Making Unaffordable to Affordable: Looking into Affordable Housing Issues and Its Remedies

Muhammad Ahsan, *University of Engineering and Technology, Lahore, Pakistan*

Abstract – **Affordable Housing is a critical issue in many developing countries that impacts their potential for sustainability and socio-economic development. Lack of affordable housing, slower growth of housing stock, and aging housing conflates numerous other problems in Pakistan, including overcrowding, poor indoor air quality, prevalence of preventable diseases, and development of slums and katchi abadies, etc. These challenges lessen living standards in many areas. Unaffordable housing forces low income families in urban areas to live in dilapidated areas. An increase in the construction of affordable housing is needed to mitigate housing affordability challenges in Pakistan. Setting aside land quotas for low-income families in housing development schemes is not sufficient because the households still lack the means to construct housing. This paper attempts to identify the causes of unaffordable housing and solutions for its provision.**

Keywords – **Affordable Housing, Housing Stock & Backlog, Lahore, Urban Extent.**

I. Project Narrative

Affordable housing is a crucial issue these days in developing countries owing to swift population expansion. Population in developing and under-developed countries mostly live either around or below the poverty line. It is a substantial challenge for poor people to build or purchase a home in urban areas where the prices of lots and development costs are outrageous. Poverty and homelessness are prime factors that force poor people to live in slums, *katchi abadies*, and squatter settlements.

Housing unaffordability is considered as a threat to prospective sustainable development of developing countries while also upsurge the prevailing housing shortfall of cities. Housing affordability has declined due to supply constrains in formation of new housing supply and also due to inflation in building material`s prices [15]. To address these challenges, local municipalities need to dig out the facts and work accordingly to mitigate the housing shortage and enable such environment that strengthen the departments and legal framework to provide affordable housing to penurious segment of society.

The research work is conducted in an explorative mode to identify the causes of unaffordable housing and correspondingly to suggest the remedial measures. Formerly, there was a need to dissect the housing dimensions in Lahore while also to evaluate the correspondence of housing disbursement and affordability. Whereas, the foremost research question is to reach a consensus based decision on the worst cause and its utmost remedies to attain the ambitious affordable and decent housing.

II. Defining Housing Affordability

The term "affordable" has no absolute meanings as it is a relative concept and could have numerous meanings in different perspectives but the *"affordability refers to people's ability to purchase basic (or essential) goods and services such as health-care, food and shelter"* [21].

The definition of "affordable housing" has been merging over time, but there are a few similarities in relevant literature. Affordable housing can also have connotations as it *"refers to any housing that meets some form of affordability criterion, which could be income level of the family, size of the dwelling unit or affordability in terms of EMI size or ratio of house price to annual income"* [16]. While Daniel Shaw (2016) defines the housing affordability as the provision of *"housing units to the eligible households whose needs are not met by the market"* [26].

III. Methodology

A methodology adopted to regulate this study started with a comprehensive literature review and by conducting surveys of sampled population. Whereas, the sample size was calculated by using Solvin`s formula which was 400 along with the marginal error of 5 %. Afterwards, stratified and convenience sampling techniques was used to perform socio-economic survey of targeted population and semi structured interviews of diverse officials to perceive their views about the causes of unaffordable housing along with the policy measure that they want to be implemented. To distinguish between the worst cause and pre-eminent remedial measure, nominal group technique (NGT) is used to reach a consensus-based decision.

IV. Contemporary Housing Dimensions In Lahore

Housing provision is being considered as foremost objective by planning institutions in Lahore. Despite this, Lahore is facing the problem of escalating housing shortage, being the second most populated city of Pakistan [8].
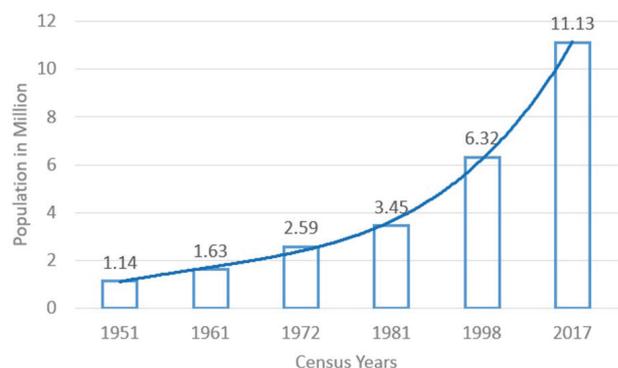

