



City Planning Indicators for Evaluating the Residential Satisfaction: A Case on Hyderabad, Pakistan

P. N. MAHESAR<sup>++</sup>, I. A. CHANDIO, M. A. H. TALPUR, P. I. MEMON

Department of City and Regional Planning, Mehran University of Engineering and Technology, Jamshoro

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**Abstract** The resident's perceptions about the quality and the adequacy of their housing environment is termed as Residential satisfaction. Moreover, it also supports to recognize the impact of various attributes to the satisfaction level of residents. Hyderabad is facing immense urbanization problem due to which it is facing a varying level of problems related to quality of life. Nevertheless the residents have objections about the quality of physical space, the services, facilities, public environment that pressurized the researchers to overlook the importance of residential satisfaction attributes. In view of the above discussion, the aim of this research is to assess the satisfaction, perceived by residents of three housing schemes at Hyderabad city. Total twenty attributes were assembled into five components, i.e. housing unit characteristics, housing unit support services, public facilities, public environment and neighborhood facilities. Data were collected from 133 households and analyzed using residential satisfaction index and correlation analysis. Furthermore, the findings of this study show that the residents have low levels of satisfaction with housing unit support services, followed by public environment, neighborhood facilities and public facilities. The residential satisfaction was negatively correlated with the demographic characteristics of the occupants such as household size, monthly income and educational level. Whereas, staying time period was found positively correlated. Besides, the study is guiding path for public and private agencies by providing the main attributes of residential satisfaction.

**Keywords:** Housing Schemes, Residential Satisfaction, Correlation, Demographic Characteristic.

## 1. INTRODUCTION

Housing is an important consideration for everyone living in any place of the world, as the prosperity of a nation is reflected in its people getting good quality of housing (husin *et al.*, 2012). Decent housing can improve the living conditions and environmental prosperity (Saddozai *et al.*, 2013). Whereas a well-planned housing is considered as main aspect in improving the quality of life (Orrell *et al.*, 2011). As the current and future prospects in the housing sector depend on the extent to which owners/occupiers are satisfied with the built facilities. As defined by Ogu (2002), dwelling satisfaction is defined as the level of facilities and services experience by residents. Hence, analyzing the existing housing provision has turned into an imperative means and neighborhood governments in both UK and USA (Mohit *et al.*, 2010). Residential satisfaction, which has been defined as residents' satisfaction with the quality (Lee and Park, 2010; Mohit, Ibrahim, and Rashid, 2010; Salleh, 2008) and adequacy (Ibem and Amole, 2012) of their housing environment, has been adopted as a measure of quality of life (Caldieron, 2011; Park, 2006). Moreover the study on residential satisfaction support to recognize the involving factors in residential satisfaction (Amole, 2009). Residential satisfaction studies fill different needs, including the evaluation of inhabitants' available

housing situation, requirements and needs (Salleh, 2008) the level of satisfaction and dissatisfaction with housing schemes (Mohit and Nazzyddah, 2011). Moreover, inadequate services and infrastructural facilities are dual characteristics of various housing schemes in Hyderabad. Most of the inhabitants have reconstructed their houses because of the pitiable material and plan of housing unit. However, the builders are not paying attention towards the quality of housing provision, they just focus on making money. Various attributes are involved in this study based on residential satisfaction, which needs to be studied thoroughly. This article's aim isto explore the level of residential satisfaction perceived by the residents with housing unit characteristics, housing unit support services, public facilities, public environment and neighborhood facilities. Furthermore the continuous evaluation of residential satisfaction of the housing schemes is essential in order to monitor and guide future private housing in Hyderabad.

## 2. MATERIAL AND METHODS

Hyderabad is selected for this study. On the globe, its position is between 25° 22' 45" North and 68° 22' 6" east and about two million is its population (Korai et al, 2014). Presently Hyderabad development authority (HDA) has launched more than 250 housing schemes in

<sup>++</sup>Corresponding Author: Pirah Noor Mahesar; E-mail: [pirah.noor21@gmail.com](mailto:pirah.noor21@gmail.com)

private sector, and many of them already completed (Hyderabad Master Plan 2007 -2027). The study area can be seen in (Fig. 1).

