# DETERMINANTS OF RESIDENTIAL SATISFACTION TOWARDS 'SIRI SARA UYANA' GOVERNMENT HOUSING COMPLEX IN COLOMBO DISTRICT

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## *Abstract*

*This study investigates the effects of socio-demographic characteristics, physical features of the house, neighbourhood facilities, and maintenance services on the residential satisfaction of the occupants in the 'Siri Sara Uyana' government housing complex in the Colombo district. This housing unit consists of 430 occupants and among them, only 150 respondents were randomly selected through a structured questionnaire in the study. The data were collected from February to April 2020 and were analyzed using frequency and ordered probit model. The frequency of residential satisfaction revealed that 61.33 percent of the occupants who live in the housing apartment were not satisfied, whereas 27.33 percent of them were satisfied, followed by only 11.33 percent of them being satisfied neutrally. The results of the ordered probit model showed that the number of family members significantly impacts residential satisfaction. Among the maintenance facilities, plumbing services, corridor maintenance, cleaning services, and elevator facilities significantly impact residential satisfaction. Accessibility to the market, schools and parking were identified as significant factors in the neighbourhood. Further, the size of the bedroom, bathroom and electrical installation were found as physical features that significantly impact residential satisfaction. The findings of the study provide an understanding of the critical factors that facilitate satisfaction or dissatisfaction of the occupants which can play a serious part in making successful housing policies in the future.*

*keywords:* Neighborhood facilities and maintenance services, ordered probit regression, physical features of the house, residential satisfaction of the occupants, socio-demographic characteristics.

## INTRODUCTION

Housing is defined as the physical space in which people stay and carry out their everyday lives, and "Residential satisfaction" refers to the personal feelings and awareness regarding the living place, i.e., home. The concept of "residential satisfaction" has been employed in various transdisciplinary contexts ranging from planning and architecture to psychology and philosophy (Biswas et al., 2021). Although residential satisfaction is a complex construct, affected by a variety of environmental and socio-demographic variables (Lu, 1999), however, the effects of these variables as determinants of residential satisfaction or dissatisfaction tend to vary by housing types, tenure, countries and cultures (Zeng et al., 2021). Therefore, housing policies at the start of urbanization were focused on meeting demand through an "increase in quantity" of housing. However, housing has risen in significance from a simple residential space to a driver of change in the quality of life. Further, it is an important investment or property and a right of every person, the goal of any government housing complex program should be to improve people's housing opportunities and to ensure equal distribution to decent housing, to satisfy the needs of its occupants and increase their living standard. To design and implement successful housing policy, it is fundamental to understand which factors and drivers determine people satisfaction with respect to their housing conditions. Residential satisfaction has been in use since the early 1960s as the basis for optimizing the architectural design of large housing developments, where feedback was collected from residents of housing projects concerning resident's views on the physical features of proposed housing developments and then feeding those views back into the design process (Mohit and Azim,2012).

During the last few decades, the relocation of communities has become a policy formulation in development across many developing countries (Lakshman et al., 2017). In Sri Lanka, according to the Mahinda Chintana Vision to provide a house to every citizen of the country, The Urban Development Authority undertook the construction of a housing project. At the same time, many slum removal activities occurred in the Colombo district to beautify the Colombo and because of that, many people classified under the middle-class income group have lost their houses in areas such as Castle Street, Edirisinghe Watte, etc. shifted to the government housing complex. Siri Sara Uyana housing complex is one of the apartments provided by the government to the slum dwellers in Dematagoda. Siri Sara Uyana housing complex consists of 5000 people occupied in 430 apartments. Each housing unit is constructed in 450 square feet and valued at LKR 4.4 million. A housing unit consists of a living room, two bedrooms, a kitchen, and a balcony in addition to sanitary facilities. The building consists of elevators, while infrastructure has been developed according to good standards. The housing complex has constructed a relaxing area, community hall, and children's park to improve the occupants' wellbeing. Even though the government provides a residential place to people who lost their houses, there is no attention given to their satisfaction towards the new place of living after handing it over to them and because of this, the people in apartments moving other places by selling or renting their house. Therefore, the government fails to achieve the objective