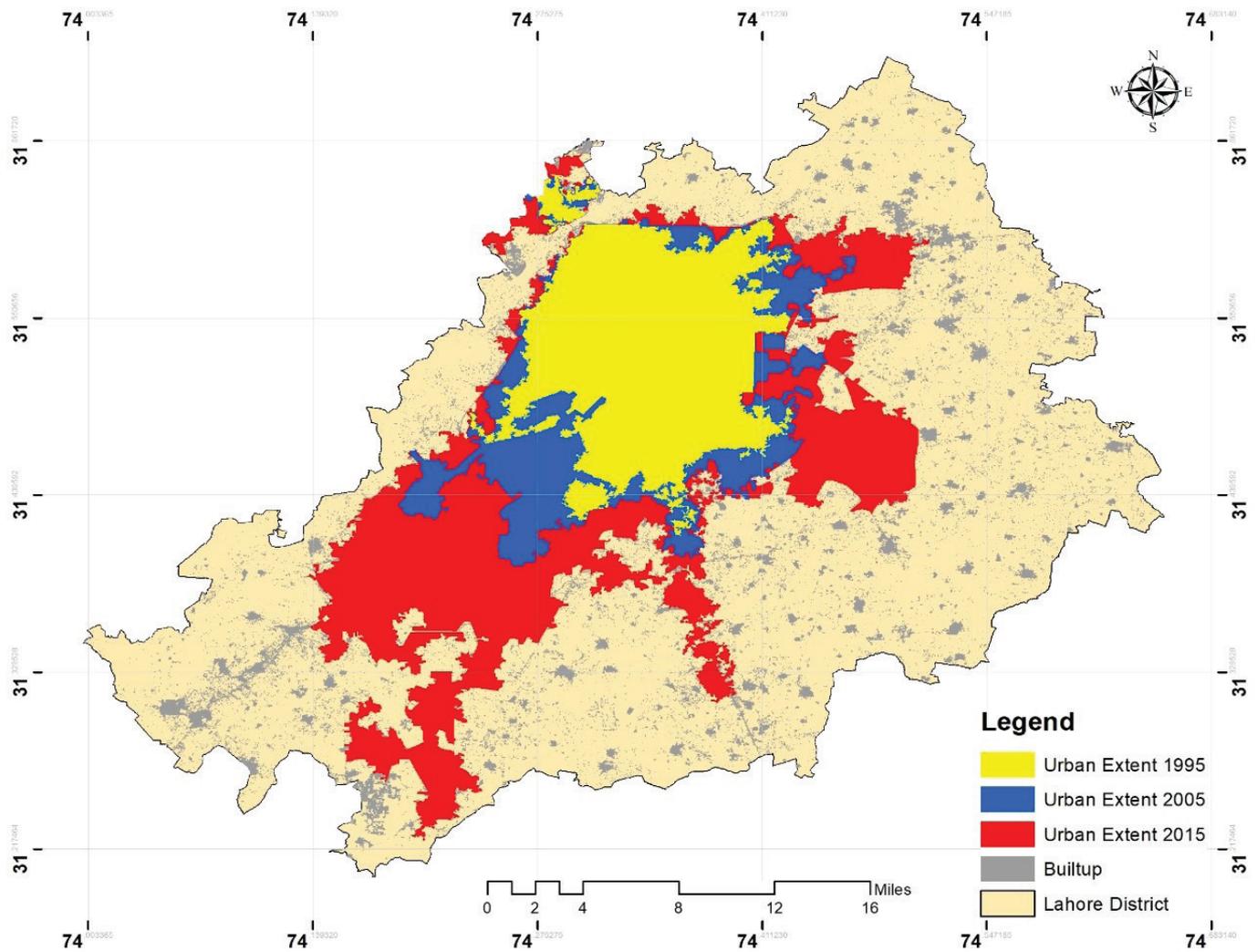Fig. 1. Temporal population growth of Lahore [22, 8].

