity of housing. The migration from rural areas to the cities in a search of better living standards is done keeping in anticipation a decent and safe house at an affordable cost. Hence, making the affordable and quality housing provision directly related to social cohesion (Balasis et al. 2018). The reason behind the poor-quality housing is primarily socio-economic issues. (Ariffin et al. 2016).

Affordable housing is not just about a decent shelter, but it has also a social perspective, it guarantees security and relief from stress, as well as is important in enhancing self-esteem (Wallbaum, 2012). Housing is considered the largest lifetime investment for a household and has a great effect on the socio-economic wellbeing (Malys et al. 2009) Efficient land use planning provides equal accessibility to housing, facilities, and transport for various socio-economic groups and marginal households in a society that enhance the social environment by upgrading the living conditions and improving community social cohesion (Butterworth, 2000; Hugh, 2009). Land use's decisions regarding housing, transport, and economic progress are the main determinants of households living choices (Hugh, 2009). If the incomes are lower as compared to high unit prices, with

poorly managed housing and land supply, then it results in rising social segregation in housing markets (Barker-2004; Bramlay, 2009; Hugh, 2009). In UK & US affordability is sometimes described in terms of affordable housing. Stone defined affordability as a relationship between housing & people and a family's decision option between housing & non-housing expenditures (Suhaida et al, 2011; Stone, 2006). Due to lack of affordability, poor households are forced to live in overcrowded & low-quality housing, in far locations away from their social network, unsafe & unhygienic living conditions, and lacking tenure security (Stone, 2006; Hugh, 2009). In addition to population & urbanization trends, Planners must consider the affordability level of households in planning affordable housing keeping in view, household income, capacity to pay, choice/criteria for price & location, and selection regarding tenure, type & quality of housing. (Bujang, 2010). Efficient & functional house designs can affect the social determinants in selecting a house and affordability (Opoko, 2010). Limited Affordable housing provision prohibits the capacity of an area, to offer such housing in sufficient quantity and quality for the needy, while a steady supply of affordable housing guarantees the community social cohesion (Winsten, 2009).

2.7.1 Social Status: -

Family's social status and socioeconomic factors, such as age, household size, gender, education, income and employment, unit cost, location, occupation, earning members, and transportation cost, affect the housing needs and choices, which affect the household configuration and are therefore major factors in housing demand, supply, and affordability. (Almaden & Science 2014) Size, shape, and population growth are all factors in the need for housing (Bujang, 2010). Age and income don't make it easy to get the self-esteem and security that come with owning a home (Tan, 2012). Owning a home has many social and economic benefits for both the family and the community as a whole. Home ownership improves the living environment, self-esteem, and level of satisfaction in the home, and is seen as a very important gain in a person's life. (Rohe et al., 2001). Many empirical studies have shown that education, the different stages of life, the size of the household, and the type of job all have a big impact on how much a house costs.

Marriage status and the size of the household have a lot to do with the life cycle of the household. When the number of people in a household goes up, the rate of home ownership will go up, which will affect the demand for housing and how much it costs (Goodman, 1990; Tan, 2012). Married households have a big effect on how affordable housing is, and male household heads are more likely to own a home because they make more money than women (Tan, 2012). Households with more people need to spend more on housing and other costs than households with fewer people. Adult children who live with their parents and work help bring in extra money for the family. Women who run their own homes have to pay more for their homes (Saleh et al, 2014).

2.7.2 Education

Affordable housing can help families get a better education. Children and women who live in overcrowded homes are more likely to feel stressed, and their educational outcomes aren't as good as those of children who live in better homes (Roween, 2014 & Braconi, 2001) There is a significant positive relationship between affordable housing and benefits in health and education level in a community & enhance overall wellbeing with a satisfaction level of households. (Mueller & Tighe, 2007). The affordability to own a house increases with the education status of households. (Tan, 2012; Gabriel, 2001) The nature of job is closely linked to the education status of a household. Low-level education & job skills result in a low paid jobs and turn households can only afford to support small households and chose to live-in low-quality housing one of the major causes of affordability issues among lower/middle-income households. A higher level of education leads to better jobs with high income and a source of better living standards with decent house ownership. So, the low-educated household with less income can't afford good quality housing due to lack of affordability as much of its income go into heads of non- housing expenses. Consequently, lower income and higher costs of housing increase affordability issues (Saleh, 2014).

2.7.3 Overcrowding

Plot/unit size and no of rooms are social determinants that are considered by most households while buying and constructing a house. Most households keep on adding space to their unit with time. The overall quality of units with ownership is better than rental units (Tan, 2012). Households have no choice but to live in low-quality small-size units due to the affordability issues of owning a decent house. (Saleh, 2014)

2.7.4 Income, Expense (saving) & Employment

A house is affordable if a family can save some of their income for building or fixing up their home, as well as for other costs that don't involve housing, throughout their lifetime. (Anirban et.al.2004; Bujang,2010; Roween,2014). The people in the lower income group not only have low income, but it also comes in at odd times, so they can't afford to use the loans under the current terms (Wallbaum, 2012). The education level of a household affects its income level, which in turn affects how affordable the household is (Linneman & Megbolugbe, 1992). Affordable housing has a lot to do with rising income and job security (Rohe & start, 1996). Employment and income are closely related and determinants of affordability and greatly affect social status, which is a major determinant of wellness and affordability (Hugh, 2009).

The stone used the residual income approach to describe affordability, as the non-housing expenses are restricted by how much is left after paying for housing. So, a household is having an affordability issue, if he can't meet his non-housing requirements after paying for Housing. (Stone, 2006). It is called "affordable housing" when a low- or middle-income family spends 30% or less on housing. Stone says that the poor can't afford it after paying for basic things like food and clothing. If most of a family's income goes to housing, they won't be able to save as much for things like food, clothing, health care, transportation, education, and recreation, which hurts their overall well-being (Bratt, 2002). For example, in two households with the same income but one with a two-member household and the other with a household size of 5, the former will have to spend less on non-housing expenses as compared to the later, which leads to

affordability issue for higher household size to spend on housing than the small household size. Similarly, if two families with the same household size but with varying income levels are considered for affordability, it will reveal that a household with a higher income will have more savings for having decent housing ownership than a lower income, as both must spend the almost same amount for non-housing expenses to achieve a minimum basic living standard (Stone, 2006). The household income to housing expenses relationship is sometimes said to be housing Affordability and a key determinant of affordability (Roween, 2014). Affordability is the relation of income to the relative price of a unit. Whereas as per household affordability, income; socio-economic and demographic factors significantly impact demand. (Stone, 2006) Household size, age, income, interest rate, and savings affect affordability and have a significant relationship. Moreover, employment and education level are also highly related to housing demand and affordability (Bujang, 2010). Higher unemployment leads to lower average incomes and affects the household's affordability to own a house. (Roween, 2014).

2.7.5 Employment

Availability & accessibility to job opening is a key determinant for an area to live affordably as it has a great impact on household income. A low chance of job opportunity creates stress on the household's capacity to afford to house, and traveling too far for a job affects the household's income and affordability (Fisher et al, 2009).

2.7.6 Unit Cost/Land Cost

Socioeconomic factors cause housing prices to be high. (Quan & Hill- 2008) For a family to buy and own a unit, the price must be reasonable. For most low-income homes, the initial cost of building is the most important factor. So, the low income of poor households should be a key factor to consider when planning building technologies and methods. (Wallbaum, 2012). Affordable housing considers the needs of families who don't make enough money to buy a good home without help (Milligan, et.al. 2004). If the cost of buying or building a decent house is more than what a family can afford with the money they have left over, the family is facing issues of affordability. (Stone, 2006). The cost of housing has a direct effect on how well a family is doing. Households that can barely pay

for their housing and other costs may have health problems and be more likely to be stressed. (Bratt, 2002) When poor people build their homes, they use materials that aren't up to par. This makes the house less resistant to humidity and dangers and increases the cost of repairs and maintenance (Wallbaum, 2012).

2.7.7 Location/Accessibility

Location of housing and type, social-economic determinations affect the affordability and housing demand. (Andrus & Ho). Lack of access to a school, hospital, park, etc., can hurt a family's social life and well-being (Hugh, 2009). There is a strong link between having shopping, health care, services, and parks within walking distance and well-being, affordability, and social cohesion (Kuo, 2001). When building, buying, or renting a house or a plot of land, people think about the location, price, living environment, and amenities (Tan 2012). A family's decision to buy a house or plot of land depends a lot on its location, such as how far it is from school, work, shopping, health care, parks, and public transportation. (Tan 2012). Location is important to the success of a housing project (Kauko, 2007). Having a shorter commute to work saves time, and money on gas, and improves job security and productivity (Tan, 2012). Middle- and low-income households prefer to get a plot/house close to their job impacting the affordable housing location (Opoko,2010). The married household with children prefers to have a plot/house near the school. (Tan,2012). While most prefer houses near a park or green spaces as a source of social cohesion (Winston, 2010) at the same time such locations are unaffordable for lower to middle-income households due to high cost. (Tan, 2012) Adequate and decent housing in a healthy environment is mostly owned by upper & higher middle-income communities (Tan, 2012 & 2011a). Lack of adequate water & sanitation facilities will have an adverse effect on the housing location/cost (Tan, 2012).

Affordable housing must be in proximity to public transport, as transportation costs impact housing affordability, and accessible public transit affects positively household Income (Winston, 2010; Roween, 2014). When choosing the house to live in and own a household prefer proximity to better education institutions & shopping areas, as it contributes the well-being of the household (Samual, 2005). A good place to live is close to work, has good public transportation, and has public facilities like schools, hospitals, and parks that are easy to get to. Due to the high cost of housing in these areas, poor people are forced to live in the suburbs of cities, far from their jobs and social networks, where there aren't many public facilities, and where they mostly live in slums or informal settlements (Saleh, 2014). Affordable housing enhances the overall health of households due to healthy living environments (Gopalan, 2015)

2.8 International Labor Organization and Housing for Workers

Whereas the Constitution of the International Labor Organization provides that the organization shall promote the objects outlined in the Declaration of Philadelphia, which recognizes the solemn obligation of the International Labor Organization to further among the nations of the world programs which will achieve the provision of adequate housing; and Whereas the Universal Declaration of Human Rights adopted by the General Assembly of the United Nations recognizes that everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including housing; and

Whereas the United Nations and the International Labor Organization have agreed, as outlined in the Integrated Work Programme of the United Nations and the Specialized Agencies in the Field of Housing and Town and Country Planning, noted by the Economic and Social Council and by the Governing Body of the International Labour Office in 1949, that the United Nations has an over-all responsibility within the general field of housing and town and country planning and the International Labor Organization a special concern for matters relating to workers' housing; (Organization 1998)

2.9 Notable International Practices.

International Finance Corporation (IFC) has membership in the World Bank group. IFC leads international housing finance by working in 46 countries. (Lang, et al. 2019) IFC has its focus on private sectors in developing countries. IFC makes use of its technical and financial resources as well as its experience in the world arena and innovative ideas to help its partners in developing countries to meet their needs. IFC does so by overcoming the financial, operational, and political challenges which its partners may be facing. Mobilizing the resources of the third party is a key tool used by IFC in this process. The low-income group is a special target of IFC. One such example of IFC is its equity investment of US \$4.5m in Indian Aadhar Housing Finance Ltd- Which is set up by Dewan Housing Finance Company back in 2010. (Ahmad 2019) As mentioned earlier IFC's area of focus is a low-income group. So IFC through Aadhar lends its loan sizing around 11000 US dollars to the customers who earn between US\$80 to US\$400 per month. IFC through Aadhar is helping around 40,000 people realize their dreams of owning a house (Ahmad 2019). The key to the success of IFC here is that it has made a clear understanding of the capacities, preferences, and needs of its customers. It has considered the illiteracy of its customers and hence has developed a comprehensive finance framework that helps the borrowers solve the problems discussed in point 6 of the 'ISSUES'. Through its technical support, IFC has helped the developers to develop a housing design that fulfills both the needs and affordability problems of its customers. To ensure smooth and efficient operations IFC has helped Aadhar in developing corporate governance and risk management systems. The Canadian Government has also set an example by focusing on low-cost home-ownership. As usual access to home ownership was far away from low-income groups due to price hikes. Homeowners in Canada require insurance on loans. And subsidized loan insurance is available only to those households which can deposit at least 20 percent of the residential price. (Roseland 2012) This is a hurdle for potential first-time buyers. Federal governments played their role by passing several bills in favor of affordable housing provisions. To achieve this end federal government has injected significant funds into the program. The federal government aimed to have a simple and minimum operational cost. Hence, grants and loans were injected by the government. Loans were repayable loan

if the initial occupier sells its housing unit and forgivable loans. This was called a silent mortgage. These silent loans have helped masses in provinces to develop and own their houses. All the operation was carried out by the local governments which were in touch with locals, hence finding it easy to identify the target group, collection, and lending of funds. It has also added a factor of transparency to the operation and is the best suiting for low-income housing ownership requirements. (Roseland 2012) Such an approach has also developed contestability between different kinds of house providers. Better the services by the providers better will be the provider's customers, which will lead to the high number of its customers to qualify for silent loans and timely return of provider's investments.

The USA: The Low-Income Housing Tax Credit (LIHTC) is a program in which tax credits are provided to developers. The developer will transfer this tax credit to the investor. The investor will in return provide the equity finance. The tax credits will be claimed on income tax returns by the investors. The developer got relief in its financial matters and will be able to develop a housing unit for himself or its customer at a relatively low price. Hence LIHTC indirectly makes the customer the real beneficiary. The investor gets a relief upon offsetting its federal income taxes. The target of LIHTC is the household having a low or moderate income, essentially the households which have a 60% low income than the income of the household in the given region. (Baum-Snow & Marion 2009). LIHTC has defined the maximum affordable rent as the 30% of income. States oversee the allocation of such credits as states are better in touch with locals and hence dominate spending. The credits are allocated through a competitive allocation process among the developers. The price paid for the tax credit by the investor depends upon the market condition of the specific region. The developers construct the units on the funds received from the investor through credit sales. The investors can be both profit companies, investing to gain additional tax advantage on their income taxes, and nonprofit companies which are there for the share in units. Significant penalties are also there for the developers who fail to fulfill the condition of letting houses to low-income groups discusses earlier. (Roseland 2012)

Spain also has a program for helping developers with finance leading to indirect help to the customers who are mainly low-income groups. The program was initiated by Spain

is called Spain's Vivienda de Protección Oficial (VPO) program. (Roseland 2012) Established in 1978 VPO has helped in addition of more than 5 million housing units to the housing industry. This is achieved by subsidizing the developers. The developers may be from the public or private sector. This subsidy is then passed on in the form of a mortgage. This feature makes this program a combination of supply-side and also demand-side subsidies. Homeownership is the basic feature of the VPO program. The main form of subsidy for the developer is the supply of cheap land. The local municipality is responsible for the supply of such land. On the same side, the developer is under obligation to build a specific number of housing units on the land. The supply of cheap land is financed by the banks as well as by the deposits made by the purchasers which are 20%. (Roseland 2012) If the purchaser is an individual it may get a subsidy on down payments. Such subsidy varies according to household size and the income of developers. However, the purchasers are selected from the list developed by the local municipality. As the terms and conditions of VPO are very soft, it makes an eligible maximum of its population for the scheme. This population even contains the high-income group. This availability of a high number of customers gives the developers freedom in financial issues and it faces no problem in finding the purchasers. If a purchaser wants to sell the unit, it can be resold without the loss of the subsidy embedded in the land. Other subsidies must be returned if the sale is within 10 years and if the sale is after 20 years the purchaser is free from returning the subsidy (Roseland 2012).