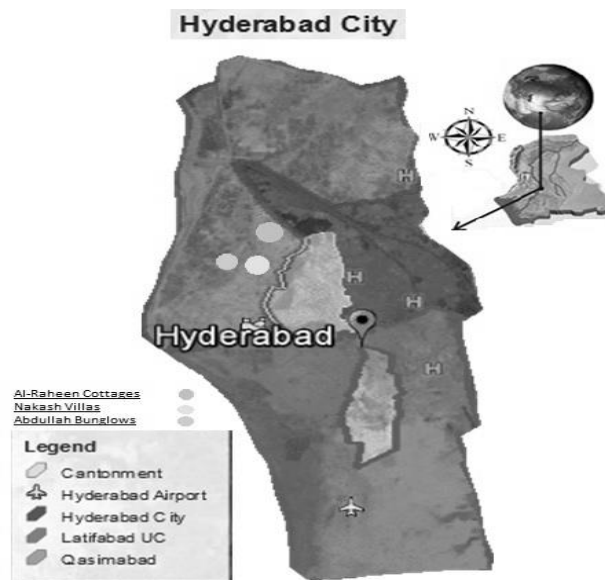


Fig. 1: Study area

Nevertheless, the residents were not satisfied with the quality of housing. So the researcher selected three housing schemes, Nakash Villas, Abdullah Bungalows and AL Raheem Vilas to analyse the residential satisfaction towards the housing unit, housing unit support services, neighborhood facilities and public environment.

## 2.1. Conceptual Framework of the study

The conceptual framework of this is shown in (Fig. 2). As defined by Ibem and Amole (2012), residential satisfaction of general people can be counted from the opinion about their private environment to meet desires. Thus, the study provides a conceptual model, which indicates that the level of satisfaction with respect to the five selected components. These components included housing unit physical characteristics, housing unit support services, quality of public facilities, public environment and neighborhood facilities. According to Amerigo and Aragonés (1997), objective behaviors of the private environment, once they have been assessed by the individual, get to be subjective that define specific level of satisfaction. While the subjective behaviors are impacted by the demographic characteristics of individual.

## 2.2. Sampling design

In this study stratified random sampling was used for selecting the samples for questionnaire survey (Singh and Masuku, 2014). The three housing schemes

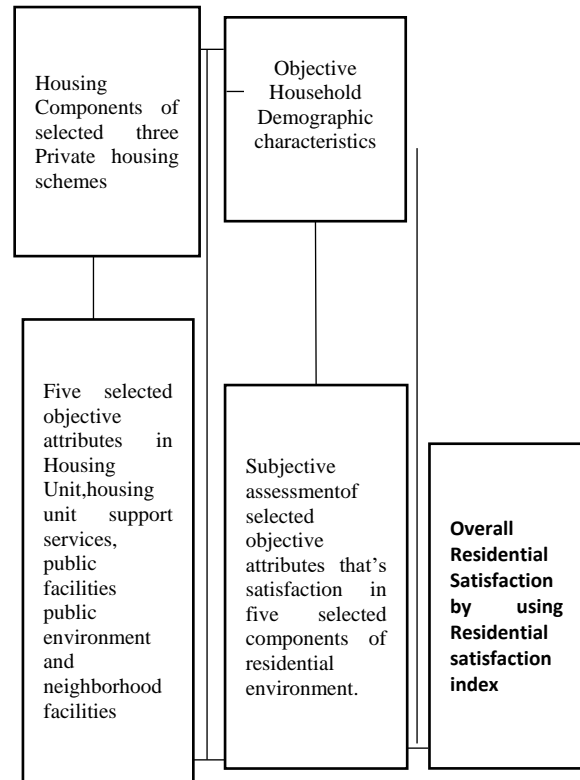


Fig. 2: Conceptual Framework of the Study

were stratified according to their categories, namely, income and housing. Then from the "small sample technique" the sample of 133 questionnaires was taken according to the whole population. Then the sample is divided into three housing schemes by using a stratified sampling method (Kothari, 2004). (Table 1) shows the sample size of all selected three housing schemes (Abdullah Bungalows, Nakash Villas and Al-Raheem Cottages). The primary source of data collection was used to measure the Objective method, a self-administered questionnaire was used to collect the data, which contained six parts – part 1: inhabitant's demographic characteristics; part 2: satisfaction with housing unit; part 3: the housing unit support services; part 4: public facilities; part 5: the public condition environment; part 6: neighborhood facilities. (Joshi *et al.* 2015) defined that the Likert scale can be used if the main aim of the research is to understand the opinion/perception of the participants related to single attribute. Hence, considering the aim of the study Likert scale was used to indicate the level of satisfaction and dissatisfaction which ranged from 1 to 5 whereas, "1" = very dissatisfied, "2" = dissatisfied, "3" = slightly satisfied, "4" = satisfied and "5" = very satisfied on twenty selected housing attributes. Moreover, for the accomplishment of objective residential satisfaction index, correlation was used to investigate the level of satisfaction.