Fig. 2. Temporal urban expansion of Lahore [29].

The hasty population expansion has affected the spatial pattern of Lahore, that has become 25 times bigger since the 20th century, from 1901 to 1998 [27]. Whereas, the spatial extent of Lahore has increased 2 times (202 %) along with the annual growth rate of 5.7 % from 1995 to 2015, from 219.7 sq. km. in 1995 to 335.5 sq. km. in 2005, and 665.3 sq. km in 2015 (Fig. 2).

However, Fig. 1 manifests the population growth of Lahore from 1951 to 2017, from 1.14 million to 11 million. The biggest portion of this increase is due to the migration for employment, better quality of life and health and educational facilities, etc. However, the economic structure had also shifted from agriculture to services and construction sector, which played its vital role in migration. This large shift has increased the housing demand in Lahore but lamentably the rate of housing supply has not been met. Whereas, the spatial growth of Lahore is not in compliance to population growth, and the Lahore is ballooning on massive scale. Spatial burgeoning of Lahore is due to sprawl of rather compact development that should be controlled and managed in an efficient manner to meet the fathomable future demand.

Lahore is facing an acute shortfall of housing, which will further aggravate due to rapid urbanization. The housing shortage in 1966 was 39 086 that has aggravated to 80 399 in 1980, to 135 000 in 1998 and has further groomed to 154 000 in 2017. Howbeit, the extrapolated trend till 2050 predicted the housing shortage of more than 1 000 000 with $R^2 = 0.99$ (Fig. 4). Therefore, the effective policy measures should be adopted to cater this alarming influx.

Additionally, the housing stock in Lahore provides diverse options to the citizens for living in decent communities. However, the hosing tenure in Lahore has changed over time from owning to renting (Fig. 3). Currently almost 70 % of population in Lahore live in their own homes and more than 20 % are renting an apartment, flat or house while others are living in subsidised or rent-free houses [11].

The housing magnitude in Lahore was 881,708 in 1998, out of which 82.9 % was in urban area [7], while according to 2017 census, Lahore has 1 757 691 housing units that showed the acceleration of population growth at a massive pace. Additionally,
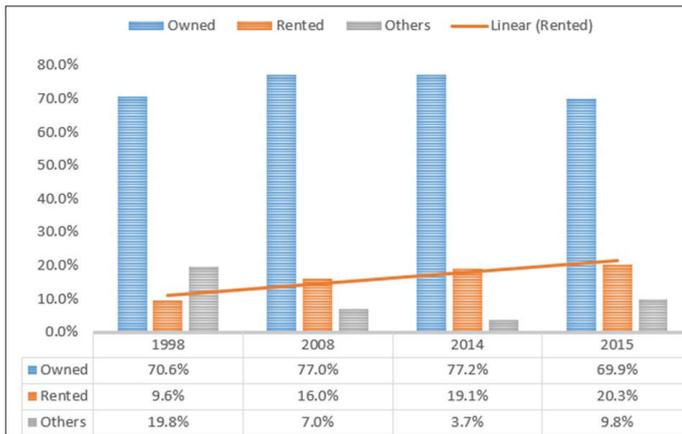
Fig. 3. Type of housing stock by tenure in Lahore [7], [9], [10], [11].
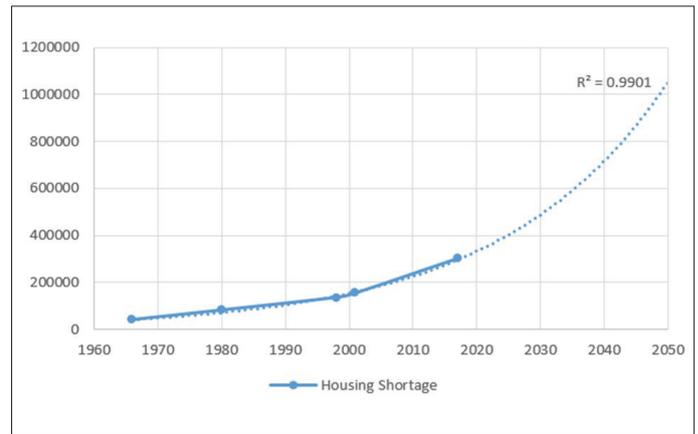