The government of Shandong in China has introduced various schemes and sub-programs; the main goal of these schemes was to supply houses to families which were either low or middle-income at affordable prices. Besides the fact, the target of the state council was to supply 36 million Affordable housing units according to its 12 years plan but there was a serious decline in the affordable houses share- from 13.5% in 2003 to 3.5% in 2009. (Zhang & Rasiah 2016) Therefore, it was concluded that urban dwellers found it difficult to afford a house in a financial system based on market-oriented equilibrium. Leaving housing allocation to market forces will make the public utility of affordable houses out of reach for a disadvantaged group. Hence the state council introduced a new institutional framework that urges the state governments to play a central role in executing policies and sorting out the issues. For this the Cheap Rental Housing (CRH)

the scheme was introduced, with nationwide implementation back in 2004. (Zhang & Rasiah 2016) The specialization and collaboration with each other in the execution of policies by every tier of government was the main requirement of CRH. The instruction provided by the central government was the same for all the governments, yet they were free to formulate their action differently according to the local conditions, which is a distinctive feature of CRH. Affordable houses in the state are funded by different means. These means include allocation by the central governments, net incomes from leasing the land, banks loan, income from government bonds, net profit from providing affordable houses, and other entities such as mobilizing the capital reserves of developers. All this funding is no longer directly managed only by central governments but the local governments share a greater responsibility and flexibility in realizing their funding means. Capital from the central governments is channeled into state-managed pools where it is used to finance the projects through a different mechanism. Though all the means of finances discussed above are in practice, the main instruments of finance are only two. These are land leasing schemes and housing provident funds.

Land leasing schemes stipulate that at least 10% of net income from land use rights must go to the capital reserves of CRH. This allocation is apart from the special funds which the central government allocates to CRH and budgetary allocation. This also specifies that the reserve of CRH will only be spent on covering the basic cost. The basic cost includes the re-purchase and reconstruction of existing buildings, also new construction, and subsidizing the groups which eligible for the subsidies. Through this process of land leasing, the income from which directly goes to the local governments, and the cost of affordable housing is borne by the local governments. Hence making the local government the main and key player in benefiting the disadvantaged group. Though the central government is still helpful in other matters related to the decentralization of taxes and other fiscal issues but the management of land on the ground is done entirely by the local state and local governments. Such operation has also solved the issue of bureaucratic delays and operational costs on the part of the central government.

The housing Provident Fund (HPF) is another source of funding for the CRH Schemes. (Yeung & Howes 2006) HPF is a savings scheme that obliges employees and employers to allocate a specific amount of their savings to the HPF account. Every entity has its account. HPF is introduced to meet the housing needs without the state granting subsidy. Apart from the savings of employers and employees the net income from the interest made from personal housing loans and the government bonds and the interest which is earned on the savings of HPF also goes to the HPF deposit. The management costs and the risks are deducted from such funds. The funds which are in balance from HPF funds are directed to the CRH reserve fund. (Yeung & Howes 2006)

3 RESEARCH METHODOLOGY

This chapter contains information about the methods adopted to carry out the data collection, sampling, data processing, and then the techniques incorporated to analyze the data.

3.1 Study Population

As evident from the research topic, this research was focused on the population of workers living in Hayatabad Industrial Estate. There is a total of 3 residential colonies inside Hayatabad industrial estate namely Old Labor Colony (Constructed 1986) Benazir Labor Colony (Constructed 1996) and Musharraf Labor colony (Constructed 2006). The respondents were interviewed about different socio-economic aspects of their life which were deemed important to assess the required objective. The respondents from both Genders were interviewed but as usual, the majority were male respondents.

3.2 Research Design

Both Quantitative and Qualitative research designs were integrated while carrying out this research.

3.3 Data Collection

The sources of the data used for analysis in this research are both primary and secondary. Suiting the purpose of this research, data were collected through interviews and surveys about socio-economic status, their living style preferences, accessibility to various components, their priorities, information about the land and houses workers living in, the

general administration of the colonies, availability of affordable housing, housing finances, and much more. While the secondary data was collected from various journals, articles, reports, and documents polished online related to the scope of the study.

3.4 Primary Data Collection

The primary data was collected through key informants' interviews and a general surveys in the field. The format and original questionnaire are attached herewith in annexures.

3.5 Questionnaire Survey

A questionnaire consisting of questions about various social, economic, and institutional aspects was used in a survey. The factors of age, gender, household type, type of residence, size of the house, location, family composition of the respondent, literacy status, marital status, accessibility to various facilities such as educational institutes, medical facilities, access to the place of job, leisure facilities, overall ownership status, and tenure status were the part of social aspects of the survey.

While the economic aspects included the status of employment, the monthly income of the household. The payment they pay in the shape of rent, non-housing expenditures, repair, and maintenance etc.

The institutional part of the questionnaire contains question about the performance of the local administration, the care taker, the working of complaint offices, security, fire department, price control, waste management, participation in budget and maintenance, etc.

3.6 Structured Interviews

Structured interviews were conducted which involved the concerned stakeholders. As the Worker Welfare Fund is the governing department of the housing schemes for workers in Pakistan, the contributors were mainly form this department. They

were asked about the policy framework which governs the working of WWF. Further, they were interviewed about the problem the organization faces with the smooth delivery of the facilities to the workers. The question of homeownership for the workers was also the center of focus. The contributors were given the chance to express their views on new projects. The concern of timely resolution of complaints was also discussed. The relation between the government, the employer, and the worker were also part of the discussion.

3.7 Secondary Data Collection

Data, which is considered secondary data, were collected from various departments working under the Government of Pakistan. These included the Pakistan Bureau of Statistics, State Bank of Pakistan, Policy of Low-Cost Housing Finance, Ministry of Finance, Workers Welfare Fund, Workers Welfare Board, Khyber Pakhtunkhwa Chamber of Commerce and Industries, and other organizations. The data primarily involved the worker population, the number of housing schemes, the number of industries, the perks, and grants available for workers, and the facilities attached to the housing schemes such as vocational training centers, schools, colleges, medical facilities, etc.

3.8 Sampling Procedure

In the quest of obtaining well-distributed and in-depth data, the industrial estate was divided into three zones. These zones included three different colonies of different natures. The old Labor Colony is a single-story residential scheme, while the Benazir Labor Colony is multi-storied. The Musharraf Colony consists of double-story residential units. The selection of the sample population was random, and the factor of availability of the head of the household was taken care of. The contribution of each zone to the final survey was kept according to the total population density of the particular colony. For example, the maximum contribution is from the Old Labor Colony, which is the largest

of all both in population wise and number of housing units. Containing 300 houses, the lowest was from the Musharraf labor colony which contains 200 housing units.

3.9 Data Processing and Analysis

The useful information was highlighted by analyzing the data and processing it in a well-organized and presentable format. SPSS is the main computer tool used for analyzing the data. Correlation analysis was performed for the assessment of households for affordable housing, and the issues related to it. The economic variables which consist primarily of rent, finance sources, and options, the members of the household who earn, the non-housing expenses, etc. were presented on standard deviation to obtain a general idea of its zone.

The affordability of social-economic aspects was assessed on the correlation tool such as the income to rent ratio, education spending to income ratio, and other expenditures related to the income of the household. Further, the satisfaction, priority, and accessibility part of the questionnaire was analyzed on the frequency scales. The satisfaction scale consisted of a 5-point scale from very dissatisfied to very satisfied where a low score of 1 was allotted to very dissatisfied while the very satisfied got the label of 5. Similarly, the respondents were asked to prioritize various components on the 3-point priority scale that is first, second and third priority. Further, the accessibility was assessed on a scale of 1 to 5, with 1 showing the lowest of 1 to 2km of accessibility while 5 showing the distance of 5km or above.

4 DATA COLLECTION AND ANALYSIS

4.1 Introduction to Affordable Housing Programs for Industrial Workers in Pakistan

4.1.1 Governing Organization.

The new Ministry of Human Resource Development is in charge of running the Workers Welfare Fund (WWF), which is an independent group (HRD).

WWF is run by a group of government officials, industrial workers, and business owners. The Workers Welfare Ordinance of 1971 led to the start of WWF (WWO). Its goals include giving workers housing, education, health care, grants for getting married or dying, and other benefits that could improve their well-being. WWF is just a funding agency that gives money to programs for industrial workers based on suggestions from provincial WBs (Welfare Boards). The Government of Pakistan (GOP) has been having trouble making sure that all industrial workers are taken care of. Even though it hasn't been able to put all of the macro-level labor reforms into place (e.g. the implementation of the minimum wage – revised annually). Even after the 18th Constitutional Amendment, which requires social sector programs to be devolved to provinces to improve service delivery at the provincial and sub-provincial levels, the government has kept the Workers Welfare Fund (WWF) organization. But the provincial governments have been telling the federal government to give up control of WWF. The WWF is helping industrial workers with specific tools that will be talked about later.

4.1.2 Housing Schemes

Industrial workers think that the WWF's housing project is a good way to help a lot of poor families. WWF has done an excellent job in this regard by constructing several labor colonies across the province. There are WWF housing colonies in both cities and areas on the edge of cities or in rural areas. Colonies are equipped with basic utilities i.e., educational institutes, health dispensaries, vocational training centers, natural gas, water supply and sanitation, electricity, markets, roads and pavements, schools, community centers, mosques, recreational facilities, etc. Each colony has a caretaker and other staff who take care of things like clean drinking water, electricity, and sanitation, among other things. The design of houses varies from single to multiple-story buildings. All facilities are provided within walking distance and inside the colony. But the WWF needs to make more houses over time because the rate at which they are made is slow. A survey also looks at how people live in the existing labor colonies.

There are WWF housing colonies in both cities and areas on the edge of cities or in rural areas. In each colony, there is a caretaker who looks after things like clean drinking water, electricity, sanitation, etc. In cities, these facilities are better than in the areas around cities, where sanitation is the main problem. Because of a lack of money and limited services from the city, the caretakers can't do their jobs well.

**Table 4-1: Housing Projects Completed by Workers Welfare Fund All Across
Khyber Pakhtunkhwa**

S.No	Location	No of Houses	Year of Completion
1	Mardan Nowshera Rd Opp Premier Sugar Mills Mardan	240	1978
2	Peshawar Nowshera Rd Near Amangarh Railway Crossing Over-Head Bridge	300	1982
3	Village Pand near Tech College Mingora Swat	50	1984
4	Dodah Rd Near S.I.D.B Kohat	100	1984
5	Near Central Jail Area Haripur	50	1993
6	Dang Dang Road Akora Khatak	50	1995
7	Village Ghareabad Charsada	50	1995
8	Industrial Estate Gadoon Amazai Distt Swabi	100	1999
9	Industrial Estate Gadoon Amazai Distt Swabi	50	1996
10	Village Pand Near Technical College Mingora Swat	50	1997
11	Mardan Nowshera Rd Opp Premier Sugar Mills Mardan	50	1998
12	Banu Road Kohat	50	1999
13	Bannu-Serai Naurang Road Bannu	50	1999
14	Peshawar Nowshera Rd Near Amangarh Railway Crossing Over-Head Bridge	100	2001
15	Industrial Estate Hattar	188	2001
16	Industrial Estate Hattar	300	2001
17	Peshawar Nowshera Rd Near Amangarh Railway Crossing Over-Head Bridge	100	2001
18	G.T Road Hakimabad	100	2001
19	Industrial Estate Hattar	100	2001
20	Swat (EXT)	40	2001
21	Dera Development Authority D.I.Khan (EXT)	50	2001
22	Mardan Nowshera Rd Opp Premier Sugar Mills Mardan	140	2006

S.No	Location	No of Houses	Year of Completion
23	Mardan – Malakand Road Near Serri Bahlol Chowk Takht Bhai	252	2012
24	Hayatabad Peshawar	300	1983
25	Labor Colony Mardan	50	2007
26	Gari Habibullah(Kashtara) Balakot	100	1998
27	Industrial Estate Hayatabad, Peshawar	224	1998
28	Industrial Estate Hayatabad, Peshawar	200	2001
29	Industrial Estate Hattar	600	2012
30	Industrial Estate Gadoon Amazai Distt Swabi	1152	2013
31	Peshawar Nowshera Rd Near Amangarh Railway Crossing Over-Head Bridge Hakimabad Nowshera	352	2013
32	Amenities Building and Infrastructure Development Works at Industrial Estate Gadoon Amazai Distt Swabi	1152	2015
	Total	3680	

Table 4-2: Ongoing Housing Projects by Workers Welfare Fund All Across Khyber Pakhtunkhwa

S.No	Housing Scheme Name	No of Flats	Expected date of completion
1	Regilalma (Phase 1), Hayatabad Peshawar	1200	2019
2	Construction of Family Flats and allied works Regilalma (Phase 2)	1000	2019
	Total	2200	

(Source: Worker Welfare Fund)

4.2 A view of the condition of these Worker's Housing Colonies

4.2.1 Design of colonies

The design of houses varies from single to multiple storey buildings. Similarly, the space also varies according to the type of house. For example, in a colony of Industrial Estate Peshawar, called Old Labor Colony, there are 300 quarters, all are single storey with A and B type of specification. A type is narrow than the B type. Another such colony is called Benazir Labor Colony, there are multi-story flats, with 4 flats in a column. While another colony, which is the latest in the line called Musharraf Colony, has 2-story flats. The latter mentioned colony has flats spacier than the Benazir colony, while the Old labor colony has the biggest quarters of all the three colonies.



Figure 4-2 Benazir Labor Colony 224 flats

Figure 4-1 Old Labor Colony 300 flats



Figure 4-3 A view of Musharraf Labor Colony 200 flats

4.2.2 Recreational Facilities.

Parks and open spaces are provided in each colony. Equipped with swings and necessary entertainment tools.



Figure 4-4 Recreational Facility in Musharraf Labor Colony of Industrial Estate Peshawar

4.2.3 Community Centers.

2 out of 3 labor colonies of Peshawar industrial estate have a community center and wedding halls. These are used for multipurpose gatherings.



Figure 4-5 Community Center in Old Labor Colony

4.2.4 Water Supply and Drainage.

All labor colonies have a well-developed water supply and drainage system. Tube wells serve as a source of water supply. Water is supplied periodically. Similarly, the drainage system is also in place. Colonies have well-established and covered drains and sinks.



Figure 4-6 Water Supply setup in one of the labor colonies

4.2.5 Educational Institutes.

Schools, Colleges by the name of Working Folks Grammar Schools are established in every industrial zone and Peshawar Industrial Estate is no exception to such institutes. Currently, there are 2 Schools and 1 college reserved only for the children of labors. Further, a vocational training center for females is also there in Peshawar industrial estate, where women are trained in various tailoring and garment-related skills.



Figure 4-7 Vocational Training center for Females in Old Labor Colony



Figure 4-8 Working Folks Grammar School and College for Male and females in Old Labor Colony

4.2.6 Administration

A caretaker is in-charge of all the operations carried out in a colony. He is in-charge of security and maintenance. The caretaker's office also oversees the fee collection and quarter allotment.

4.2.7 Sharing the burden of Housing expenses through financial grants.

The WWF's current laws and procedures help industrial workers with housing programs, grants for education and health care, job training, grants for marriage, and death grants. The social and economic effects of these grants are pretty big, and many of them help in more than one way. Education grants not only help people learn to read and write, but they also help them get good jobs. Through the trickle-down effect, many doctors, engineers, social scientists, and so on are made. Housing programs, wedding grants, and death grants also have a small effect on workers. Most of the time, these instruments act as buffers and smooth out how households spend their money. The government says that the WWF has improved the way it gives money out over time. During the 1990s, workers were paid with checks that took a few days to clear. Now, it goes straight into their bank accounts, which saves a lot of time.

4.3 A view of the negatives of these colonies.

4.3.1 Repair and Maintenance

The workers are having a hard time because the institutions' ways of fixing and maintaining things aren't very good. The reason behind non-maintenance varies from the non-availability of ample funds to staff offices. This can be well understood by the fact that there are only 2 janitors

for a colony of 300 houses. The same goes with security staff which is only 2, managing such a high population with such low staff is near impossible.



Figure 4-9 Passengers waiting area occupied in deteriorated condition



Figure 4-10 Broken Bridge and its safety grills due to lack of care and maintenance.



Figure 4-11 Funeral Area occupied by drug addicts

4.3.2 Housing allotments.

Factory workers can use the housing facility as long as they are working in the factory, but they can't stay in the houses after they retire. The workers want the title to the houses because it's hard to pay for a home when you're retired. The people who work for the government agree that the housing plan needs to be changed. But it has helped almost 60,000 industrial workers up to this point. The WWF is currently helping industrial workers with 114 housing projects, and another 26 projects are in the works. Also, there

are several problems with the way the house allotments are given out. The WWF is run on the funds collected from the Industries located in a province. The houses are allotted to such industries/factories based on their size and contribution etc. Which in turn allot the houses to their workers. However, there are complications.