of the construction of housing complexes. Further, the government develops a housing complex with the intention of improving the lifestyle of people who live in slums but unfortunately, there is less attention paid to their level of satisfaction with government housing complexes after handing over these. Hence, identifying residential satisfaction could be a useful indicator to measure the effectiveness of housing development to improve the quality of government housing complexes which is less focused in the Sri Lankan context. Therefore, there is a need to examine individual characteristics, as it is important to investigate subjective judgment according to each person's residential satisfaction with more attributes such as demographic characteristics, and infrastructure facility of management of apartment, which helps develop the government apartment with good quality and high residential satisfaction.

## OBJECTIVES OF THE STUDY

The main objective of the study is:
- To investigate the determinants of residential satisfaction towards the 'Siri Sara Uyana' government housing complex in the Colombo district in Sri Lanka.

To achieve the main objective, the following specific objectives were formulated.
- To Examine the socio-demographic characteristics, maintenance facilities, neighbourhood features, and physical features of housing that influence the residential satisfaction of those living in the above housing complex in the district.

## LITERATURE REVIEW

The preceding review of studies on residential satisfaction indicates that various factors are determined by housing satisfaction such as socio-demographic characteristics, neighbourhood facilities, physical features of the house and maintenance facilities. Many scholars found that socio-demographic characteristics affect residential satisfaction. Tao et al., (2014) found that household size is positively related to the level of residential satisfaction while Speare, (1974); Mohit et al., (2010) and Guillen-Royo et al., (2013) stated that household size negatively impacts residential satisfaction. In the case of age, Biswas et al., (2021) revealed that older people are more satisfied, supporting the prior studies conducted by Zanuzdana et al., (2013) and Speare, (1974). Further, Lu, (1999) and Dekker et al., (2011) found that in the United States (US) and some European cities, older residents show higher levels of satisfaction. The residents with a college education are more likely to express higher satisfaction than respondents without a college education in the U.S. (Lu, 1999). Regarding the socio-economic and demographic factors Zeng et al., (2021) found that age, marital status, and a child's presence have no significant impact on residential satisfaction while gender, high education, income, employment length,

and residence length are significant determinants of residential satisfaction. The studies conducted by Li & Wu, (2013) and Tao et al., (2014) found that the socio-demographic factors such as age, marital status, employment length and income are insignificant on the residential satisfaction of rural migrant workers.

A set of scholars found that residential satisfaction depends on the characteristics of the neighbourhoods (Baum et al., 2010; Clark et al., 2006; Dekker et al., 2011; Galster & Hesser, 1981; Huang & Du, 2015). Salleh, (2008) investigated residential satisfaction in two states – Pulau Pinang and Terengganu and found that the neighbourhood factors as the dominant factors affecting the level of housing satisfaction in private low-cost housing in Malaysia. Harris, (2001) and Parkes et al., (2002) found that good schools and low crime rates related to residential satisfaction. Further, accessibility (Baum et al., 2010; Parkes et al., 2002) and high shares of owner-occupied dwellings (Harris, 2001) were found to be related to higher satisfaction with the neighbourhoods. Distance to the workplace, accessibility to employment or other locations via public transport and amenities were found as significant determinants of neighbourhoods and location factors on residential satisfaction by Zeng et al., (2021). Further Zeng et al., (2021)found that public services such as schools and hospitals have no significant impact on residential satisfaction.


The empirical studies show that building features such as the number of bedrooms, size and location of kitchen and quality of housing units, are strongly related to residential satisfaction (Sirman & John, 1991; Sirmans et al., 1994). Further, Morris et al., (1976) found a positive relationship between the number of rooms and housing satisfaction. Speare, (1974) also found a negative relationship between the person-per-room ratio and housing satisfaction. Huang & Du, (2015) examined the determinants of residential satisfaction with public housing in Hangzhou and found that housing characteristics are the main factors that influence residential satisfaction. Meanwhile, a study conducted by Lane & Kinsey, (1980) reported that housing characteristics were more crucial determinants than demographic characteristics of housing occupants. Oh, (2000) found that middle-income households were not satisfied with the size of the kitchen, plumbing, and public facilities such as recreational areas, playgrounds, and taxi and bus services in the housing area.