Fig. 4. Trend and extrapolation of housing shortage in Lahore [6].
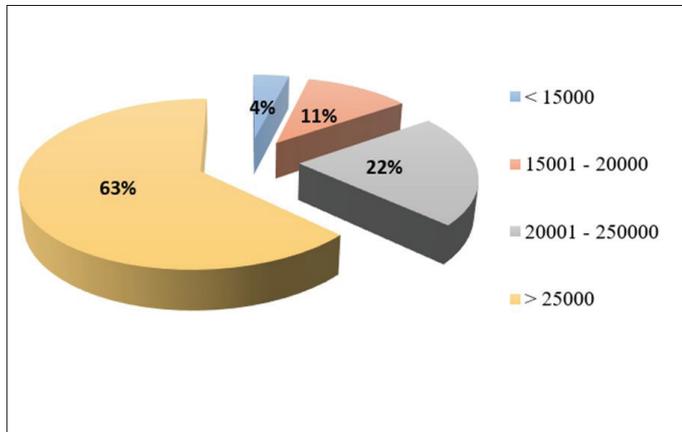

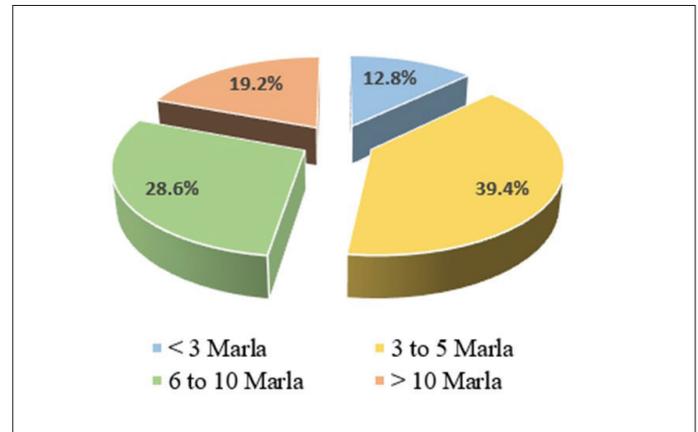Fig. 5. Monthly household income of citizens of Lahore [Figure: M.Ahsan].

Fig. 6. Preferred size of a house for residence in Lahore [Figure: M.Ahsan].

the population increase in Lahore requires 30 000 dwelling units every year, but the housing formal market does not exceed 2 500 plots per annum [6].

The housing backlog has aggravated over the last few decades, as the government's role is being shifted to a facilitator rather than provider in the housing sector [12]. Figure 4 elucidates the prodigious housing shortfall that is further being aggravated and depicts the non-affordability of housing by poor people, which results in proliferating of *katchi abadies* and slums. However, informal land sub-division fulfils 60 %, *katchi abadies* meet 25 % and inner area densification accommodate 15 % of the gap being produced due to lesser housing supply than the demand [17]. The preparation of master plan of Lahore in 1963 indicates that 138 000 people were living in *katchi abadies*, the number had grown five times to 738 173 in 1981, and further in 1987 increased to 750 000 people living in 236 *katchi abadies* [1], however this proportion has further increased to 1.7 million people in 308 *katchi abadies* [6], whereas the portion of *katchi abadies* is swelling hastily.

Despite the facts that public and private departments and agencies executed innumerable projects for housing provision in La-

hore the housing supply rate has not been achieved to meet the demand. The essential task is to analyse the housing provision practises being adopted by the key stakeholders and the affordability level of penurious people. Also the affordable housing should be supplied as per desirability of preferred house size, quality and location, whereas the preferred housing size of poor people is shown in Fig. 6. Unfortunately, the housing provision practises for low income people could not be implemented in its true letter and spirit thus were unsuccessful to solve the shelter problems of the urban poor.

V. Discerning Low Income People In Lahore

The criteria for categorizing low income people have changed from time to time and from area to area. In the case of Lahore only Private Housing Scheme Rules 2014 by LDA define the low class people as a *"group of persons in which every person has monthly income not exceeding twenty-five thousand rupees"* [20].