Table. 1: Sample Size

S.No	Delivery type	Study Area	Sample size
1	Built-up units	Abdullah Bungalows'	32
2	Built-up units	Nakash Villas	44
3	Built-up units	Al-Raheem Cottages	57

### 2.3. Selection of components and attributes for residential satisfaction

Based on the detailed literature review, this study included the attributes, which affect the satisfaction level of residence. The housing unit characteristics with five attributes, i.e.(Bedroom, Kitchen, Bathroom, Orientation and Building material);housing unit support services with five attributes (water supply, electric services, drainage, garbage, street lighting); public facilities with six attributes (open space, play area, parking, roads, public transport, local shops, schools); environment with two attributes (noise, security); and neighborhood facilities with two attributes (Distance to Hospital, shopping Centre).

### 2.4. Measurement of residential satisfaction

Slr is an index that indicate the overall satisfaction of residents with the residential environment (Mohit *et al.*, 2010).

$$Slr = \frac{\sum_{i=1}^{N1} hi + \sum_{i=1}^{N2} si + \sum_{i=1}^{N3} pi + \sum_{i=1}^{N4} sei + \sum_{i=1}^{N5} ni}{\sum_{i=1}^{N1} Hi + \sum_{i=1}^{N2} Si + \sum_{i=1}^{N3} Pi + \sum_{i=1}^{N4} SEi + \sum_{i=1}^{N5} Ni} \times 100 \quad (1)$$

Whereas N1, N2, N3, N4, and N5 are the particular attributes that are selected for scaling in each component, furthermore hi, si, pi, sei and ni signify the actual score given by residents on the ith attributes with in the components. Hi, Si, Pi, SEi, and Ni are the total scores. Further, five sections were made to distribute residential satisfaction. High, moderate, low and very low. SI that comes with the array 20%-39% and 40%-60% found very low and low. While SI scores between 61%-80% make up the moderate section, while scores of 81%-100% of the very high-satisfaction region.

### 2.5. Habitability Index

The habitability index (HI) is used to define the degree of satisfaction and dissatisfaction with particular attributes residential environment (Mohit *et al.*, 2010).

$$HIx = \frac{\sum_{i=1}^N ayx}{\sum_{i=1}^N Ayx} \times 100 \quad (2)$$

HIx represents index of habitability of specific attribute x and the total number of respondents is represented by N, while ayx is the respondents actual score. 'A' represents the respondent's maximum possible score for that attribute. Habitability index is categorized into three extensive sections.

## 3. RESULTS AND DISCUSSION

By using equation 1 and 2, the residential satisfaction with each component were found. (Table 2) shows the residential satisfaction of the respondents with twenty residential environment attributes that are grouped in five components, consisting housing unit characteristic housing unit support services, public facilities, public environment and neighborhood facilities. It also shows the habitability index of each attributes that show the overall satisfaction and dissatisfaction of the respondents. The residents of housing schemes have low levels of satisfaction (52.6) with housing unit characteristics, housing unit support services (52.3), Public environment (49.4), neighborhood facilities (43.0) and public facilities (40.4). Whereas the habitability index of housing unit characteristics shows that the respondents are moderately satisfied with the bedroom and very low level satisfaction (30.2) with the building material, bathroom, kitchen and ventilation system. Whereas with from housing unit support services respondents are moderately satisfied with the water supply system (77.1) and low level of satisfaction with the electricity (59.0), garbage collection (51.9) and very low level of satisfaction with drainage (35.9) and street lightening (38.4). The respondents have low level of satisfaction with the Local Shops and very low level of satisfaction with Parks and playground (32.6), provision of road (28.7) in public facilities provision. Moreover, in public environment the residents have low level of satisfaction with noise level (36.8). Further in neighborhood facilities Proximity to health (42.9) and shopping the residents have low level of satisfaction. (Table 2) also reveals that the residents of built-up housing provision schemes have (47.6) low level of satisfaction with the overall housing environment.