## METHODOLOGY

There are many government housing complexes available in the Colombo district and among them "Siri Sara Uyana" housing complex was selected as the sample for the current study which is in Wanatha Mulla GN Division. This housing complex consists of 430 housing units and among them, only 150 housing units were randomly selected in the study. This research aims to assess the residential satisfaction of the above housing complex and explore the factors that affect residential satisfaction in the study area. For this purpose, the primary data were collected during the period from February to April 2020, through a structured questionnaire and they were analyzed

by using different analytical tools such as frequency, ordered probit model and its marginal effects. The dependent variable is the residential satisfaction with regard to the housing complex is categorized on an ordinal scale with the coding where 1 for dissatisfied, 2 for neutral and 3 for satisfied. Due to the ordinal nature of the dependent variable, an ordered probit model was applied in the study which is more relevant than other regression models.

The selection of explanatory variables for the study follows the literature on residential satisfaction and based on that four groups of variables were selected. The first group of variables was categorized as socio-demographic features of the respondents, including age, civil status, number of family members, job status, and level of education. The second group of variables is categorized as maintenance facilities which include plumping services, maintenance of corridors, garbage collection, cleaning services and availability of elevator facilities.

The third group of variables includes the accessibility to markets, schools, hospitals and parking facilities under the neighbourhood features of the housing complex. Finally, physical features of housing were considered another determinant of residential satisfaction measured by the sizes of bathrooms, bedrooms, kitchens and washing and drying facilities. In the case of all explanatory variables, the respondents were asked to evaluate the availabilities and facilities of the services based on the dummy variables 0 and 1.

The summary of the variables and their measurement used in the study is reported in Table 1.

**Table 1: Measurement of variables**

| Variables | Measurements |
| --- | --- |
| **Socio-demographic characters** | |
| Age | In the number of years. |
| Civil Status | 1 for married, 0 for single. |
| Family members | In numbers. |
| Job Status | 1 for self–employed, 0 for others. |
| Level of education | 1 for primary, 0 for others. |
| **Maintenance facilities** | |
| Plumping services | Whether, in the judgement of the household respondent the dwelling has adequate plumbing services: 1 if yes, 0 otherwise. |

| Maintenance of corridor | Whether, in the judgement of the household respondents they are satisfied with the maintenance of the corridor:<br>1 if yes, 0 otherwise. |
|---|---|
| Garbage collection | Whether the households have proper garbage collection regularly:<br>1 if yes, 0 otherwise. |
| Cleaning services | Whether the households have adequate cleaning services:<br>1 if yes, 0 otherwise. |
| Elevator facilities | Elevator facilities are available in the housing complex:<br>1 if yes, 0 otherwise. |

**Neighbourhood features**

| Accessibility to markets | Respondent's assessment of accessibility to market services:<br>1 if yes, 0 otherwise. |
|---|---|
| Accessibility to schools | Respondent's assessment of accessibility to schools:<br>1 if yes, 0 otherwise. |
| Accessibility to hospitals | Respondent's satisfaction with the quality of health services in hospitals:<br>1 if yes, 0 otherwise. |
| Accessibility to parking | Respondents are satisfied with the accessibility of parking facilities:<br>1 if yes, 0 otherwise. |

**Physical features of housing**

| Bedroom size | Whether the household perceives that the dwelling has a comfortable bedroom size:<br>1 yes, 0 otherwise. |
|---|---|
| Bathroom size | Whether the household perceives that the dwelling has a comfortable bathroom size:<br>1 yes, 0 otherwise. |
| Kitchen size | Whether the household perceives that the size of the kitchen is enough in the dwelling place:<br>1 yes, 0 otherwise. |
| Washing and drying facilities | Dwelling equipped with adequate washing and drying facilities:<br>1 yes, 0 otherwise. |
| Electrical installations | Whether the household perceives that the dwelling has adequate electrical installations:<br>1 if yes, 0 otherwise. |