Figure 5 has been generated by analysing the primary data, which indicate that 37 % people belong to the low-income class. Whereas, if we consider the inflation rate, then it is clear that low

income people live in hand-to-mouth conditions with very limited financial resources.

VI. Relationship Between Housing Expenditure And Affordability

In literature, the researchers have also explained the relation of housing affordability with expenditure as "*housing costs (including rents, mortgages, property taxes and insurance, maintenance and basic utilities) that costs less than 30 % of household income or budgets, but some experts recommend including other costs*" [18], [30]. But in the case of Lahore, about 64 % of the people are able to save nothing from their household income (Fig. 7) as they spend the whole of their income on household expenditure. Mostly people are living on rental basis, while a few have not paid the rent for several months. This hand-to-mouth situation will bring them on road one day if the target of housing for poor people is not achieved. The other side of coin depicts the situation as unaffordability or even worse for people in extreme poverty.
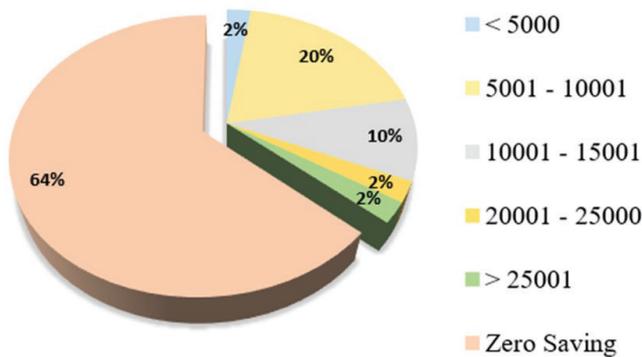

Fig. 7. Monthly household savings after household's expenditures [Figure: M.Ahsan].

While the data is being validated by correlational analysis between monthly household income and expenditure that demonstrate the result as significant at the level of 0.837 (as shown in Table I).

Table 1. Correlation of Monthly Household Income and Expenditure [M.Ahsan]

		Monthly household income	Monthly household expenditure
Monthly household income		1	0.837**
	N	400	400
Monthly household expenditure		0.837**	1
	N	400	400
Pearson's correlation sig. (2-tailed) .			

VII. Causes of Housing Unaffordability

Many observers claim the reasons for an "affordable housing shortage" or, even worse, an "affordable housing crisis." The few causes of housing unaffordability are described further.

A. Excessive Land Prices

Land prices in urban areas have been increasing rapidly from last few decades [2]. The reasons behind the increase in prices are land speculation, high taxation and high development charges, etc. Development of private sector is another reason that boosts the prices of lots. Ascribable to this, poor people are forced to live in dilapidated areas such as slums, squatter settlements, etc.

B. Financial Scanty

Another obstacle to affordable housing, compared to the countries of the surrounding regions, is the housing financing, which is at lowest level in Pakistan. "The outstanding housing loans amounted to USD 0.4 billion or 0.6 percent of GDP as of December 31, 2003, which is among the lowest levels in the world" [14]. Weak enforcement of lenders' rights and foreclosure laws are the main reasons for limited finance for housing. With the scanty financial resources, government is incapable to meet housing demand, that exaggerates the housing shortage.

C. Deficient Household Income

The problem of deficient household income is being growing due to high inflation [27]. Consequently, the affordability level of poor people declines as they need to spent a large share of their income on other basic necessities. This should motivate policymakers to consider low income housing as a dire need to combat potential causes of housing backlog.

D. Exorbitant Rents

Due to shortage of housing supply, poor people move toward the rental housing [22]. However, one side of the coin shows the low availability of rental housing [14], while the other side shows the exorbitant rents for poor people. In Lahore, minimum rent of a rental housing is almost PKR 12 000 (in tumbledown communities), which is about 50 % of the income of low-income people. Exorbitant rents also act as inducement of housing unaffordability.

E. Inflated Interests on Housing Loans

People who lack the resources to have their own house with their household income, take the edge of housing loans. Vital to this, the banks act imprudently by charging heavy interest on housing loans – around 20 %. This also causes the hindrance in the way of housing affordability.