Complications on the part of workers are that if a person has given a part of his life to a factory, say 15 to 25 years, and for some reason (medical, factory closure, death, overage, etc) he is unable to work in a factory, hence in such a condition, the kicking out of such a person from the quarter may add to homelessness. Further, a person dies and his children are in the house, so they can't afford to live outside, hence drawing them out of the house will also create complications. Also, if a person is sacked from a factory, where will the worker and his family go? Similarly, the housing allotments must be carried out according to the designation of a person in the factory. A worker who is an officer of a factory having a high salary must not be allotted the house, as it is built for the one who cannot afford to live outside. Observations have been made that the majority of the houses are acquired by the people of the upper class having high monthly incomes.

Similarly, employers are of the view that they must be in charge of the allotment of houses. As a person may leave the factory after getting himself a quarter hence blocking the way for the existing factory workers.

Only the factories in the area should be allowed to live in the living quarters. If someone isn't working in a factory, he must be leaving the colony. If a factory isn't running, the people who work there shouldn't be living in houses in colonies.

Also, it has been noticed that new housing developments are being built more slowly and with less quality. Also, housing isn't being maintained (repaired) as often as it should be, which makes many people unhappy in their homes.

Workers who have retired from WWF can't use health facilities or any other WWF tools. WWF has yet to explain why this is the case. Steps and legislations must be undertaken to solve such issues, A committee must be formed that can hear and address such issue case to case.

4.3.3 Drainage System

There are a lot of houses with broken footings, and this is all because of a bad drainage system. When waste water and drinking water mix, it is very bad for your health. Sanitation isn't good enough in the labor colonies. For example, in a labor colony with more than 300 houses, there are only two sweepers. People don't have a good way to get rid of the trash, so they throw it on nearby grounds. Waste and garbage have mixed with the ground water over time, which has caused health problems. When health problems happen, most of the people who get sick are children. Workers in the peri-urban areas asked for serious steps to be taken to fix all of these problems.



Figure 4-12 Bulk of Garbage on the entrance of one of the Labor Colony

4.3.4 Recreational Facilities

These housing colonies lack basic recreational facilities like parks and street lights. Common places such as parks and grounds for children have encroached and no dedicated effort was observed by our team in which WWF has taken up this issue of encroaching with the municipal authorities or even the highest officials within WWF and the Ministry. Equipment from the park is either broken or not repaired or stolen. The solution to this problem sorted out by the administration was to remove the rest of the equipment (swings etc.) to stop further stealing. So now a park of a colony which was well constructed with all toys and grass is not a flat clay ground.

The streetlights of this colony were there but were not operational, when inquired, the official explained that it's been off due to high electric cost.

Further, there is no recreational space for women in all three major colonies of Peshawar industrial estate.



(1)



(2)

Figure 4-13 Pictures (1) & (2) represent playgrounds in deteriorated condition

4.3.5 Political Allotments

Misuse of welfare grants especially housing grants ignites tension in the community. It is reported that some of the factory workers backed by the political parties allot houses without any legal rights. Then they sublet it to a third party on high rent. This triggers conflict in society and needs serious attention for its resolution. There is a trend of selling the title or occupation of a house allotted to one worker to another worker by mutual consent. The occupation alone involves a high lumpsum of money.

4.3.6 Grievance Addressing mechanism

Further, the poor grievance addressing mechanism adds to the miseries of poor workers. The officials confess that there is no formal complaint registration mechanism at the federal level in the WWF office. Complaints about houses etc. can only be registered at the factory and the employer himself will resolve the complaint. The worker in case of injustice has to consult the court against the employer. Keeping in view the expensive, complicated and cumbersome court process, it's very hard for the worker to pursue the case against the giant, and hence his reservations go unnoticed and unaddressed. Complaints are registered informally at the provincial offices and are solved there. Further, the tight scrutiny mechanism at the provincial level delays grievance addressing, and the WWF is working to identify and eliminate factors involved in these delays.

4.3.7 Age is an important factor

When it comes to welfare activities, age is a very important factor. A worker can get WWF grants as long as he or she is still working in the field. There are no grants or incentives for people who have already retired. When poor workers retire, they worry a lot because they can't get basic medical care, their kids can't go to school, and they don't have a place to live. So, the WWF's efforts to help people are not long-lasting. These problems after retirement are felt more strongly by women who are hired after the death of a spouse. Overall, the marriage grant does help women gain more power because it is a direct cash transfer that reduces the number of times they are left out, at least in the short term.

4.3.8 Quality of life

Quality of life in these buildings is low in general due to overcrowding of residents in small spaces and inadequate sanitary facilities. It raises issues of hygiene, and safety and is a negative influence on the surrounding environment. The state of the social environment is a crucial point for workers to choose their preferred place of work and

housing. Villages and marketplaces are important social infrastructures that support workers' wellbeing. The location of the housing area and the state of its social environment influence the occupancy ratio of housing facilities

4.3.9 Residential Units/hostels

There is a practice of isolated industrial parks in rural areas with number of tenants including workers, constructing dormitories around the work place, of offering housing facilities for workers' convenience. These dormitory buildings are equipped with public facilities (laundry, recreation room, mini mart, medical facilities, etc.). These act as a hostel for the bachelor workers, who are either single or without family, hence such a building can vacate the space occupied by the bachelors. Several quarters and homes are occupied by such a group of workers. These quarters if vacated, can be filled by those workers having families and are in dire need of a house.

4.3.10 Land Use

In general, the land supplied to the industrial areas has not been well utilized. Land with basic infrastructure for the potential development of housing facilities remains vacant in these areas. There are design malfunctions in the construction of these houses, leaving more area as the right of way and hence giving way to encroachments. The not used area could be utilized to construct the houses more spacy and comfortable. Similarly, a single colony has 300 quarters- All single story. Had it been multi-story it could have adjusted more houses in the current piece of land. Hence there is a need to exploit the land available, by increasing the floor to area ration and constructing high-rise multi-story buildings.

4.3.11 Informal Economy Workers

It is very hard to protect workers in the country's large and diverse informal economy. The same thing is true in Peshawar. Millions of people across a large area are supported by the informal economy. They do a wide range of low-paying, low-productivity jobs in conditions that are often hard, unhealthy, and dangerous. Labor laws don't cover people

who work in the informal economy. The government should make it a requirement for the labor administration to figure out how to reach out to these workers and give them basic protection and a place to stay. Workers in the informal economy, like people who work from home or do housework, must be able to use these housing programs.

4.4 Analysis of the Data Collected during Survey

Social Aspects

The social aspects of the survey included general information about the location, age of the respondent, ownership status, size of the household, gender, literacy level, employment status of the respondent, the condition of the dwelling, etc.

4.4.1 Social status of the Sample

A total of 203 respondents from all three labor colonies were interviewed through a questionnaire. The average household size turned out to be 8.33. Which is more than the standard set by (Ahmed, Ali, et al. 1992). According to (Ahmed, Ali, et al. 1992) the overall average Household size in Pakistan is 6.7 persons, which is bifurcated into 7.2 in the Urban household while 6.5 persons in Rural Households. The majority of the units were occupied by single families but the double families were also not less in number. According to the survey, there were 37% of units were hosting 2 or more twofamilies overall, while the percentage in the colonies remained at 37.9, 10, and 39.2 percent respectively in Old, Benazir, and Musharraf Colony. The Literacy rate in all threelabors colonies was recorded as secondary level schooling on average that is overall 59.2% of the respondents had at least secondary level education which can be bifurcated into 56.4 %, 62.9%, and 59% for Old, Benazir, and Musharraf Labor Colony respectively. This is considered satisfactory as according to (Aldridge, et al. 2019) the dropout rate In Pakistan is a staggering 70% In Pakistan. The survey shows that overall, 27% of the residents have either a Bachelor's or a technical degree, the colony

wise percentage in the same category stood at 28.2, 27.5 and 23 in formerly mentioned labor colonies respectively. So, we can consider that 27% of the overall average are professionally skilled in their fields. While the average of age the household head was recorded to be 49.38 years. While the colony-wise average recorded was 50.34, 48.68 and 47.05 years for Old, Benazir, and Musharraf Labor Colonies respectively. According to the Pakistan Bureau of Statistics, the average age of the household head stands at 50 years. (Statistics 2018-19)

Table 4-3 Social Status of the Sample

Social Status of Sample	Total Responses	Avg Household Size	Avg No of Families in a House	2 or more families in a unit	Avg Age of HH Head	Average Literacy Level	% Having at least Secondary Education	% Having Technical Or bachelor's degree
Total	203	8.33	1.45	31%	49.38	Secondary	59.2	27
Old	124	8.66	1.6	37.9	50.34	Secondary	56.4	28.2
Benazir	40	7.53	1.1	10%	48.68	Secondary	62.5	27.5
Musharraf	39	8.13	1.33	30.20%	47.05	Secondary	59	23.1

4.4.2 Overcrowding

Since more than one family is residing in a single house, there are cases of extension of their houses to adjust family members. Respondents were asked about the status of overcrowding of their houses. The response recorded can be summarized in the following table

Table 4-4 Overcrowded Houses

	Yes	No
Total	56.22%	44.80%
Old	17.70%	82.30%
Benazir	40%	60%
Musharraf	28.20%	71.80%

The majority of results are yes for those respondents which have more than one family in their houses. Moreover, the Old labor colony where the percentage of response yes was 17.7%, is divided into two types of houses, that are A type and B type. The A type is narrow while the B type is spacy in design. Hence, the majority of those who were living in the A-type responded with yes. Similarly, the resident of the Benazir Labor Colony has Yes responses up to 40%, as the housing design of their colony is also narrow and provide very less room for the residents. Similarly, the responses of the Musharraf Labor colony can be bifurcated into 28.2% yes and 71.8 % No. The No responses are mostly

from the Musharraf Labor colony or from the residents who are living in B-type quarters of the Old labor Colony.

4.4.3 Employment Status

181 out of 203 respondents turned out to be workers which make up 89 percent of the whole sample. As the institution of the Workers Welfare Fund is governed by the Ministry of Overseas Pakistanis, hence there was a quota of houses allotted to the employees of this government department. Hence 4.4 percent of the total sample were government employees. The self-business was adopted by the households who inherited the house from a worker who was the parents in the majority of cases. Further, retired respondents were also there, the reason for their presence explained by the respondent was that the factory has shut down and they are retired at home as they couldn't find a new job at this age. Hence, they were living in the house of the factory, which was shut down, this phenomenon is very rare, as this decision of living in the quarter after retirement solely lies in the hand of the employer.

Table 4-5 Employment Statuses of the Respondents

	Workers	Non-Workers
Total	89.20%	10.80%
Old	83.90%	16.10%
Benazir	97.50%	2.50%
Musharraf	97.40%	2.60%

4.4.4 Ownership Status

91.6% of the respondents had received their houses from their employers. Though the housing schemes are constructed by the Government the funding of the employer is vital, hence the houses are allotted by the employer. Similarly, there is a trend of selling the title to another person who may or may not be affiliated with the industrial estate. 1 such respondent got the residence by purchasing the title from the original recipients. Moreover, as discussed there are families which are living there for decades or since the origin of the scheme, hence the residence is shifted to their offspring. 12 respondents which make up 5.9% of the total sample had inherited the house from their working parents. There were respondents which were living with the original worker, though the respondent may not be a worker, such respondents accounted for 2% of the sample.

Table 4-6 Ownership Statuses of the respondents

Purchased from Someone having original Title	0.50%	0.80%	0%	0%
Inherited from a Labor (Worker)	5.90%	9.70%	0%	0%
Living With someone else	2.00%	3.20%	0%	0%
Received From employer	91.60%	86.30%	100%	100%

4.4.5 Accommodation Preference of the Respondents.

The questionnaire consisted of questions that asked about the preference of the respondents for different types of accommodation. As the table shows, the detached house got a maximum preference of 84.2%, while flats were next in line with preference. This preference may be affected by the fact that one of the Labor Colonies consisted of Multi-storied flats, the design of which was very narrow and very overcrowded, while the colony which was single-storied and detached houses, was wide and spacey. Hence, the respondents were reluctant toward the flats or multi-storied types of accommodation.

Table 4-7 Accommodation Preference of the Respondents.

Accommodation Preferences of the respondents				
	Total	Old	Benazir	Musharraf
Detached House	84.20%	88.70%	70%	84.60%
Semi-DetachedHouse	2.50%	4.00%	0%	0%
Flat	8.40%	4.00%	15%	15.40%
Multi Storey	4.90%	3.20%	15%	0%

4.4.6 Age of Building Units

Table 4-8 Age of building units

Sr. No	Name of Housing Scheme	Date Constructed and Age
1	Old Labor Colony	1986 - 34 years
2	Benazir Labor Colony	1998 - 22 years
3	Musharraf Labor Colony	2001 - 20 years

The Old Labor Colony is the oldest of all housing schemes in Hayatabad Industrial Estate, which came into existence in 1986. The survey has recorded the respondents who are living since the inception of this residential scheme. Benazir Labor Colony is next in line constructed in 1998 while the Musharraf Labor Colony is the latest housing project completed by Worker Welfare Fund in 2001 at Hayatabad Industrial Estate.

4.4.7 Dwelling Type and Condition

The first built Colony that is Old Labor Colony consisted of Single-Story houses. These are 300 in number and are classified as A types and B types. The A type is narrow having a total area of 6777 sqm while the B type is spacy and open having a size of 78888 sqm. Further, the Benazir Labor Colony Consists of Multi-storied Flats, the residential scheme is divided into different blocks, and each block consists of flats up to the fourth floor. The Musharraf Labor Colony consists of double-storied flats. All the flats are identical. The houses in all Labor Colonies are pacca in condition.

Table 4-9 Dwelling Type and Condition

Sr. No	Name of the Housing Scheme	Dwelling Type
1	Old Labor Colony	Single Storey House
2	Benazir Labor Colony	Double Storey Flats
3	Musharaf Labor Colony	Multi-Storey Highrise Flats

4.4.8 Frequency of Extension Made in the House

Table 4-10 Frequency of Extension Made in the House

Frequency of Extension Made in the House		
Total	Old	Benazir
82.80%	91.40%	47%

There is a trend of tempering the design and adding extra features to the house for many reasons. The residents were asked about that. And a staggering 82.8% admitted the extension of their houses. The 91.4% extended in the old labor colony while 47% and 93% in Benazir and Musharraf Colony respectively. The main reason is the gap in the design of the houses, as there is enough space within the house which I readjusted can add an extra feature to it. Another reason for the extension most prominently included the growth of family size that is the marrying of single offspring and hence to adjust the new family the design is tempered, and a new room is made.

4.4.9 Evaluating the accessibility of different components

Table 4-11 Evaluating the accessibility of different components

Housing Scheme	Summary of Average Access to the facilities in Kilometers						
	Employment	Public transport	Education	Shopping facilities	Health services	Leisure facilities	Open green public space
Old	3.24	2.02	1.02	3.27	2.02	3.85	3.58
Benazir	2.24	1.12	2.88	1.05	1.05	4.73	4.37
Musharraf	2.41	1.13	2.44	1.85	2.54	2.31	2.13
Total	2.63	4.27	2.11	2.05	1.87	3.63	3.36

4.4.9.1 Access to employment

Results show that about 84% of the respondents had their place of employment within or below 5km, which is satisfactory. While 14.8% of the respondents were reported to be traveling 6 or above km of distance to attend to their jobs. The results are very satisfactory, as the residential area lies inside the industrial estate. Hence, we can assume that about 84% of the residents don't have a very high burden of transportation costs while attending to their job, hence a reasonable relief and a positive sign of their residence being affordable

Table 4-12 Access to employment in Kilometers

S.No	Distance (km)	Percentage
1	1-2 or fewer Km	22.2
2	3km	17.7
3	4km	23.6
4	5km	21.7
5	6km or above	14.8

Distance to employment opportunities is also a very important factor. Lower the distance will cut short the expenses of transportation used for attending the job. The map gives a general idea of the relative positions of all three labor colonies located inside the Hayatabad Industrial Estate. In general, the workers of the industrial estate reside in these colonies but if they are outside these colonies, the employers have the arrangement of transport for these workers, for which they are charged. Moreover, the introduction of the Bus Rapid Transit system in Peshawar has solved the accessibility to the employment issue

4.4.9.2 Access to public transport services

Table 4-13 Access to Public Transport Services

S.No	Distance (km)	Percentage
1	1-2 or fewer Km	37.4
2	3km	58.6
3	4km	3.9

The data collected shows a satisfactory result, as all 100% of the respondents have access to public transport well below 5km, while only 3.9% of the respondents have access within 4 km. a whopping 95% have access to transport within 3 or below kilometers. According to (Newtohr 2019) the ideal distance to the

employment is 21 minutes. The shortest distance to work has been beneficiary for the employer as there is a low chance of getting ill due to high daily commuting, less chance of loss of hours, and more productivity due to fresh physical health (Newtohr 2019). This shows the good planning of the residential area so that the accessibility of public transport has been given consideration. Hence, a positive indicator for the affordability of the residential area built for laborers and industrial workers of Hayatabad Industrial Estate

4.4.9.3 Access to good quality education/schools.

Accessibility of this educational system was also measured by interviewing the locals through the criteria pre-determined in the methodology chapter.