Source: Developed by the Authors

The general ordered probit model is stated below.

$$y^* = X^T\beta + \varepsilon$$

Where;

$y^*$ is the exact but unobserved dependent variable

X is the vector of independent variables

$\beta$ is the vector of regression coefficients

Further, suppose that in the ordered probit model, it cannot observe $y^*$, instead can only observe the categories of response:

$$y = \begin{cases} 0 \text{ if } y^* \leq 0, \\[2mm] 1 \text{ if } 0 < y^* \leq \mu_1, \\[2mm] 2 \text{ if } \mu_1 < y^* \leq \mu_2, \\[2mm] \quad . \\ \quad . \\ \quad . \\ N \text{ if } \mu_{N-1} < y^* \end{cases}$$

Then the ordered probit technique will use the observations on *y*, which are a form of censored data on $y^*$, to fit the parameter vector $\beta$.

Using the above explanatory variables mentioned in Table 1, the impact of these characters on residential satisfaction was estimated through an ordered probit model as below:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_i$$

Where:

$Y_i$ = Residential satisfaction received by the occupant

$X_1$ = Socio-demographic characteristics

$X_2$ = Physical features of the house

$X_3$ = Neighborhood facilities

$X_4$ = Maintenance services

$\beta_0$ = Constant

$\beta_1, \beta_2, \beta_3$ and $\beta_4$ are the coefficients of each independent variable respectively

$\varepsilon_i$ is the error term.

## RESULTS AND DISCUSSION

Figure 1 presents the residential satisfaction among occupants towards their housing complex in the study area. According to that, 61.33 percent of the occupants who live in the housing apartment were not satisfied, whereas 27.33 percent of the respondents expressed satisfaction, followed by only 11.33 percent of them being satisfied neutrally with their current residence.
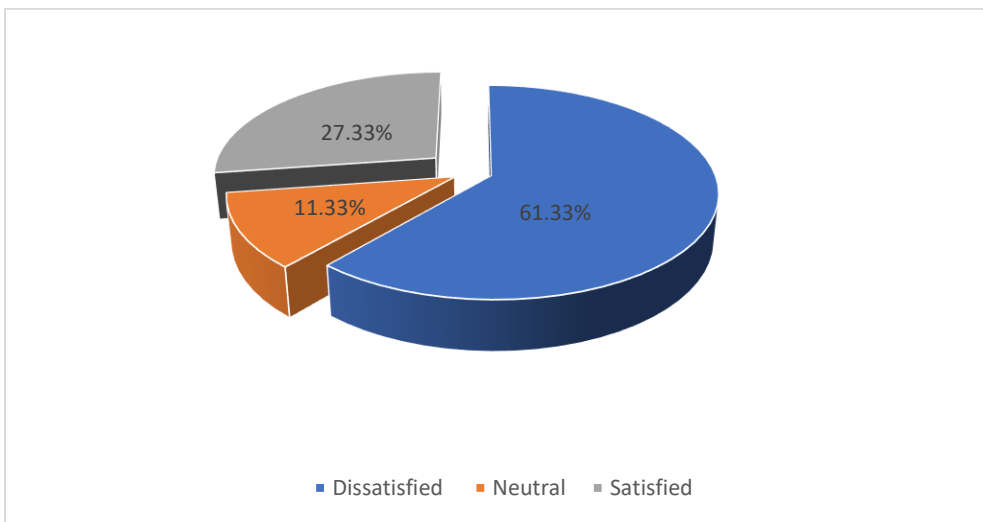
**Figure 1: Frequency of residential satisfaction**

Source*: Developed by the author using survey data, 2020.*

## Ordinal Probit Regression Analysis

The purpose of the study is to investigate the effects of socio-demographic characteristics, physical features of the house, neighbourhood facilities and maintenance services on the residential satisfaction of the occupants who live in the 'Siri Sara Uyana' government housing complex in the Colombo district. The dependent variable is residential satisfaction which is measured on an ordinal scale like 1 for dissatisfaction, 2 for neutrality and 3 for satisfaction an ordinal nature, The ordered probit model is more appropriate than the widely used regression technique.