F. Outrageous Construction Costs

Outrageous construction costs are another obstacle to housing affordability causing escalation in housing backlog. The residential construction costs in Lahore varie from PKR 1 200–2 000 per square feet including labour and material costs. This culminates the minimal construction costs of a single story three marla house
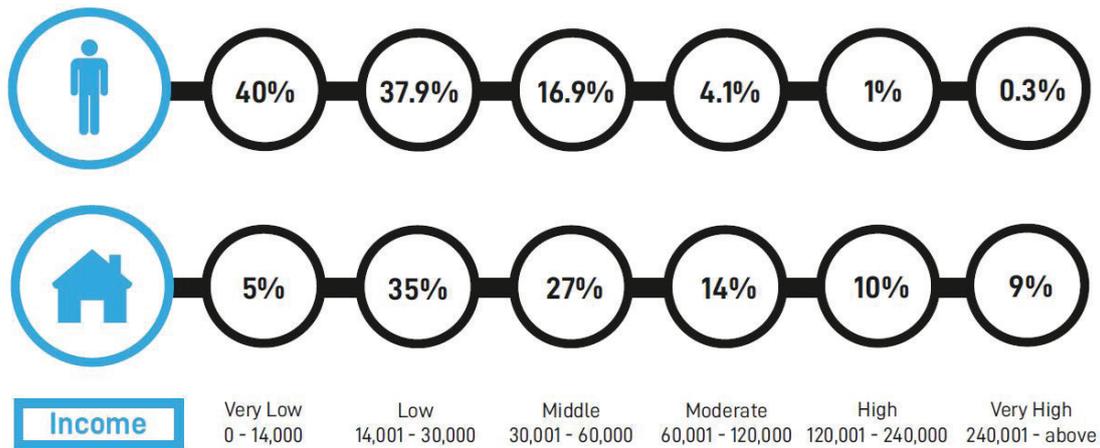
Fig. 8. Disproportionate availability of housing in Punjab province by income bracket [25].

from PKR 810 000 to 1 350 000, and from 1 350 000 to 2 250 000 for five marla (for grey structure). This is the greatest impediment for low income people to have their own house.

G. Scarcity of Land

Haphazard and leap frog development, rapid urbanization, and poorly conceived regulations have created shortage of land parcels in urban areas, capable of development. Rather than the expansion of new housing by private developers on the periphery of the cities, by using prime agriculture land, the focus should be on in-fill development for the accommodation of new housing units. Land acquisition by land mafia and illegal encroachment as a land speculation has also reduced the availability of land at an affordable price.

H. Insufficient Housing Provision

Demand for housing has increased over the years while the supply has declined [5], [19] in urban areas of Pakistan. Despite these, the facts of PSLM 2015 and UIPT data under Punjab Spatial Strategy 2047 showed that 5 % of housing units are being supplied to 40 % of population in Punjab of low income category (shown in Fig. 8).

Whereas, in Lahore, Private Housing Scheme Rules 2014 by LDA dedicated the provision of 20 % plots (5 & 3 marla plots and apartments) for low income people. Despite this, the prices are exorbitant, poor people are unable to afford them that directly affects their affordability level. The policy makers should have to consider this factor for the better provision of housing to poor people.

VIII. Policy Measures to Achieve Housing Affordability

The lack of affordable housing has created threats to the sustainability of developing countries. Umpteen urban problems along with the issues of housing supply/ demand, exorbitant prices of lots, and housing crisis, etc. across the country have further

aggravated the conditions. These potential disputes have to be resolved by adopting the following policy measures for the provision sustainable communities.

A. Public Private Partnership Project

To provide sustainable housing, new projects should be started based on public private partnership in view of the fact that public sector has the land market in Lahore [3] and allocated funds for the provision of housing [13] with the goal to reduce the housing backlog. But public sector lacks the capability to evaluate the factual situation and to implement the project in its true letter and spirit. Contrarily, private sector is more capable in designing and making assessments regarding the cost and benefits of housing projects. Certainly, the effort of both sectors will result in better provision of housing to low income people. This model is under consideration for the provision of 5 million housing to the necessitative people under the Prime Minister's manifesto.