Table 4-14 Access to Quality Education

S.No	Distance (km)	Percentage
1	1-2 or fewer Km	60.6
2	3km	16.3
3	4km	19.2
4	5km	3.9

The result shows the overall average accessibility is 2.11, while colony wise average can be divided into 2.02, 2.88, and 2.44 for the Old, Benazir, and Musharraf Labor colonies. The low values of accessibility are because the primary and secondary schools, by the name Working Folks Grammar Schools, are located inside the colonies, while the students of two colonies (Musharraf and Benazir) have to go to the third colony (Old Labor Colony) to attend the college and technical school by the same name as mentioned earlier. While the value showing 5 km or above are those respondents who do not study in the WWF Funded institutions, so they have to travel more distance to attend their educational institute. However, the overall results are satisfactory, As according to the World Bank report, the distance to the school is a major determinant for the literacy rate of an area, according to the same report the students rarely attend the school

outside of their village (neighborhood) and the difference in the accessibility of 500m impacts the dropout ratio of an area (WorldBank 2020). Hence, The WWF has done well in providing the schools inside these colonies.

4.4.9.4 Access to shopping facilities

Table 4-15 Access to Local Shopping Centers

S.No	Distance (km)	Percentage
1	1-2 or fewer Km	25.1
2	3km	15.3
3	4km	43.3
4	5km	12.3
5	6km or above	3.9

The results show that 83.7% of the respondents have accessibility within 4km or even less than that, which is also not very worse. The total average stands at 2.05km, while colony wise accessibility average was 3.27 km from Old Labor Colony, 1.05 km from Benazir Labor Colony, and 1.85km from Musharraf Labor Colony. The results show a mixed response that is because of the relative position of a labor colony concerning a shopping center. For example, Karkhano Market is a shopping center that is within 500 meters of access to Benazir Colony, while it lasts about 3 km from Old Labor Colony and 4km from Musharraf Labor Colony. Similarly, the Sunday Bazar is 5 to 6km of distance from all three colonies. While the main Market of the city that is Saddar Market, Is located 15km from the Hayatabad Industrial estate. Further, the choices of the resident also matter when choosing a shopping center to shop in. Hence, accessibility is the outcome of the choices of the residents. However, the results show that a maximum of the respondents have accessibility within 4km, which is also not very worse. Apart from the accessibility, though every residential colony has its mini market, where groceries for daily life use are available, this factor will be assessed by considering access to local/district centers. Local centers are defined as having a supermarket and/or a range of small food shops, a newsagent, a chemist, and a post office.

District Centers contain at least one supermarket or superstore, a range of non-retail services, such as banks and restaurants, as well as local public facilities such as a library.

4.4.9.5 Access to health services

Table 4-16 Access to Health Services

Sr.No	Distance (km)	Percentage
1	1-2 or fewer Km	25.1
2	3km	58.1
3	4km	16.7

The result shows that overall, about 83.2 percent of the respondents have accessibility to health facilities within 3 or fewer kilometers. The results vary according to the location of a colony concerning the medical center. The Benazir Labor Colony is within a 1-kilometer distance of the Health facility provided by the Workers Welfare Fund, while the other two colonies are relatively far away. The Average stands at 1.87, the other colonies have the accessibility of 2.02, 1.05, and 1.85 kilometers respectively. It is important to note that the residents of both the old labor colony and Musharraf labor colony were reported to be consulting the hospital of Hayatabad, which is within 1.5km and 2km of accessibility from these two residential colonies. Also, the greater and better facilities area is a determining factor in choosing the health facilities for these two colonies. However, it is satisfactory to see that the farthest point is located within 4km of the medical center. Hence, the accessibility of the medical facility satisfies the criteria of affordability. Health issues eat a major percentage of the income and hence have the potential to affect the affordability of a residence. Workers working on low incomes find it hard to sustain their daily life if a health issue arises. (Smith et al. 2009) Hence there must be a system that sheds this weight and WWF has provided a medical dispensary in each industrial zone. Hayatabad Industrial estate is no exception. A Medical dispensary is there to provide free medical facilities to the workers. Health is a basic need of every human. First, the priority of health is assessed by

interviewing the workers that how much the presence or absence of health facilities will affect their priorities the results are as under.

Sr. no.	Name of the Amenity	% Opted as First Priority	Colony-wise Percentage of First opting		
			Old	Benazir	Musharraf
1	Medical Facilities	96.4	96.1	99	95.1

The high priority rate of over 96% shows the importance of health and medical facilities for the residents.

4.4.9.6 Access to Leisure facilities

Access to leisure facilities was evaluated by determining the distance to both playgrounds/play areas and fitness/leisure centers.

Table 4-17 Access to Leisure Facilities)

S.No	Distance (km)	Percentage
1	1-2 or less Km	2
2	3km	19.2
3	4km	2
4	5km	56.2
5	6 km or above	20.7

The results show a high total accessibility average of 3.63 kilometers concerning other amenities that is because there is a single playground in one of the labor colonies

while the other two lack such facilities. Hence, the residents are dependent on the grounds and recreational centers of the neighboring area of Hayatabad. Hence, the average of all three colonies lies at 3.85km, 4.73 km, and 2.31 km of Old, Benazir, and Musharraf labor Colonies respectively. The nearest Leisure facilities are available in Super Market of Hayatabad Phase-1, hence the residents of these three colonies have to travel a long distance to attend these facilities. The studies suggest that such facilities must not be located at a distance of more than 1 mile from the residence (Harnik and Simms 2004) Hence, it can be concluded that the authorities have to work on this area to provide better facilities to the residents.

4.4.9.7 Access to open green public space

This factor will be evaluated by determining the distance to publicly accessible open green spaces/parks.

Table 4-18 Access to Open and Green Spaces

S.No	Distance (km)	Percentage
1	1-2 or fewer Km	2
2	3km	19.2
3	4km	2
4	5km	56.2
5	6km or above	20.7

The result is no different from section 11. As the average lies at 3.36km while 3.58km, 4.27km, and 2.13km are from all three colonies of Old, Benazir, and Musharraf Colony respectively. There is no developed open and green space in all three labor colonies of Hayatabad Industrial Estate. The locals are dependent on the open and green spaces of Hayatabad. There is a total of 3 main green public spaces that is Khyber Park, Bagh-e-Naran, and Tatar Park. All three are located next to each other so the accessibility to these parks stands at 4km on average. . Guidance used by local authorities suggests that all residents should have access to an area of publicly accessible open space

within 400m from home (Hooper, Boruff, et al. 2018). Hence, we can assume that these residential schemes are failing on this criterion of measuring affordability.

4.4.10 Public Satisfaction Survey Analysis Evaluating the quality and delivery of different components

Table 4-19 Public Satisfaction Survey Analysis Evaluating the quality and delivery of different components

Name of Amenities	Satisf action %	Dissatisf action%	Colony wise Satisfaction in percentage			Colony-wise Dissatisfaction in percentage		
			O	B	M	O	B	M
Cleanliness of the Area you live in?	9.8	90.2	5.6	12.5	20.6	94.4	87.5	79.4
Availability of open and green spaces	5.9	94.1	4	7.5	10.3	96	92.5	89.7
Quality of educational institutions	89.7	10.3	90.3	90	89.7	9.7	10	10.3
Quality of Health care facilities	71.9	28.1	71.8	70	74.2	28.2	30	25.8
Availability and quality of water?	95.6	4.4	95.2	95	97.4	4.8	4.4	2.6
Condition of Sewerage and drainage system	10.3	89.7	9.7	12.5	10.3	90.3	87.5	89.7
Repairing and maintenance of roads, footpaths, street lights, parks, etc.	55.6	44.4	71.7	40	20.5	28.3	60	79.5

Availability of parking spaces	73.9	26.1	71.7	75.5	76.9	28.3	24.5	23.1
Performance of service windows at local Administration	77.8	22.2	75	87.5	77	5	12.5	23
Performance of complaint offices	78.3	21.7	75.8	87.5	77	4.2	12.5	23
Neighborhood Quality	72.4	26.6	95.2	37.5	84.6	4.8	62.5	15.4
Availability of sports and recreation facilities	11.9	88.1	11.3	12.5	12.9	8.7	87.5	77.1
Accessibility of post offices, banks, exchange offices, etc.	94.6	5.4	96	87.5	97.4	4	12.5	2.6
Accessibility of public offices	94.6	5.4	93.5	95	97.8	6.5	5	2.2
Safety and security in the neighborhood and streets especially at night	69	31	67.7	72.5	69.3	32.3	16.5	30.7
Healthy and fresh Environment	69	31	77.6	62.5	74.3	22.3	37.5	25.7
Availability of the fire department and rescue services	72.4	27.6	72.6	72.5	71.8	27.4	16.5	28.2

Public participation in designing and executing the budget at ground level	10.4	89.6	8.9	12.5	12.8	91.2	87.5	87.2
Availability of quality goods and their prices	45.3	54.7	47.5	35	48.8	52.5	65	51.2
Overall Quality of life in your area	94.1	5.9	95.9	90	92.3	4.1	10	7.7

4.4.11

4.4.12 Waste management/ Condition of sewerage and drainage system/ Cleanliness of the Area

The respondents were asked about the quality of waste management in their living areas.

Table 4-20 Public Satisfaction Survey Analysis

Name of Amenities	Total Satisfaction %	Total Dissatisfaction %	Colony-wise Satisfaction %			Colony-wise Dissatisfaction %		
			O	B	M	O	B	M
Cleanliness of the Area you live in?	9.8	90.2	5.6	12.5	20.6	94.4	87.5	79.4
Condition of sewerage and drainage system	10.3	89.7	9.7	12.5	10.3	90.3	87.5	89.7

The results show an overall dissatisfaction average of 90.2% and 89.7%. Only 9.8 and 10.3 percent of the respondents were satisfied with the cleanliness and waste management, which are relatively overlapping areas. The satisfaction results for cleanliness in all three colonies are 5.6, 12.5 and 20.6 percent, while for sewerage and drainage systems these are 9.7, 12.5, and 10.3 percent. The results are bending towards the dissatisfaction of the respondents with the sewerage management system. That is because the population density is high and the manpower available is very low to deal with such a high population. For example, in one colony of 300 housing units, there are only 3 sweepers, further, there was only one person with his donkey cart to carry away the litter and garbage from over 300 houses. That one cart man is also not available now. The condition leads to the deposition and formation of waste and garbage points all over the colony. Further, the colony is expanded into a large area having 100s of drains, and manpower of only 3 persons. Which are insufficient to deal with the maintenance of such expanded drains network hence a higher dissatisfaction among the respondents.

4.4.12.1 Availability of parking spaces, sports, recreational facilities, open and green spaces

Leisure facilities are an important part of a living area. Which are necessary for both mental and physical fitness. (Harnik and Simms 2004) In this section first, the priorities of the residents were acquired and then the quality and access to these facilities were asked about.

Table 4-21 Weightage the respondents gave to the leisure facilities

Sr. no	Name of the Amenity	% Opted as First Priority	Colony-wise Percentage of Priorities		
			Old	Benazir	Musharraf
1	Parking Spaces	49	44.6	51.2	47.6
2	Availability of sports and Recreational opportunities	76.8	68.3	71.2	86.7
3	Greenbelt/ Walking trails / Sidewalks	75	77.1	81.2	63.1

The table shows the weightage the respondents gave to the leisure facilities in terms of their priorities, Parking space availability got 49% weightage, while the sports and recreational opportunities got 76.8 percent of weightage as the priority by the respondents. The Green belts, walking trails, and sidewalks got 75 percent weightage. Hence, an overall tendency of prioritizing leisure facilities among the respondents.

Name of Amenities	Satisfaction Rate (Satisfied and Very Satisfied) In Percentage	Dissatisfaction Rate (Dissatisfied and Very Dissatisfied) In Percentage	Colony wise Satisfaction in percentage			Colony-wise Dissatisfaction in percentage		
			O	B	M	O	B	M
Availability of open and green spaces	5.9	94.1	4	7.5	10	96	92.5	89.7
Availability of parking spaces	73.9	26.1	71.7	75.5	77	28.3	24.5	23.1
Availability of sports and recreation facilities	11.9	88.1	11.3	12.5	13	8.7	87.5	77.1

The results got a very low satisfaction rate of 5.9% for the open and green spaces. The fact as stated earlier is that the residents are dependent on the open and green spaces of the neighborhood Hayatabad and there is no well-developed open and green space in either of the colony hence a higher dissatisfaction rate. Similarly, the sports and recreational facilities also have very low satisfaction of 11.9% from the respondents, that is because there is only one playground built by the administration in all three colonies. The condition of which is not recognizable. The reasons stated were due to lack of security and care, the condition deteriorated over time which ultimately led to the end of the park hence there is no built such facility now inside or nearby these residential areas which can meet the required criteria of a good leisure facility. Hence such a high score of dissatisfaction from the respondents. And the scheme is failing on this criterion of assessment.

4.4.12.2 Quality of educational institutions

A priority survey was conducted, and the respondents shared their opinion on the importance of education by grading the education according to their priority. The results of the priority survey are as under

Table 4-22 Quality of educational institutions

Sr. no.	Name of the Amenity	% Opted as First Priority	Colony-wise Percentage of First opting		
			Old	Benazir	Musharraf
1	Education sys	97	98.2	99.8	96.8

The results show the importance of education for the parents and workers of the industrial area, which are laborers. 97% of the respondents had education as the top priority to select residential area for their living. While none has given the last priority. The percentage varies to 98.2, 99.8, and 96.8 for the colonies of Old, Benazir, and Musharraf. The WWF has solved the issue of affordable education by developing a stream of the educational system which is almost free of cost to the laborers of industries all across Pakistan. Not only this but also, the WWF has an agreement with various private institutions which provide free of cost education to the workers. The fee of these private institutes is paid off by the WWF. Hence, the expenditure on education is going out of the monthly income of a common labor

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony wise			Colony wise		
			Satisfaction %			Dissatisfaction %		
			O	B	M	O	B	M
Quality of educational institutions	89.7	10.3	90.3	90	89.7	9.7	10	10.3

As observed in the field survey education is a top priority of every family, as it is considered as an important tool, through which the conditions and living style can be changed and upgraded. Further, apart from the presence of the education system, quality also matters. Hence, the survey was also conducted to measure the quality of these educational institutions. Results show the confidence of the residents in the education system in-placed for these workers. About 90% of the residents of these industrial colonies were satisfied with the education system provided by the Workers Welfare Fund (WWF). The satisfaction percentage observed colony-wise was 90.3 for Old, 90, and 89.7 for Benazir and Musharraf Labor colony. The WWF has built 3 schools from Matric to Primary for the worker, by the name of Working Folks Grammar Schools. Each Colony has its school inside except for Musharraf Colony which has its school in the 1-kilometer distance

outside its boundaries. There is one college in the Old labor colony, where normal academics are pursued while one technical college is also there for offering diplomas in technical education. Apart from these, there is also a vocational Training center for women inside the old labor colony, where vocational training is thought. The factor which has contributed to such high satisfaction ratio is the fact that WWF, provides every component to the students, that is the uniform, the books, and even notebooks. The fee is very minimum, about 180 rupees per annum. The transport facility is also funded by the WWF. Further, as discussed, the Workers Welfare Fund is an organization run by the Ministry of Overseas Pakistanis, hence there are residents of the same ministry in the old labor colony, and thus the ministry has constructed a school there for their employees. Hence, it can be concluded that the areas offering full opportunities and access to educational facilities at a very affordable cost.