**Table 2: Respondents level of satisfaction with housing provision**

S.No	Satisfaction with	VD	D	SS	S	VS	Habitability Index
1	Bedrooms	1.5	8.3	53.5	36.1	0.8	63.9
2	Kitchen	15.8	21.8	25.6	35.3	1.5	57.9
3	Bathroom	6.0	15.8	63.9	14.3	-	57.2
4	Orientation and Ventilation of building	14.3	27.1	29.3	39.3	-	54.7
5	Building Material	63.2	27.1	6.3	0.3	0.8	30.2
	<b>Housing unit characteristic</b>						<b>52.6</b>
1	Water Supply	0.8	3.0	30.1	42.1	24.1	77.1
2	Electricity	13.5	15.0	39.8	28.6	3.0	59.0
3	Drainage	48.9	29.1	21.1	3.8	-	35.9
4	Street Lightening	36.1	39.1	21.1	3.8	-	38.4
5	Garbage Collection	12.0	28.6	51.9	7.5	-	51.9
	<b>Housing Unit Support Services</b>						<b>52.3</b>
1	Parks and Playground	63.9	18.8	8.3	8.3	0.8	32.6
2	On street/Off street Parking	16.5	48.9	24.8	9.8	-	45.5
3	Provision of Roads	66.2	26.3	6.0	1.5	-	28.7
4	Public transportation	38.3	33.8	18.8	9.0	-	39.6
5	Local Shops	6.8	45.9	27.1	20.3	-	52.1
6	Schools	18.8	50.4	24.1	5.3	1.5	44.0
	<b>Public Facilities</b>						<b>40.4</b>
1	Security	10.5	15.0	27.8	46.6		62.1
2	Noise Level	30.8	54.1	15.0	-		36.8
	<b>Public Environment</b>						<b>49.4</b>
1	Proximity to Health	16.5	57.9	20.3	5.3	-	42.9
2	Proximity to Shopping	27.1	39.1	27.8	6.0	-	43.1
	<b>Neighborhood Facilities</b>						<b>43.0</b>
	<b>Over all Residential satisfaction</b>						<b>47.6</b>

### 3.1. Relationships between residential satisfaction components and demographic characteristics of respondents

4. **Table 3: Relationships between residential satisfaction components and demographic characteristics of respondents**

		Educational Level	Household size	Monthly Income	Staying Time Period
Rate the overall Satisfaction	Pearson Correlation	-.184*	-.266**	-.182*	.186*
	Sig. (2-tailed)	.034	.002	.036	.993
	N	133	133	133	133

Source: Field Survey, 2016

\*\*, Correlation is significant at the 0.01 level (2-tailed).

\*, Correlation is significant at the 0.05 level (2-tailed)

(Table 3) illustrates the relationship between the residential satisfaction index and residents demographic characteristics by using Pearson's correlation. It shows that there is negative relationship of educational level (-.184), household size (-.266) and monthly income (-.182) with overall residential satisfaction. As the education level of the residence decreases the residential satisfaction with housing schemes increases, it explains that there is less awareness within residence regarding

the quality of life. Whereas Residential satisfaction of the respondents drops with the progress in household sizes and monthly income. While Respondents' length of residency (.186) are positively correlated with overall residential satisfaction.

### 5. **CONCLUSION**

The study identified the successes and failures in the performance of private housing schemes in Hyderabad city. The residential satisfaction of housing schemes can be improved by using this information. Hence, this study investigated the overall satisfaction, perceived by the residents and the satisfaction level with each attribute in three housing schemes in terms of the housing units characteristics, housing unit support services, public facilities, public environment and neighborhood facilities. The residential satisfaction index of three housing schemes shows that the residents perceived very low level of satisfaction with public facilities. Whereas the residential satisfaction is affected by the demographic characteristics of the residents such as household length, monthly income and educational level, that were found negatively correlated with residential satisfaction. However, staying time period were found positively correlated with residential satisfaction. Nevertheless, the implementation of new housing schemes in Hyderabad requires that consistent investigation of housing satisfaction to overlook the

housing needs. Therefore, this research proposes to fill the gap that presently occur in the housing condition in Pakistan Furthermore, the study can prove to be a guiding path for government and private agencies to improve the overall residential environment.

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