B. Utilization of Public Land

Expensive land is the major hindrance for housing provision by private sector [2]. The housing can be made more accessible and affordable by utilizing the public land, keeping in mind the fact that the government has the land in its possession in urban areas [3]. The land can be selected and utilized keeping in view the different parameters such as accessibility, not laying in flood prone areas, access of utility services and other parameters, which are necessary for the development and provision of housing. This will lead to low cost housing to poor people.

C. Encouraging Private Developer

The private sector has a major role in the provision of housing [23] but the resultant development is unaffordable for poor people. As the private sector has its bountiful share, almost 70 %, in the entire investment of the country [4], part of this investment can be utilized in the housing sector. To accomplish this goal, private sector should be encouraged by conferring tax incentives, relaxation in approval fees, and accelerating the legal process to

TABLE 2. PROGNOSTICATIVE SUMMARY OF POLICY MEASURES FOR AFFORDABLE HOUSING [M.AHSAN]

Serial No.	Policy Measure	Prognosticative Summary
A	Public private partnership project	Necessitative housing delivery with efficient resource utilization will betide with mutual efforts of both sectors
B	Utilization of public land	Effective exploitation of abandoned land will lead to low cost housing
C	Encouraging private developer	Bountiful share of private investment can be used in housing sector that will ultimately lead to increase in housing supply
D	Inexpensive rental housing	Rental housing by public sector will provide the opportunity for poor people to live in decent communities by increasing their choice
E	Low cost housing	By reducing the cost, the possibility for penurious people to buy a house will increase
F	Interest-free loans	No / minimal interest on loan will create an opportunity for impoverished segment of society to possess their own house
G	Housing assessment by local council	Housing provision based on accurate assessments will utilitarianly reduce the housing backlog
H	Easy instalment plan	Instalment plans in alliance with household income will make the housing cushy for destitute people
I	Rejuvenation of dilapidated housing	Rejuvenation of retrogressed housing will escalate the housing supply within the exiting development to accommodate the future housing demand

cut the delays, etc. to produce quality housing for low income people.

D. Inexpensive Rental Housing

Exorbitant rents act as deterrent for poor people to use rental housing. Unfortunately, public sector has a minimal role in the provision of rental housing to the people who do not have any shelter. Furthermore, rental policies and strategies have to be derived to sway the rents to congruous. Such housing can lessen the significant portion of housing backlog. For example, the UK has provided a big part of society with rental housing, with effective control through pragmatic policies.

E. Low cost Housing

Excessive land prices, deficient household income, exorbitant rents, inflated interests on housing loans and outrageous construction costs, etc. sequel the monstrous housing costs. Nevertheless, the policy makers and concerned departments have to dig out the facts and adopt the policy measure that can ensure low cost housing for poor people. Such housing can be provided by utilizing low-cost and sustainable material, resultant as rock-bottom housing.

F. Interest-free Loans

The major lender for housing in Pakistan is the House Building Finance Corporation (HBFC), a non-banking institution that accounted for 80 percent of the total formal housing loan in 2004 [12]. But the banks in Pakistan provide the home loan with the interest rate up to 20 %. Such exorbitant interests on loan unnerve the poor people to utilise such facilities. Contrarily, this facility can be made convenient for poor people with no/minimal interests on the loan.

G. Housing Assessment by Local Council

Housing needs assessment is the crucial task to endow the sustainable housing for penurious people. Local policy makers / departments can endanger the efficient results of housing demand calculation by analysing the ground realities resultant in utilitarian reduction in housing backlog.

H. Easy Instalment Plan

The other way to make the housing affordable for penurious people is to enable the instalment plans at the time of purchase of lot. The instalment plan will empower the poor people to have their own house in decent communities. But the fact should be considered that the instalment plan should be in accordance with the household income to make the housing cushy for low income people.

I. Rejuvenation of Dilapidated Housing

Public housing projects for destitute people have started in multiple spans but their poor implementation led them to be speculated by upper income group or deteriorate laying vacant. LDA Avenue 1 is a scenario project by public sector depicting the picture of underutilization that has not accommodated the habitants in its true spirit. The officials have turned a blind eye to its gradual deterioration. Letting it deteriorate further is only putting off the problem, which makes it more difficult to solve. Rather than focusing on the provision of housing, retrogressed housing needs to be rejuvenated to accommodate the demand for new housing.