4.1.1.1 Quality of health care facilities

Further, the residents' workers were also asked about the quality of health facilities. The results are as follows

Table 4-23 Quality of health care facilities

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony wise Dissatisfaction %		
			O	B	M	O	B	M
Quality of health care facilities	71.9	28.1	71.8	70	74.2	28.2	30	25.8

The responses were satisfactory by 71.9% overall. While the colony-wise satisfaction rates were 71.8, 70 and 74.2% respectively in the Old, Benazir, and Musharraf Labor colonies. 28.1% percentage of dissatisfaction is because the medical facilities in-placed cannot treat major and serious medical conditions. The medical facilities built are capable of treating minor health conditions. In case of major medical conditions, the patients are referred to

other hospitals. The nearest hospital, Hayatabad Medical Complex is located in Hayatabad which is about 6km away from the industrial estate. It is important to note that the WWF bears all expenses for the medical situations of the workers. It has a system and network of province-wide medical centers in the form of hospitals, dispensaries, and polyclinics. The functions include free-of-cost medical facilities for the secured persons as well as their dependents in not only their medical units but also in government hospitals which are in agreement with WWF. The medicines are also provided free of cost. Further, dental care facilities are also enlisted. For major conditions, the WWF agrees with several hospitals. For example, the facilities of angioplasty and heart surgery are provided in the famous Lady Reading Hospital of Peshawar and Armed Forces Institute of Cardiology Rawalpindi. The hospitalization facilities are provided in Burn Trauma Centre, Wah Cantt, and Jhelum where necessary. Following is the list of the facilities provided by the WWF in the field of health for workers all across Khyber Pakhtunkhwa province.

Sr. No	Type of Medical Unit	Total Numbers
1	Hospitals (25 Beds)	01
2	Polyclinic (22 Beds)	01
3	Medical Centers (10 Beds)	12
4	Dispensaries	12
5	Dental Unit	01
6	Medical Posts	08

4.1.1.1 Availability and quality of water

The respondents were first asked about the priority they give to the amenity of water supply while considering a place to live in. The response was that 99.5% of the respondents considered the availability of water supplies their top priority.

Table 4-24 Availability and quality of water

Sr. no.	Name of the Amenity	% Opted as First Priority	Colony-wise Percentage of First opting		
			Old	Benazir	Musharraf
1	Water Supply	99.5	100	99	99.8

Further, the respondents were asked about their satisfaction with the existing water availability and supply system. The results were as follows

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony wise Dissatisfaction %		
			O	B	M	O	B	M
Availability and quality of water	95.6	4.4	95.2	95	97.4	4.8	4.4	2.6

The overall response was satisfactory by 95.6 percent because all three residential units have tube wells in their best condition. Water is supplied periodically to the houses at different times of the day. The residents were asked about the quality of water and except for very few, all responses were positive about the quality of water as shown in the table.

Hence, we can safely assume that the residential units were fulfilling this criterion of affordability.

4.1.1.1 Quality management

In this section, the following amenities were to be assessed.

1. Repairing and maintenance of roads, footpaths, streetlights, parks, etc
2. Performance of service windows at local Administration
3. Performance of complaint offices
4. Public participation in designing and executing the budget at the ground level

The responses were as follows

Table 4-25 Responses for Quality management

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony-wise Dissatisfaction %		
			O	B	M	O	B	M
Repairing and maintenance of roads, footpaths, street lights, parks, etc.	55.6	44.4	71.7	40	20.5	28.3	60	79.5
Performance of service windows at local Administration	77.8	22.2	75	87.5	77	5	12.5	23
Performance of complaint offices	78.3	21.7	75.8	87.5	77	4.2	12.5	23
Public participation in designing and executing the budget at the ground level	10.4	89.6	8.9	12.5	12.8	91.2	87.5	87.2

For the repairing and maintenance portion, the dissatisfaction rate was 44.4 percent, and the overall satisfaction rate of just 55.6 percent. Which is higher than 71.7 percent in the old labor colonies. While the states show that the respondents from Benazir Colony showed a very little satisfaction rate of 40%. While the Musharraf colony has even lesser satisfaction of just 20.5 percent because the local administration lacks the manpower to manage such a highly populated area. Moreover, the ground administration lacks the budget to maintain the area in its proper condition. Hence, it can be concluded that the performance of the maintenance section varies in different colonies. While the respondents expressed their trust in the administration by expressing an overall satisfaction rate of 77.8 percent, which varies colony-wise as 75, 87.5, and 77 percent for Old, Benazir, and Musharraf labor colonies. The results for the complaint offices are not much different than that of the previous section which has scored an overall satisfaction percentage of 78.3 and the colony-wise distribution of the satisfaction percentage is 75.8, 87.5, and 77 for Old, Benazir, and Musharraf labor colonies. Hence, we can assume that the administration is doing well in solving the complaints of its complainants. Hence, we can say that the housing society qualifies this criterion for affordability. The respondents were asked about the participation of the locals in public participation in designing and executing the budget at ground level. The results show a higher dissatisfaction among the respondents. This section got a satisfaction percentage of just 10.5 percent. While colony-wise satisfaction percentage for the same section is 8.9, 12.5 and 12.8 percent. Hence, we can assume from the results that the locals are not given any consultation in the designing and execution of budgets, etc.

4.1.1.1 Neighborhood Quality

Neighborhood impacts a residential area in multiple ways. A good neighborhood meets the deficiencies of an area. (Kearns and Parkinson 2001). Local workers of these labor colonies were asked about their opinion about the neighborhood quality.

Table 4-26 Responses for Neighborhood Quality

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony wise Dissatisfaction%		
			O	B	M	O	B	M
Neighborhood Quality	72.4	26.6	95.2	37.5	84.6	4.8	62.5	15.4

The overall results show a high satisfaction rate of 72.4 percent. Being in the vicinity of Hayatabad – one of the posh areas of Peshawar- the results were destined to be satisfactory. Apart from the Benazir Colony where the dissatisfaction percentage is higher than that of the satisfaction rate. The neighborhood of Old, and Musharraf colonies provides opportunities to the workers to not only fulfill their needs but also access public and private buildings and institutions. The residents of these colonies are dependent on health facilities, for leisure facilities and apart from all the recreational and green spaces of the Hayatabad area are vital for these two colonies. Hence making it an ideal neighborhood to live beside. But the Benazir colony lies in the vicinity of Karkhano market and also it is on the verge of a boundary line that separates the District Peshawar from District Khyber. There is always a noisy environment due to heavy and high traffic as the colony lies on the main road of the industrial estate. Hence the neighborhood of the Benazir colony has nothing much to offer for the residents of Benazir Colony and hence a higher dissatisfaction rate.

Moreover, the workers were also asked to rate the neighborhood according to their priorities while choosing an area to get settled in. The results were as follows

Sr. no.	Name of the Amenity	% Opted as First Priority	Colony-wise Percentage of First opting		
			Old	Benazir	Musharraf
1	Neighborhood Quality	48	58.1	47.3	34.9

The responses are mixed, with an overall percentage of 48. The Old labor colony responded with 58.1 percent going for priority while the priorities of the other two colonies weighted only 47.3 and 34.9 percent. The reason is the living of the respondents inside gated communities. These communities promote exclusory living and hence the neighborhood does not have much impact on their living. The respondents who prioritized the neighborhood had a dependency on the neighborhood in one form or the other. Hence, it can be concluded that prioritizing the neighborhood is a function of every individual dependency on the neighborhood.

4.1.1.2 Safety and Security

Safety is one of the primary concerns of any residential area. Workers were interviewed about how much they prioritized the factor of safety and also were asked about the security situation in the colonies they were living in. Results show that over 93% of the residents considered safety as a basic need and the priority to live in an area, while only 6.9% valued it as their second priority, while there was no lowest priority of 3 recorded.

Sr. no.	Name of the Amenity	% Opted as First Priority	Colony-wise Percentage of First opting		
			Old	Benazir	Musharraf
1	Security	93	93.4	98.5	97.1

Also, respondents shared their views about the in-placed security measures in colonies

Table 4-27 Safety and security

Name of Amenity	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony wise Dissatisfaction%		
			O	B	M	O	B	M
Safety and security in the neighborhood and streets especially at night	69	31	67.7	72.5	69.3	32.3	16.5	30.7

69% of respondents rated the security as satisfied while 31% rated it as dissatisfactory. The colony-wise satisfaction recorded was 67.7m 72.5 and 69.3 for Old, Benazir, and Musharraf Labor colonies respectively. Each colony has a boundary wall and a central exit and entrance gate, guarded by security personnel. This factor of a boundary wall is the primary reason behind such high satisfaction. However, those who were not satisfied with the security were of the view that the manpower for security is low which leads to the absence of security at some hours and there is a need of increasing the force. Also, the population density is high which needs more security personnel. For example, there are only two guards for a colony of 300 houses, having 3 entrance gates. Which is inadequate for a such highly populated area. Further, there is no technology installed to monitor the security situation. There is not a single security camera installed for security purposes. These are the issues that need consideration.

4.1.1.3 Environmental problems

Environmental Problems relate to area upkeep and utilization, such as litter and rubbish, dog fouling, street parking, heavy traffic, and vacant buildings. The results scored a satisfaction percentage of 71% with colony-wise satisfaction rates of 77.6, 62.5 and 74.3 percent for Old, Benazir, and Musharraf Labor Colony respectively.

Table 4-28 Environmental problems

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony-wise Dissatisfaction %		
			O	B	M	O	B	M
Healthy and fresh Environment	71	29	77.6	62.5	74.3	22.3	37.5	25.7

29% of dissatisfaction is coming from the respondents living in the colony which is more exposed to environmental problems due to its location. Such as the Benazir Labor Colony which is located on the side of the main road running through the industrial estate. The heavy traffic running round the clock on the main road creates high noise pollution inside the colony. Moreover, the population density is high and the streets are narrow, hence leading to the problem of litter and rubbish, and street parking. On the other hand, about 71% of satisfaction is from the respondents who live in colonies that are far away from the main roads and are gated. These colonies are not open to every traffic and the routes are used by the locals only. Hence, noise pollution is not felt in these areas. Moreover, the Floor area ratio is low hence no problem with street parking, etc. Hence, we can assume that 2 out of 3 colonies are meeting the criteria of a good environment.

4.1.1.4 Fire department and rescue services

The responses were mixed with a high tendency of satisfaction; the satisfaction rate was recorded at 72.4 percent that was because of the performance of government-provided rescue services known as Rescue 1122. The colony-wise satisfaction rate was 72.6 percent for Old Labor Colony, 72.5 percent for Benazir Labor Colony, and 71.8 percent for Musharraf Labor Colony. The fire department is one of the components of a residential area. However, there is no system of fire and rescue services specially built for these colonies.

Table 4-29 Availability of the fire department and rescue services

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony-wise Dissatisfaction %		
			O	B	M	O	B	M
Availability of the fire department and rescue services	72.4	27.6	72.6	72.5	71.8	27.4	16.5	28.2

Those who were not dissatisfied complained about the local and own rescue services which were missing from the scene. However, we can conclude that the area is fulfilling this criterion of sustainability and affordability because of the high score of satisfaction from respondents.

4.1.1.5 Daily life goods and their prices

The shopping facilities are the backbone of every running housing society. The locals were interviewed about the weightage they give to the presence or absence of such facilities in a residential area in terms of priorities. The respondents expressed their priorities which are shown in the following results

Table 4-30 Availability of daily life goods and their prices

Sr. no.	Name of the Amenity	% Opted as FirstPriority	Colony-wise Percentage of First opting		
			Old	Benazir	Musharraf
1	Availability and Prices of goods	84	80.4	91.1	88.7

The high percentage shows the importance of having a good shopping center in a residential area. The residents were also asked about the availability of quality stuff and the prices at the local groceries store.

The results show low satisfaction of just 45.3 percent and a dissatisfaction rate of 54.7 percent from the respondents. The colony-wise satisfaction percentage recorded is 47.5 percent for the Old labor colony. The lowest satisfaction percentage was recorded in

	Satisfaction %	Dissatisfaction %	Colony wise Satisfaction %			Colony-wise Dissatisfaction %		
			O	B	M	O	B	M
Availability of quality goods and their prices	45.3	54.7	47.5	35	48.8	52.5	65	51.2

Benazir Labor Colony, which is just 35%. While the Musharraf Colony has a satisfaction rate of 48.8 percent. Hence by a satisfaction rate of below 50% in all three colonies, we can assume that the residents are not satisfied with the shopping centers. The problem does not lie in the availability of the items but the prices of the items. That is primarily because of the no check and balances on the prices at these shops. The majority complained about the price hikes in these local shops built inside the labor colonies. Hence, the local caretaker of each colony is expected to take serious action to regularize the prices in these shops

4.1.1.6 The overall quality of life

Table 4-31 Overall quality of life in your area

Name of Amenities	Satisfaction %	Dissatisfaction %	Colony-wise Satisfaction %			Colony wise Dissatisfaction%		
			O	B	M	O	B	M
Overall Quality of life in your area	94.1	5.9	95.9	90	92.3	4.1	10	7.7

The respondents were asked about their overall satisfaction with their living area. Majority of 94.1 percent expressed their satisfaction. The Colony wise bifurcation of the satisfaction rate is 95.9,90 and 92.3 percent respectively for the Old, Benazir, and Musharraf Colonies. It is because most of the residents were from far-off rural areas, which even lack very basic amenities such as natural gas, concrete pavements, energy availability quality education. Health facilities etc. Hence, for them, the provided amenities were more than enough. Apart from this, the scheme is furnished with every possible amenity hence the higher percentage of satisfaction among the residents.

4.1.2 Economic Status of the Sample

4.1.2.1 Household's Average Income

The families living inside were asked about their monthly income. And the results are shown in the following table

Table 4-32 Household's Average Income

Household's Average Monthly Income in Rupees	Overall Percentage of Average Monthly Income	Colony-wise Percentage of Average Monthly Income		
		O	B	M
17500 or Less	1.50%	1.20%	2.50%	0%
30,000 or Less	25.60%	22.10%	40%	15.40%
50,000 or Less	36.90%	36.20%	40%	41%
100,000 or Less	32.50%	36.20%	17.50%	38.50%
100,000 OR More	3.40%	4.30%	0%	5.10%

The results show just 1.5% of respondents are having a monthly household income less than or equal to 17500, which is the minimum wage set by the government for labor. Further 25.6 percent of the respondents had their monthly household income in the range of 17,500 to 30,000 rupees. The majority of 36.9 percent of the sample had their monthly household incomes between 30,000 to 50,000. While the percentage between 50,000 and 100,000 is no less in value. It has a percentage of 32.5%. The percentage of respondents having a monthly income equal to or more than 100,000 was recorded at 3.4%.

The fact that multiple families are residing in a single house the sum of their monthly income gives a higher average. If one member is a worker then the rest may be involved in a business which increases the total household income. However, the average income revolved around 50000 rupees per month. One other factor which contributed to such a high average was that the household was living and working in the industrial estate for decades. Hence, their employments were mature enough to return them a higher income.

4.1.2.2 Non-Housing Expenses (Average Monthly in Thousand Rupees)

The households were asked about their monthly expenses to have an idea about what major expenditures eat the high percentage of their income. It was found that a feeding household gets the highest share of total monthly income. The average of 203 respondents when calculated turned out to be 17980 rupees per month. Similarly, the utilities in the form of electric and gas bills consume on average 2435 rupees per month. The expenditure on transport varied concerning the mean of transport the household was using and hence the average outcome was 2296 rupees per month. As discussed earlier, education spending cost near to nothing for the industrial workers. From tuition fees to uniforms and the cost of buying stationary it is funded by the Workers Welfare Fund, till the higher secondary. Further, the WWF agrees with several private and government educational institutions for bearing the tuition fees of the students who are enrolled in an educational facility that is not directly built by the Worker Welfare Fund. Hence, overall shed the burden on the workers. Further, the rental cost of the housing units is fixed with a very low increment. For example, from the interviews, it was learned that the rent of the housing units remained just 300 rupees since 2007, which was recently increased to 500 in 2020. The rent is beard by the employer for some workers. Hence, the cost of education and rent is very much minimized from the overall monthly expenses of the worker.

Table 4-33 Non-Housing Expenses (Average Monthly in Thousand Rupees)

Sr No	Name of the Expense	Monthly Average in Rupees
1	Food (Kitchen)	17980
2	Clothing	2435
3	Utilities	6531
4	Transport	2296
5	Education	Funded by WWF
6	House Rent	500 rupees fixed, funded by an employer.

4.1.2.3 Rent of the Unit/House

The income of the residents was asked in the questionnaire and on analyzing the data following states were obtained. Through the interviews, it was derived that the rent of a single unit was almost constant and rigid through the years. In the labor colonies of Hayatabad Industrial Estate, the rent was Rs 300/Month for over a decade, which was recently increased to Rs 500/Month. So, the annual increment is not regular and is increased after several years and upon consideration. Through the data collected the income per month of various households was collected, with a maximum monthly income of Rs 150,000/Month and with a minimum monthly income of Rs 17500/Month. For applying the pre-decided criteria of rental to cost relation let us consider the lowest income in the group of Rs 17500/Month. Taking Rs 500/month as the rent of the housing unit, the percentage

derived is 2.87% of total income. While considering the famous 30% rule, which states that the rental cost for a housing unit must be within 30% of the gross monthly income (Pelletiere 2008). Also, the average spending on rents and related issues has been recorded as 34 percent of the total income in Pakistan (Dowall and Ellis 2009). Hence, we can conclude that the houses are very much affordable based on Rental costs about income.

Availability of low-cost home ownership products)

Professionals were interviewed about the ownership concerns. The response was that the houses are built by a collaboration between the government and employers. Funds are provided by the central Workers Welfare Fund (WWF). These funds are collected from the Employers of the industrial estates. 2% of the annual profit of the employers is collected by the WWF, which is used to build these housing colonies. And then allotted to the employers based on predefined criteria. So, the employers are against the ownership of these housing units to the laborers, as by doing so they will lose a housing unit and they would be unable to adjust their new employees in the housing units as their allotted quota would have been owned by the old employees.

Market Rate of the Unit/House

The market rates vary across the colonies. The Old Labor Colony has two types of units that are A type and B type. The A type is 748.7 sq ft while the B type is 816 sq ft in size. The rate per square foot in Old Labor Colony is 3.2 million per 272.251 sq ft. Hence, the rate for A-type Units is 8.8 million while that of B-type is 9.6 million rupees. The Benazir Labor is divided into 14 blocks each consisting of 16 Units. Each block consists of 4 floors. Each unit has an area of 748.7 sq ft. The price at this colony per 272.251 sq ft is 2.4 million. Hence, we can assume that the market value single housing unit is 6.6 million. The Musharraf Labor Colony consists of 5 blocks, each block having two floors and 40 houses. Due to design differences, the top units are more spacey than the ground floor units.

All units are 748.7 sq ft. The per 272.251 sq ft rate at Musharraf colony is 3 million, hence we can assume that the market rate per unit in Musharraf Labor Colony is 8.2 million.

4.1.2.4 Availability of low-cost homes (quarter) Demand and Supply

Table 4-34 Availability of low-cost home (quarter) Demand and Supply

Total Population of Hayatabad Industrial Estate			
Sr.no	Type of Industry	No of Units	Total Staff
1	Main Estate	206	30900
2	Small Estate	154	2618
	Total	360	33518

In the Key Informant interviews, it was recorded that the applications for the housing units are accepted after the completion of a housing scheme. Hence, the exact number of laborers willing to acquire a housing unit is not known. However, the comparison of the labor population and the available housing reveals the story. The labor population is 33518 while the current housing units are 720. Hence a whopping difference of 32,798 between the population and the available housing units.

4.5 To explore the consequences of non-provision of affordable housing

1. The high rents as a reason for homelessness and displacement from house
2. In the area of crime and offending
3. Effect on the personal life and The Social Consequences of Homeownership
4. Slum creation- the product of a lack of affordable housing
5. Scarcity of affordable housing and the factor of environmental pollution
6. Vulnerability
7. Shelters without proper safety and basic amenities
8. Affordability of houses and its impact on a household's budget
9. The example of the foreclosure crisis and the Great Recession

Individuals can suffer in various shapes from the impact of homelessness or lack of a proper affordable house. These impacts are the product of overcrowding, temporary accommodation, and substandard quality. These impacts majorly include the tendency for an individual to get involved in criminal activities. the impacts on mental and physical health decreased literacy rates and forced them to live in substandard conditions, etc. Apart from impacts on individual life, this section will also discuss the impacts of non-affordable living on society and the state. The finance costs due to the failure of the government in

providing standard housing. Hence, the basic idea is, that the government must consider the cost that government has to spend in the out math of non-provision of standard living.

4.5.1 The high rents as a reason for homelessness and displacement

Whenever there is talk about homelessness, there will be a discussion on the supply and demand side gaps. The same is the case here. There has been very less construction at the supply end of the scene, while the population is growing, and the existing buildings are deteriorating. (Anacker, Li et al. 2016) The demands remain high. This leads to less availability or shortage of houses. And it is the thumb rule of the market, that an amenity less in quantity will have a high price. Hence, the same is the scenario here and the rise in prices of the houses. As a result, the increase in the phenomenon of slum creation. As a tripling effect of slum creation, there will be substandard living. As the people living in the society, if cannot sustain the burden of high prices will have to move and get displaced. (Li et al. 2016). These facts are in contradiction to the demands of the Millennium Development Goals, the agenda of which is to reduce the number of people who are living in slums by at least a Billion. Moreover, the phenomenon of a just city and rights to the city also gets crushed in such a scenario.

4.5.2 In the area of crime and offending

As discussed earlier, the Government and society pay for the cost of substandard housing and living conditions. These are in the form of worsened security situations. According to an estimate, a whopping 200M per annum damage to public sector stock can be resulted due to such conditions. (Friedman 2010). This cost is without the inclusion of private sector stock. The cost not only includes the direct damage cost caused by the crime but also the cost spent on the overall criminal justice system of a city or society must also be counted in. Moreover, the lifetime physical and mental health trauma of a person for being a criminal is a part of it. (Friedman 2010) .Research shows that there is a strongly established link between housing and crime. (Friedman 2010). However, this

debate is very open and has very much room for discussion. But the poor housing cannot be ignored as a vital factor in criminal behavior. The crimes which are resulted because of homelessness prominently includes offenses of theft, drug trafficking, drug abuse, etc. These are done to survive the high rental and living cost of a standard living. Study shows a higher tendency of criminal behavior for a homeless person than a person having a home (Friedman 2010). Homelessness may also lead to living in a place where there is a criminal environment. Hence, the association between homelessness and criminal behavior is certain.

4.5.3 Effect on the personal life and The Social Consequences of Homeownership

The happiness index is more for the people who own a house than those who lack ownership of a house (Dietz 2003). The association between mental and physical health is positive with homeownership (Dietz 2003). This also impacts the offspring of the homeowners that is the children of the homeowners are more likely to perform high in school. Further, they have very few behavioral issues at the time of school. Similarly, the political activities are reported to be more among homeowners rather than the homeless persons or the people living in temporary residences (Dietz 2003) The respondents were interviewed about many social factors, which were somehow related to affordable housing. The summary of responses is as follows.

Table 4-35 Effect on the personal life and The Social Consequences of Homeownership

Sr. No	Effect on Personal Life Due to Lack of Affordable Living	Percent Suffered to the consequences
1	Delayed Marriages	77.8
2	Live with their parents	70.9
3	Toxic relationships	95.6
4	Reduction of expenses on quality foods	22.7
5	Effecting movement to workplace	36.9
6	Borrowed money for rent payment	27.1
7	Can your children afford to buy a home in the future?	13.3 (Yes)
8	Need at least 10 or more years for savings	97 (Yes)
9	Ever buy a home in a locality?	7.4 (Yes)
10	Government must focus on Affordable housing programs	96.6 (Yes)

These states are evident in the fact that the lack of affordable living affects personal life in many ways. These questions were asked in general. Like as if the respondents have resorted to the mentioned cases ever in their lives before having moved to their current residence. The results show that all of the respondents have gone through at least one of these 10 cases throughout their lives.

Table 4-36 Delayed Starting Family because of lack of Affordable Housing

Sr.No	Response	Percentage
1	Yes	70.9
2	No	29.1

A total of 70.9 percent of the respondents admitted that they have faced a delay or are delaying their start of the family because of a lack of proper and affordable housing. These states show that the issue is common in Pakistani society. The demand for new houses is at the top of the list whenever there is a demand for the start of a new family (Sathar, Kiani, et al. 1986). Hence a delay in starting a new family life. The survey shows that 70 percent of the respondents have delayed the start of a new family because of a lack of affordable housing.

Table 4-37 Lived or Live with Parents because you could not afford to live apart

S.No	Response	Percentage
1	Yes	74.9
2	No	25.1

As stated earlier the demand for separate living is always there when there is a start to the individual life. Hence the respondents have asked about the mentioned question. The results are not much different from the first section. About 75 percent of the respondents have resorted to living with their parents because of no availability or non-affordability of separate houses. Hence effect personal and social life.

Table 4-38 Developing and Maintaining relationships is harder because of their Living Situation

S.No	Response	Percentage
1	Yes	95.6
2	No	4.4

95.6 percent of the respondents were of the view that they have found difficulty in maintaining and developing relationships because of their living situation. As stated in the previous section those who can't afford to live separately, resort to combine living. Hence faces a harder version of the life. Which primarily includes the breach of privacy, better upbringing of their offspring, interference in their family's personal decisions, overcrowding, and much more.

Table 4-39 Have you reduced the amount you spend on food to help pay your housing cost?

S.No	Response	Percentage
1	Yes	22.7
2	No	77.3

The respondents were asked about as if they have compromised their spending on food for the sake of paying their rent and other expenses related to rental housing. Though the response was as low as 22.7 percent, this shows how high rental costs can press a person to live in a condition. Hence, an effect on food expenditures was recorded because of high housing costs.

Table 4-40 Do high housing costs have affected your ability to move for work?

S.No	Response	Percentage
1	Yes	65.5
2	No	34.5

The people resort to living in far-off areas just because they cannot afford to live around their working place. Hence have a marginal effect on their mobility to work. They spend hours just commuting between their houses and places of work. 65 percent of the respondents have suffered such situations. Hence, it can be concluded that their lack of affordable housing effect the movement to work hence impacting social life.

Table 4-41 Have you ever resorted to sometimes borrowing to help pay for housing costs?

S.No	Response	Percentage
1	Yes	27.1
2	No	72.9

This is also a factor attached to the affordability of a house. Though the respondents have very low responses in favor of yes still this table shows that people can resort to borrowing because of high housing costs.

Table 4-42 Do you believe that your children or future children will be able to afford a decent home?

S.No	Response	Percentage
1	Yes	13.3
2	No	86.7

The high percentage of responses in negative shows the growing hike in prices of land and houses. Further, it is difficult to find a home in a decent area due to rapid urbanization. Hence, 86.7 percent of respondents were hopeless about the fact that their children will never afford to buy a decent home.

Table 4-43 Do you think that for you to become a homeowner in the future you will need 10 years or more to save for a deposit?

S.No	Response	Percentage
1	Yes	95.6
2	No	4.4

The income of an average man is very low to afford a house through savings in a limited time. Hence, the respondents were asked the question, in which 95.6 percent responded with yes, that they will need more than 10 or at least 10 years to save for a house.

Table 4-44 Do you believe that you will ever be able to afford to buy a home in your local area?

S.No	Response	Percentage
1	Yes	7.4
2	No	92.6

92.6 percent of the respondents were not hoping to buy a home in the local area. This shows the thin condition of finance the people were going through. Not being able to buy a house for themselves means, all sorts of hardship and difficulties in life which are attached to a rental living, hence a major impact on the living conditions of a person.

Table 4-45 Do you believe that about housing, the next Government should priorities the supply of affordable homes?

S.No	Response	Percentage
1	Yes	96.6
2	No	3.4

There was a staggering 96.6 responses in favor of the above-mentioned urge. The results show that people are desperate to own a house hence, 96.6 percent think of stressing the government to take action regarding affordable housing.

4.5.1 Slum creation- the product of a lack of affordable housing

The non-availability of affordable houses leads to a compromise on living standards. These sub-standards of living conditions are termed slums. These areas can be well recognized by the factors of poor construction which are far away from the standards of construction. There are no signs of facilities that are the prime need of every residential unit, such as water and sanitation, transportation, waste management, health facilities, etc. (Datta 2016) These slums also negatively affect the ecosystem. Natural resource depletion is one such outcome of these effects. Environmental degradation can be counted as one of these effects. To summarize a slum is a perfect representation of interlinked socioeconomic and environmental problems resulting from urbanization. (Datta2016)

The UN-Habitat perfectly defined the slum settlement as the areas which are suffering from one or more of the following conditions which are the unprotected water supply from contamination of the outer environment, the absence of sanitation and waste management facilities, the human contact with human waste. The vulnerability to health problems is very common in slum areas according to UN-Habitat. (Staff 2003) Further, The UN-Habitat has pointed out the conditions of the people living in slum areas. Life-threatening was the term used for these people by UN-Habitat. This is because these people are exposed to medical risk round the clock. This includes the death, and injuries caused due to substandard construction. Moreover, substandard construction doesn't provide an ideal shelter from changing weather conditions. This contradicts the agreements made in the conferences of UN-Habitat II which kept the environmental issues as the center of focus. (Roma and Pugh 2012). Moreover, self-constructed housing is not less than a hazard because of low-grade construction, poor design, etc, leading to about twenty-five percent of ill health, diarrhea, and other respiratory diseases are few of them.

(Roma and Pugh 2012)Moreover, the slum settlements lack basic amenities, and the hope for a better future cannot breed in these settlements. These settlements not only cost the settler much in terms of physical and mental hardships but also affect the general planning of the city and community. (Datta 2016). The areas around the residential colonies which were surveyed also presented the same picture. The workers which couldn't get into the labor colonies, settled outside it in some vacant plots., in a self-made self-constructed settlement.



Figure 4-14 Slum areas in the Vicinity of Peshawar Industrial Estate.

4.5.2 Scarcity of affordable housing and the factor of environmental pollution

The main source of environmental problems is the absence of basic services of waste management and sanitation. The slums created due to the lack of affordable houses are the main source of environmental pollution as the main source of waste and garbage disposal is the open river or open water bodies. Such a scenario contaminates the safe water, as the wastewater joins the groundwater, especially where the level is not far from the surface. (Amoako & Cobbinah 2011). Further the absence of such disposal facilities, the waste is dumped or burnt on the ground which adds to air pollution and land pollution. (Amoako & Cobbinah 2011). Such exposed surfaces of garbage and waste represent a hectic view and hence an unhealthy condition to live in.

4.5.3 Vulnerability

The slums are highly vulnerable to both physical and non-tangible factors. The slums are built closely together, and disaster scenario in one unit quickly affects the other. These slums are very vulnerable to fire, such stories are always reported, for example, the news of fires in the slum of Karachi has always been lethal (News 2015). This is because fact these slums are generally built from highly flammable materials, or some materials transfer fire very quickly. Moreover, the lack of proper design becomes a hurdle to the rescue and firefighting efforts (Phetha 2010). The vulnerabilities further include the risk of landslides for the settlements located on the slopes, which are constructed without giving any consideration to safety in designing and constructing due to less affordability. Most of the slums are located on the right of way of busy roads, and railway lines. There is always a potential threat of damage to human lives and injuries. Moreover, in such living, there is vulnerability to high health risks due to constant exposition to noise and smoke emitted from vehicles. (Phetha 2010) High-speed vehicles are also a threat to small age kids and children. Further, there is always a risk and threat of a notice from the authorities on vacating the slum residence as it is built without the permission of authorities and illegally. Hence, the hardships of relocating the living now and then. These slums are also exposed to a sense of

insecurity, tension socially, and damage and loss of property. (Phetha 2010). Hence, it can be assumed that the lack of provision of affordable housing makes a person vulnerable to serious physical and mental threats.