IX. NOMINAL GROUP TECHNIQUE (NGT)

In the 1960s, nominal group technique (NGT) was described as a procedure to facilitate the group decision for a combined solution in social research [24]. Nominal group technique has been
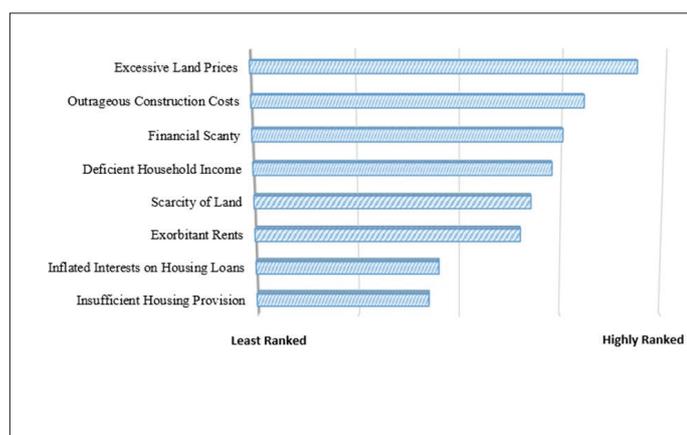
Fig. 9. Ranking the causes of unaffordable housing [Figure: M.Ahsan].

Fig. 10. Ranking of policy measures for affordable housing [Figure: M.Ahsan].

applied in this research to reach a consensus-based decision to explore the worse cause and best solution for the provision of affordable housing. For this purpose, diverse officials were selected and interviewed to rank the causes and their remedies while the scales vary from high to low.

The results generated by ranking the causes indicate the excessive land prices as a worse root of unaffordable housing and outrageous construction costs is at subsequent. Whereas the ranking of policy measures indicate that housing project should be done through public private partnership followed by easy instalment plan, etc. (Figs. 9 and 10).

Conclusion

It has been concluded that the population which spend more than 30 % of their household income on expenditures faces the problem of unaffordable housing. Furthermore, analysed data showed that more than 64 % households spend whole of their income on household disbursement. Whereas, the problem of unaffordable housing does not resolve by merely proposing the low income (3 to 5 *marla*) plots in housing schemes, land prices must be reduced as well. Housing supply should be made in accordance to the demand in term to price, location and quality to make it affordable for penurious people.

The results generated by NGT indicate that the worst cause is excessive land prices, resulting in the poor people forced to live in slums and squatter settlements. The best policy measure is public private partnership projects followed by easy instalment plan to escalate sustainable housing. Furthermore, low income housing project like *Khuda ki Basti,* which has already been successfully executed in many parts of the country, should be introduced in other areas as well, and concepts of incremental housing, self-help housing, etc. should be made common.

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Muhammad Ahsan has graduated in City and Regional Planning from the University of Engineering and Technology, Lahore in 2017 and was awarded two gold medals for excellent performance. Currently he is pursuing a master's degree in City and Regional Planning from the same university.

Since 18 July 2017 he has been a RESEARCH ASSOCIATE in URBAN PLANNING in the Urban Sector Planning and Management Services Unit (Pvt.) Ltd., where he is performing his duties in project "Punjab Spatial Strategy" funded by The World Bank. He has also worked on the preparation of various master plans, land use plans, urban redevelopment project, and performed feasibility study for new economic city, etc. His areas of research interests are housing, physical planning, building control mechanism, use of RS and GIS, etc. Besides the curricular activities, he has also participated in numerous co-curricular events and won the 1st prize in National Design Competition "Way to Find Urban Solution through Modal Making" held by the University of Management and Technology, Lahore, and the University of Peshawar in February 2016. He is a registered member of the Pakistan Council of Architects and Town Planners (PCATP) and Institute of Planners Pakistan (IPP).

CONTACT DATA

Muhammad Ahsan
E-mail: ahsansaeedi04@gmail.com
Tel.: 0092-341-7285425