4.5.1 Shelters without proper safety and basic amenities

The availability of basic facilities cannot be imagined in slum areas, and that is why these settlements are called a slum. The slum unit is so small that a washroom and a kitchen cannot be adjusted even (Martinez, Mboup, et al. 2008). The evidence of a water supply or a power supply cannot be found in slum settlements. The vulnerability to disease is inevitable because of the absence of clear and safe drinking water. The sources of water are polluted rivers and contaminated wells (Mboup et al. 2008).

The diseases caused by the presence of bacteria present in drinking water are common in slums. Waste management has no signs in slum areas. Logged waters and jam-packed drains are the favorite places for mosquitos to live, which leads to the outbreak of malaria and dengue etc. The overcrowding of the slums also causes the spread of diseases at a rapid pace. (Roseland 2012)

4.5.2 Affordability of houses and its impact on a household's budget

Housing affordability may impact the household budget in many ways. That is not being able to spend on other important amenities. Such as reduced spending on food or reduce to low-quality food. Health care expenditure is also get affected by the affordable housing that is not being able to consult a quality medical facility. Attainment of higher education is also one of the factors which get affected in this scenario. (Anacker 2019) . The high dropout rate can also be counted in this list. As the focus will be shifted towards engaging the children in earning through small businesses etc rather than attaining education. Further, this factor also affects the savings for emergencies, etc. Hence, the lack of affordable housing gives rise to challenges that decrease opportunities and degrade the overall quality of life. Household expenditures can be divided into three main categories as follows (Anacker 2019)

1. Somewhat Fixed

These expenditures have very limited room to decrease. These expenditures include expenditures of, spending on monthly rent education attainments, some membership bills, utility expenditures, etc.

2. Less Flexible expenditures

These expeditors include the expenses on, food and clothing, etc. These are less flexible and can only be changed by changing the number of dependents or changing the choice of quality.

3. More Flexible expenditures

These expenses are those which can be changed and adjusted. These are most vulnerable to change effects caused by the non-availability of affordable housing. These include spending on recreational opportunities, daily commuting, and health care.

4.6 To investigates factors that hurdle the provision of affordable housing initiatives for Industrial Workers

The material for this section was collected through Key Informant Interviews(KIIs). The KIIs were supportive in collecting the information from the government officials and other potential stakeholders on all the instruments. A KII is a private and friendly communication to have in-depth detail, clarity, and nuance on the topic at hand (Kenya, 2012; Rubin and Rubin, 1995). This is a simple but effective technique, these interviews pursue the dimensions of the research topic descriptively. The present study conducted 10 KIIs of government officials and other potentialinformants. The following criterion was observed while conducting KIIs:

1. Response from federal government officials was acquired
 2. Responses from at least two government officials from provincial offices were acquired
 3. Responses from industrial factory workers and labor unions were acquired
 4. Specific interviews were also conducted with community leaders at the local industrial estate level
- Following were the issue identified during the interviews.

4.6.1 Reduced funding for affordable housing

Finance has been the choking point of every mega project like this. And same is the case with WWF. The WWF came into existence with 100 million in initial funding from the government, while the funds for the rest of its life were to be collected from the private industries located in its zone, which the WWF facilitates. Through the KII it was understood that the WWF is now facing difficulties in collecting the funds. The WWF at the center gets funding from the Welfare Boards of each province. However, due to differences between the center and the provinces, the welfare boards have intentions to part ways. And in this trial, the Sindh Welfare Board already announced separation, while the Punjab Workers Welfare Board is in the quest to do so. Since these two boards are rich in terms of finances and almost all of the funding to WWF is collected from these two Welfare Boards, their separation from the center will cause a major setback in terms of funding to the WWF in the center.

4.6.2 Supply-Side Challenges: Land Acquisition and Securing

It was recorded in the interview that the acquisition of land is by far the major hurdle that slows down the pace of development. To start with, suggestions are brought under the consideration by the Governing body. The Governing Body consists of the representatives

of the Government, Employers, and Employees. The Governing Body when accepts the suggestion for new development. The subject is then moved to the Development Section of the WWF. The Development section recommends the tools necessary for carrying out the development of the GB. The requirement which includes the Land for the development is approved by the GB. Now the Land acquisition is initiated by the Development Section of WWF. The land for development is acquired through Land Acquisition Act formed by the British back in 1894. This Act is common for land acquisition for all government departments. Through this act first, a declaration is made that land is required for a public purpose. After this declaration, the collector is sent an order for acquisition. This is followed by the marking out, measurement, and planning of the land under consideration. Notices are issued to the interested and concerned persons. The collector makes sure that the required land is acquired well according to the requirements. The values of the land are determined by the collector. Claims are entertained by the collector. Collectors award the value of the land to the concerned owners. Then there are complainants, which are not happy with the process, especially the value of land fixed by the collector. In such a case either the collector makes the deemed compensation or the matter is brought to the court. In short, the process of acquiring land is cumbersome and very time taking. The process is not as simple as defined in the paper. The ground realities include the negotiations with the stakeholders which causes a delay of months and even years. The matter when brought under the subject of court causes a further delay to the process. According to the respondents, the process includes the acquisition of No Objection Certificates from various government agencies, which further delays the process. The well-established encroachments on the required land are a further cause of delay, as vacating such land causes a backlash from the population already living there. Hence, the acquisition of land can be considered one of the major reasons for the delay in initiating such development programs.

4.6.3 No Objection certificates from the concerned Departments.

According to the respondents, the process includes the acquisition of No Objection Certificates from various government agencies, which further delays the process. The departments majorly include the local development authorities, revenue departments,

environmental protection agencies, and sometimes security agencies.

4.6.4 Land Use – Zoning and Regulations, Unit Design

The construction carried out till date is not highly dense. For example, the Old Labor Colony consists of 300 housing units on 31-acre land. While Musharraf Colony has 200 double story flats on 12.5-acre land, similarly the Benazir Labor Colony has 220 family flats on just 8-acre land. It can be assumed that the Old Labor Colony could have easily adjusted 4 Labor Colonies if were built on the design of Benazir Labor Colony. When such a construction is carried out, the built housing units are not enough to adjust the applicants waiting for a housing unit. Hence a new building and construction from the start. In order to build new housing units, the WWF has to undertake a whole new process, which means a long wait for the applicants which did not have their share in the built units. Hence, a proper assessment of the design according to the needs when not carried out does not decrease the back log. So, due to lack of suitable land Use and absence of proper zoning the full capacity of the land is not exploited and the area or residential land remains less dense.

4.6.5 Slow Construction

The slow construction was another issue identified during the interviews. The reasons behind slow construction contain poor site management by the contractor, and lack of safety rules and regulations which sometimes cause life losses and injuries. Poor procurement systems and management cause delays in the supply of the construction material of the required standard. Above all the late payments to the contractors are one of the major reasons for the delay, as for an invoice to get approved it passes through tensof departments inside the department, hence a procedural delay. Further, the lack of technical skills leads to mistakes during the construction of the amendment and reconstruction which consumes time. Hence, all these issues combine to cause an overall delay in the construction project.

4.6.6 Forecasting of demand

There is no record or bar on the movement of workers within the limits of the province, hence the population of workers and residents always varies. Nor the WWF has any mechanism to measure and forecast the demand for housing units. Such a scenario causes the overburdening of the existing facilities. But also, as the new facility gets overloaded very soon and the demand for new arises right after the construction of a facility according to the old, recorded demand.

Table 4-46 population of laborers in various years

Sr. No	The population of Labor in the Industrial Estates of Peshawar in different years	
1	Population in 1998 Census	11560
2	Population in 2017 Census	33100

5 Conclusion and Recommendations

5.1 Conclusions

The provision of affordable houses to the city has become a major challenge both globally and locally. This can be understood by the integration of goals related to housing provision in global agendas like Millennium Development Goals, Agenda21, etc. Locally the effects of this challenge can be felt by the focus of the current government on the provision and announcement of the Naya Pakistan Housing Scheme. Being a scheme of its kind, Over 1.5 million people have registered for the scheme over a few days. (NEWS 2019). This shows the importance of having own house for the citizens of the country. Affordable living has become a major concern, especially for the people living in the major cities of Pakistan, as with the price hike of property and inflation, it has become difficult for the lower income group to sustain a standard lifestyle with their monthly budget. Resulting in an illegal settlement, urban sprawl, uncontrolled growth, slum creation, and development on unsafe sites. Housing is not only a basic human need but also one of the basic rights of every individual, nowadays has become a desire of everyone. Pakistan has crossed the mark of 208 million population according to the nationwide census conducted in 2017. According to the details of the census total household accounts for 32,205,111 in Pakistan which include 12,192,314 urban households while the share of rural households is 20,012,797. The housing backlog according to the 2017 census is estimated to be 10 million, which includes the 6.36 million and 3.64 million Urban and Rural housing backlog respectively. The demand for new homes is estimated at 700,000 per year only half of which is met. The issue which is on top is homelessness in Pakistan, which according to the estimated United Nations (UN) is around 20 million. According to the same source street children in Pakistan has been 1.5 million while the

internally displaced persons (IDP) as of Dec 2017 due to Conflict and violence are 249,000 persons and due to various disasters in the country are 1800 persons. Inefficient land use, loopholes in building regulations, unemployment, low-income level, poverty, speculated land prices and then high construction costs, lack of access to housing finances, strict and lengthy procedures that are out of reach and understanding of a common citizen have been identified as few of the many hurdles which a one faces while fulfilling the need of an affordable house. The housing projects in Pakistan by the private sectors are mostly meant for higher profits, their target has always been either high-income groups or higher middle-income groups. Hence a situation of uncertainty and shortage of houses for the low-income groups in the country. Industrial Workers are also counted in low-income groups. These are the people earning daily wages to sustain their living. Whenever the government set a minimum wage standard in the country, that is meant for the standard of life these workers are living. In this era of inflation, it's near impossible to sustain a living while renting a house, especially when one is earning the lowest wage set by the government. Hence, the government has also made an effort to shed a bit of this weight by constructing housing schemes across the country, especially for the workers of industries. So, this study was conducted to analyze one of such housing schemes located in the Hayatabad Industrial Estate of Peshawar city. Since the body for establishing such colonies is one, so does the pattern for running it, and the facilities available here are almost the same, so we can have an idea about the labor colonies constructed by the same body all across the country in other industrial estates. Peshawar is the capital city of Khyber Pakhtunkhwa province. Being the provincial capital it must provide an opportunity to all groups. Hence, an industrial estate hosting 360 industrial units is also located in the area bordering the Khyber District of Khyber Pakhtunkhwa. Over 30,000 laborers are employed in Hayatabad industrial estate, and hence there are three residential schemes built for these laborers. The 300 Family flats were the first to be established in 1985, followed by 220 Family flats in 1998 and 200 family flats in 2001. All these residential schemes are popular with the locals by the name of Old Labor

Colony, Benazir Labor Colony, and Musharraf labor Colonies respectively. These Colonies have access to all facilities available for the rest of Peshawar City. People from different ethnic and cultural backgrounds are living behind these gated communities for decades. To back this study with solid facts and figures, data was collected through both primary and secondary sources and was analyzed. The data consisted of information about socio-economic and demographic variables, which was collected through a household survey. It was learned through this survey, that majority of the respondents were living there for decades and some since the inception of the colonies. People from all across the province came to earn their living and were sharing a common gated community. Their reasons for choosing this city and community as their place to live were primarily the search for a bright future for their offspring, through availing of the facilities provided and living a comfortable life far from the backwardness of their native towns. Many of the workers who aged while living there had started families and now their children had also started families in the same house, hence multiple families in a single unit leading to overcrowding. Similarly, since the structure of all three residential colonies differed from each other, hence there was a desire of switching the colony in many of the respondents. The residents of these colonies were provided with ample facilities of concreted road pavements, functional water supply, electricity, and natural gas. The respondents were asked to share their satisfaction levels with different amenities present there. It was recorded that overall the respondents were satisfied with almost all the amenities except for dissatisfaction over sewerage and waste management, availability of leisure, sports, and open and green facilities, and participation of the locals in decision making and budget spending. The accessibility of various amenities was judged in this survey, and overall satisfaction was obtained from the respondents. It was known through the survey that the accessibility of all the important amenities like education, health facilities, and employment. Public transport and leisure facilities were well according to the standard set by various studies

The data collected consisted of different dimensions. The factors of income of households, expenses, cost of the housing units in the market, housing finance, monthly rents, etc were included in economic dimensions. The data analysis revealed that most of the residents have spent enough time in these schemes to get their profession and employment mature enough to easily afford their monthly household expenses. There were many factors involved, which included the multiple numbers of earning members for a single household, mature employments, different, multiple streams of earning, and most of all the fact that a huge chunk of expenses in the terms of education, rent, and medical are borne by the government. However, those earning a minimum wage of 17500/- rupees per month had their story of hardship to tell. The high prices at shops had affected their living, and they were reported to be living a hand-to-mouth life.

The second objective of this study was to know about the factors which hinder the provision of Affordable houses to the workers. This primarily included In the third objective of this study the consequences of the non-availability of affordable houses were assessed. This portion consisted of a survey, which recorded the views of respondents about the difficult situation they went through, due to the non-availability of an affordable house. It was learned through this survey that lack of housing has impacted the personal lives of the respondents. Many of them lived with others to sustain their living, some faced or were facing hardship in initiating a relationship due to combine living, others had delayed starting families due to lack of a separate house, and some went to the extent of borrowing and cutting their food expenditures for paying the rent of houses. Some respondents were reported to be hopeless about the possibility of owning a house in near future. Many of these respondents stressed the need of treating the issue of affordable housing provision on a priority basis. Further, the impacts of the non-availability of affordable houses on society, in general, were studied through an extensive literature review of various studies. The impacts majorly included slum creation and living in areas that were prone to various types of hazards and dangers. The urban sprawl and increased rate of crime were one of the issues recorded in such a study. Further, it was observed that the people

choose to live in areas that lacked basic and standard amenities which are prerequisites for an area to live in.

The last objective of this study was to suggest a framework, which would help solve the pertaining issues. The framework was devised because of the experiences gained while carrying out the field study in the shape of surveys and key informants' interviews. The framework devised included approaches that can be followed to achieve the end of a relatively better affordable housing scheme. Presently, the government is working on constructing an improved version of the current housing schemes. Though facing a delay, the scheme of Regilalma Housing Colony which has 2200 housing units under construction, when completed will help reduce the number of applicants for affordable housing on the waiting list. There is a need of increasing the density of housing units in the existing colonies, such as the colony of 300-family flats, which is commonly known as the Old labor colony. Further, there is a shortage of manpower on the ground level, and also an evaluation system is missing which can evaluate and monitor the performances of the local administration for effective administration. One way of achieving this end is by including the locals in the service delivery system. Further, cases have been reported about the residents who are illegally living inside the labor colonies. The colonies were primarily built for low-income groups, have residents had incomes far higher than the scale of income set by the government for low-income groups. Moreover, there was a long list of laborers hoping to acquire a house inside these laborers' colonies, As recorded in the key informants' interviews that the exact figures on this waiting list are not known as the applications are registered with the employers, not the Boards, secondly the applications are accepted only after the completion and opening of a housing scheme. The laborers were interviewed about their condition without having an affordable living place to live, and many responded with the hardship. There is no framework with the workers' welfare board for the provision of affordable housing to those workers who are not formally associated with any industry. But work on daily wages or contract basis inside the industrial estate. These workers change their association frequently and hence are ineligible to get a house under the current rules.

5.2 Recommendations

5.2.1 Housing ownership

There is a concern about the ownership of the houses in these colonies, as there is always a fear of displacement. The Government may plan about giving ownership to these workers already living by devising of finance formula which keeps the employer at the nodal point for the collection of finances from the workers. The government can also allow these houses to the workers by reimbursing the cost spent by the employers while constructing these housing schemes. A program may be launched which could make the tenants already living in labor houses eligible to buy the same house in the shape of installments adjusted in their rents in a specific amount of time. This can be done again by involving key stakeholders such as WWF, WBs, employers, and employees. This will lead to resolving the problem of home ownership. Grants may be provided to subsidize the workers living in rental houses. A system must be made to identify the target group. Local government and administration can be helpful in this regard.

5.2.2 Finance for the ownership products

A. To solve the issue of hesitation by a financial institution, a business model is proposed. This model involves the employers as a nodal point in carrying out the operation of finance between the institution and the developer. Employers are very interested in such a role as this makes the employees bonded to the employers and makes the employees more productive and their bond with the employer lasts long. On the other hand, financial companies are also interested as there is a low risk involved in dealing with an employer rather than an employee having no stable source of income. Such a connection also relieves the financial companies of their burden of operational costs. On the other hand, the developers are keen on such a system as it solves the issue of demands of their product, which is pre-available. Such an operation reduces the chances of delays in getting the profit on the developer's investments. Also, the employer in a higher position can negotiate the cost and quality of construction. Hence it gets a win-win situation for all stakeholders. Pakistan can also use

such a system by indulging a huge market of private sector employers. This will reduce the cumbersome bureaucratic procedures and operational costs.

B. To address the issue of the supply of funds on part of central governments, Shandong's experience in financing Cheap Rental Housing in urban China can be used in Pakistan. That is Housing Provident Fund (HPF) is a saving scheme that obliges the employees and employers to allocate a specific amount of their savings to the HPF account -Which is a source of finance for CRH. Pakistan has huge potential in the collection of funds from the sources and channels used in Shandong. This will help in sharing the financial burden of the central government by involving the provincial governments. The collaboration of all tiers of governments can solve the issue of funds allocation as well as management of funds issues.

C. State-owned enterprises can play a role in ousting the problem of high construction costs. The main item used in construction such as steel and cement can be provided by the state-owned enterprises at subsidized rates to the target group. The awareness and involvement of technical experts can help the use of cheap materials in building construction hence lowering the cost of construction. The design of a housing unit has to do a lot with the cost of the house, hence providing technical advisory on such an issue will help achieve the aim of low-cost construction.

D. Operational cost is an issue in carrying out the processes. WWF has a well-developed system of local caretaker offices, located almost in every industrial estate. These offices are already performing the role of collecting fees etc. from the colonies. By minor training of these office staff, the operational burden can be shared to a larger extent.

E. Government must take a step forward in bringing the international financial institution in financing such housing projects in Pakistan. This can be done by negotiating and reducing their risks and fears. Government must set up a risk management fund to deal with the issue. This will help bring confidence to the institutions which are ready to finance but has the hesitation of losing the investments, as the beneficiaries are low-income group with no stable income.

F. As for the Low-Income Housing Tax Credit (LIHTC) system in the USA, taxes can be used to give the low-income group relief. The employers who rent their houses may be given relief in taxes which in turn be transferred to the renter worker living in their houses. Employers, developers, and property dealers can be brought into an agreement to bring them under the national grid. They provide houses to workers at a subsidized rate and the government awards them incentives in various areas

5.2.3 Housing for Informal Workers

Those workers who are associated with the industrial estate but do not have a specific employer due to the nature of their work, be allotted a house. A mechanism is devised in such a scenario. This may include the provision of guarantees or proof of association with the industrial estate.

5.2.4 Buildings with single rooms for rent.

Some workers are not living with their families and are in an industrial estate just for employment. Cases were reported where there were workers who were living on a rental basis in the surroundings hence a cut in their income due to rental costs. The WWF may bind the employer to provide residence to such workers inside the factory. The standards, living conditions, and quality of such living may strictly be monitored by the WWF. Another way out is the construction such residence which provides the residential

facility to those workers who are single

5.2.5 Direct WWF to Worker Relationship

To solve the issues of displacement of a worker due to worker-employer conflicts, the welfare board must connect with the worker directly. This can be done by documentation of records of employment. If a worker had worked for a specific duration, and then cannot continue with the same employer for some reason, he may be owned by the worker welfare board to prevent his displacement from the house. Similarly, housing schemes or a percentage of housing units be built in every scheme which is directly under the Workers Welfare Fund quota and only the WWF has the authority to decide about the fate of such housing units

5.2.6 Conflict Resolution Mechanism

Cases have been recorded where the worker becomes the victim of conflict with the employer. In such a situation the worker loses all the benefits which he is entitled to include the house in the labor colonies. The official at WWF confessed that there are no formal Grievances Addressing Mechanism for the worker in the WWF setup. The worker has to complain to the employer about matters related to housing etc. The employer will then solve the complaint on its own or may take it up with the provincial WB- which is very rare. Here it is important to note that the worker cannot directly access the WB. So, the WWF is not clear about where the worker will go if it has a clash with the employer. The worker has no way other than going into the traditional court system, which will cost him time and money. Keeping in view the cumbersome and expensive process it can be simply assumed that such a way will be rare to follow by the worker. Hence, a special committee must be formed to oversee such scenario case to case and decide on merit. There must also be reverse channels to counter-check the progress on the resolved complaint. Such actions must be disseminated on different platforms for the information of larger audiences. Also, the experiences must be used for learning and improvement of the process and organization overall.

5.2.7 Fair use of funds

As discussed earlier, the WWF in the center is just a funding agency, which provides the funds to the Welfare Boards in the provinces. During the Key Informants Interviews, it was known that the WWF has no say in the spending of these funds nor has any mechanism to keep a check on the spending of these funds. Hence, cases of embezzlement and misuse of funds have been reported at various times. (Recorder 2020) . Hence, watchdogs that are not part of this organization are required to be set to solve this issue. Further, the publicity of all funding and spending online can also help in empowering the stakeholders to know about the spending of the funds. And hence help in mediating the issue to a greater extent.

5.2.8 Illegal residences

There is an issue that the poor labor when getting a house in such a scheme re-sells it to gain the benefit. A policy must be envisaged to stop such resale to another individual. The house can only be vacated but not can be sold. This will help reduce the trends of slums and exploitation of low-income government houses for business purposes. so, there were residents who were reported to be living in the houses which were initially allotted to some other person. Such residents have got the title from the resident rather than the employer. Hence, an illegal resident. Further, some residents have got the allotment by showing their status as a worker but are non-workers and were involved in some other business having high monetary returns. Hence abusing the rights of those who are low income and are deserving as a worker. The WWF is needed to devise a program for revising the statuses of each resident of these colonies from case to case.

5.2.9 Setting the Ground Administration in Line

The fact is that WWF has tried its level best in providing the best possible facilities to the workers in labor colonies. The problem arises from the working of the administration. Which due to one or another reason is unable to perform its duties with full potential.

Understaffing is one such issue that needs immediate attention. Further, strict adherence to the rule of law is the key to every successful organization. Hence, the caretaker must be empowered and backed up to ensure the standard operating procedures be implemented will according to its sole and scope. The problems of environment, theft, waste management and sanitation, encroachment and security, etc. can be well resolved with swift and competent management by the ground administration. Capacity building of dedicated staff

5.2.10 Performance Evaluation.

There must be a system that could evaluate the performance of the local administration. The feedback is very necessary not only for the betterment of the performance but also for the improvement of the system. The involvement of the locals in such a process will be instrumental in achieving the goal of a swift and competent administration.

5.2.11 Increasing the density

Though the new construction underway has a high density per unit area the increase in density of the existing colony can also be considered. For example, there are only 300 single-story housing units on an area of 500 acres in an old labor colony. According to (DATE) the area has 1 to 5 residential units per acre and is counted as a low-density residential area. Hence the residential density can be increased by either changing the current design of the housing units or constructing High-rise buildings on the vacant land available in the colony. This can solve the issue of scarcity of land for affordable construction. Also, the issue of lack of availability of funds for new land purchases can be solved through this mechanism.

5.2.12 Leisure Facilities and green spaces.

The survey conducted has higher displeasure of the respondents over the amenities of leisure facilities and open and green spaces. As discussed, there was a park in one of the colonies, but its condition deteriorated due to lack of care and in the end, it was dismantled.

Hence, there is a dire need for the provision of such facilities to the residents according to the standards set by various studies. This will help in improving health as well as prevent the dependency of the locals over the neighborhood of Hayatabad for such facilities.

5.2.13 Policy for Ageing in Place/Widows.

The current framework of WWF states that the widow will be given 9 months to vacate the housing unit. Further, the rule that the unit is occupied only by the employ of a specific factory also makes the resident vulnerable to displacement. This means that if for any reason the worker is unable to work for any employer, he may vacate the unit. Further, this also conveys that the children of a worker must be a worker so that the child can replace the father in case the father is unable to work. Moreover, the WWF is also not clear about the fate of a housing unit if a worker retires. WWF has started the policy of ownership of the flats in the newly built Housing Units in Islamabad. It is hence needed to be extended to other provinces as well.

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ANNEXURES

National University of Sciences and Technology (NUST)
School of Civil and Environmental Engineering (SCEE)
Department of Urban and Regional Planning Islamabad,
Pakistan



This questionnaire is designed to collect the data that will be used to Evaluate the housing programs for workers in Peshawar. The results of the study will be shared with you. Therefore, you are requested to participate in this survey. I would be very grateful for the valuable time you will spend completing this questionnaire. This information will be kept anonymous and used only for study purposes.

QUESTIONNAIRE	
Housing Scheme Name	Respondent Number
Gender	Age

A	SOCIAL ASPECTS			
A1	Household Information			
A2	Household Size	Total	Male	Female
A3	Marital Status	Single	Widow	
		Married	Divorced	
A4	Ownership Status			
	Owner	Purchased from someone having the original title	Inherited from a Worker (Labor)	Living with someone else
	Tenant	Received by Employer	Other (please specify)	
A5	Education Level	No Schooling	Secondary	
		Less than Primary	Technical or Vocational	
		Primary	Bachelors/ University	
A6	Employment Status of Household Head			
	Worker	Non-worker	A worker at informal Industry	
	Govt. Dept.	Daily Wages	Orphan	
	Retired	Unemployed	Inherited from a retd. Worker	

A7	What is Your Job Profession			
	Labor/Daily Wages	Clerical	Technician	Managerial
	Transport / Driver	Sales/Services	Other (please specify)	
A8	If employed, for howlong you Are on Job.	Years	Months	

Housing Information			
A9	Since when you are living here (inyears)	0-2 years	7-10 years
		3-6 years	11 years& above
A10	What was the primary reason you moved to your current home?		
	Change in family structure	Quality of amenities/ services & its proximity	Change from renter to Owner/Owner to renter
	Closer to employment		
	Reduced monthly expenses	To establish own household	Lower cost
		Safety/security	Needed more space
A11	What is the Size of your Plot/flat (In Sq.ft)		
A12	Your House is Constructed By OR bought from;	Self	Employer
		Govt.	Others
A13	How old is the present housing unit you are living in	Years	Months
A14	No bed-rooms/storey (Occupancy)	Rooms	Storey
A15	Condition of housing unit/Dwelling Type	Pacca	Semi Pacca
		Detached	Semi-detached
A16	For availing of the following facilities, how much do you/your family have to travel a distance (km) and time consumed (minutes)	Activity	Distance Travelled (Kms)
		Job	
		Health Facility	
		Attending School	
		Playing/recreation	
		Shopping	
A17	Your preferred mode of transport for availing of the above facilities.	Cycle/Bike	Taxi
		Public transport	Walk
		car	Other
A18	How often do you keep on repairing/ renovating your house per year	Times/year	

A19	What are the reasons for Repairing?	Family size	Extension	
	Repair/Improvement	Poor Construction	Others (Please specify)	
A20	What kind of accommodation type you will prefer?	Detached House	Semi-Detached House	

		Flat	Multi-Storey
A21	. Do you plan to buy a home or rent it within the next twoyears?	Yes	No
A22	As a lifestyle choice, which do you prefer, homeownership or renting?	Rental	Ownership
A23	Do you think your house is overcrowded and is small for yourfamily to live in?	Yes	No
A24	How many families are living in your house including you?		

B. ECONOMIC ASPECTS			
	Owners		
B1.	Purchased/Constructed the housing unit/plot on own sources / financed	Self	Financed
B2.	Source of Financer (If financed)	Bank	Family/friend
		Govt.	Employer
B3.	What is the current Market Price of your Plot&Housing unit? (In thousand Rupees)	(Plot)Rs.	(Unit)-Rs.
B4.	Average monthly housing expenses (repairs/construction /loan repayment & improvements)In thousand of Rupees	(Owner)Rs.	(Renter)Rs.
Tenants			
B5.	How much rent do you pay for a house unit(In thousand Rs)	Rupees/month.	
B6.	How you finance your rent	From own sources	Employer assisted
		Govt Allowance	Family/friends
B7.	What is rent increment Cost annually	Rs.	
B8.	Do you struggle in maintaining the non- housing expenses after paying the rent of housing unit.	Yes	No
B9.	According to you how much of your monthly income isaffordable for you to pay for rent?	Rs.	
Income Level			
B8.	Household's average Monthly Income from all sources; (In thousand Rupees.)		
B9.	How many are earning members of your family living here?	Number	
B10	What are the sources of househ old Income	Job	Part-time job
		Saving	Others
		Pension	
		Business	

Non-Housing Expenses				
B11	How much do you spend(On average) on the following per month (In thousand Rupees)			
	Food/kitchen	Rs.	Education	Rs.
	Clothing	Rs.	Utility Bills(Water, Gas, Telephone, Electricity)	Rs.
	Health/Medical	Rs.	Repairs/maintenance	Rs.
	Transportation cost for attending/Availing of the above facilities (In Rupees)			Rs.

1. How much satisfied are you with the quality and availability of the following services;

Sr. no.		Very Dissatisfied 1	Dissatisfied 2	Uncertain 3	Satisfied 4	Very Satisfied 5
1	Cleanliness of the Area you live in?					
2	Availability of open and green spaces					
4	Quality of educational institutions					
5	Quality of health care facilities					
6	Availability of adequate housing					
7	Availability and quality of water?					
8	Condition of sewerage and drainage system					
9	Repairing and maintenance of roads, footpaths, street lights, parks, etc.					
10	Availability of parking spaces					
11	Performance of admin					
12	Performance of complaint offices					
13	Neighborhood Quality					
14	Availability of sports and recreation facilities					
15	Accessibility of post offices, banks, exchange offices etc.					
16	Accessibility of public offices					
19	Safety and security in the neighborhood and streets especially at night					

20	Availability of the fire Department and rescue services					
21	Public participation in designing and executing the budget at ground level					
23	Availability of daily life goods and their prices					
24	The overall quality of life in your area					

2. Which of the following amenity is more critical according to you? Select any three with priority.

Sr. no.		Priority 1	Priority 2	Priority 3
1	Public Transport			
2	Public Safety			
3	High Taxes			
4	Prices of goods			
5	Parking			
6	Condition of Roads			
7	Water Supply			
8	Sewerage and waste management			
9	Education system			
10	Medical Facilities			
11	Recreational opportunities			
12	Access to public services			
13	Greenbelt/ Walking trails /Sidewalks			
14	Neighborhood Quality			
15	Access to leisure facilities			
16	Healthy and fresh environment			
17	Financial grants			
18	Ability to have chickens or livestock			

3. Accessibility of Amenities

Sr. no.	Amenities	Access Within (km)				
		1-2 Or less	3	4	5	6 or above
1	Access to employment					
2	Access to public transport services					
3	Access to good quality education/schools					
4	Access to shopping facilities					
5	Access to health services					
6	Access to leisure facilities					
7	Access to open green public space					

4. Effect on the personal life and the Social Consequences of Homeownership

Sr.No		Yes	No
1	Are you delaying or delaying starting a family because of a lack of affordable housing?		
2	You live or lived with a partner because you could not afford to live apart.		
3	You live or lived with your parents because you could not afford to live apart.		
4	Is developing and maintaining relationships are harder because of your living situation?		
5	Have you reduced the amount you spend on food to help pay your housing cost?		
6	Do high housing costs have affected your ability to move for work?		
7	Have you ever resorted to sometimes borrowing to help pay for housing costs?		
8	Do you believe that your children or future children will be able to afford a decent home?		
9	Do u think that for you to become a homeowner in the future you will need 10 years or more to save for a deposit?		
10	Do you believe that you will ever be able to afford to buy a home in your local area?		
11	Do you believe that about housing, the next government should prioritize the supply of affordable homes?		