**Table 2: Results of order probit model for socio-demographic characteristics**

| Variable | Coefficients | Standard error | Marginal effects | | |
|---|---|---|---|---|---|
| | | | 1 | 2 | 3 |
| Education level | -0.220 | 0.219 | 0.082 | -0.014 | -0.068 |
| Job-status | 0.209 | 0.236 | -0.077 | 0.014 | 0.063 |
| Family members | 0.246*** | 0.066 | -0.092 | 0.015 | 0.076 |
| Age | -0.015 | 0.009 | 0.005 | -0.001 | -0.004 |

| Civil status | 0.350 | 0.264 | -0.131 | 0.022 | 0.109 |
|---|---|---|---|---|---|
| Number of observations | | 150 | | | |
| LR chi$^2$ (5) | | 26.95 | | | |
| Probability > Chi $^2$ | | 0.0001 | | | |
| Pseudo R$^2$ | | 0.0997 | | | |
| Log-likelihood | | -121.695 | | | |

Note: *** represents the 1% level of significance.
 1, 2 and 3 represent dissatisfied, neutral, and satisfied, respectively.

Source: Developed by the author based on primary data, 2020.

Among the socio-demographic characteristics, level of education and job status are insignificant in the model however, the study conducted by Zeng et al., (2021) found that education is a significant determinant of residential satisfaction which contradicts the findings of the current study. Further, the age and civil status of the respondents have no significant impact on residential satisfaction and the results aligned with the findings of Zeng et al., (2021). Only the number of family members has a significant impact on the residential satisfaction of the occupants in the study which is consistent with the findings of Tao et al., (2014) while the study findings are inconsistent with Speare, (1974); Mohit et al., (2010) and Guillen-Royo et al., (2013) who found that there is a negative relationship between person-per-room ratio and housing satisfaction. Surprisingly, the number of family members per housing unit is positively related to satisfaction, suggesting that the occupant who has more members in their family is more likely to be satisfied with their dwelling than the occupant who has fewer members in the family.

The marginal effect of family members reveals that the households that have more members in the family have a 9.2 percent or less probability of dissatisfaction, 1.5 percent and 7.6 percent of more probability of neutral and satisfaction from the Siri Sara Uyana government housing complex in the study. This finding is consistent with the previous study done by Zeng et al., (2021).

There may be some factors affecting the residential satisfaction that could not be captured by the survey data and the survey did not ask whether the respondents share the house with their family, friends, or others. All these demonstrate that residential satisfaction is a multi-dimensional aspect and is determined by a mix of factors.

Another significant factor is the maintenance facilities which determine the residential satisfaction of the government housing complex examined by the ordered probit model as below:

**Table 3: Results of order probit model for maintenance facilities**

| Variables | Coefficients | Standard error | Marginal effects | | |
|---|---|---|---|---|---|
| | | | 1 | 2 | 3 |
| Plumbing services | .779*** | 0.180 | -0.296 | 0.052 | 0.243 |
| Maintenance of corridor | .465** | 0.207 | -0.177 | 0.031 | 0.145 |
| Garbage collection | .157 | 0.212 | -0.059 | 0.010 | 0.049 |
| Cleaning service | .352* | 0.209 | -0.133 | 0.023 | 0.110 |
| Elevator | .561** | 0.219 | -0.213 | 0.038 | 0.175 |
| Number of observations | | 150 | | | |
| LR chi$^2$ (5) | | 38.59 | | | |
| Probability > Chi$^2$ | | 0.000 | | | |
| Pseudo R$^2$ | | 0.1427 | | | |
| Log-likelihood | | -115.87 | | | |

*Note:* ***. ** and * represents levels of significant at 1%, 5% and 10% respectively. 1, 2 and 3 represent dissatisfied, neutral, and satisfied, respectively.

Source: Developed by the researcher based on primary data, 2020.

According to Table 3, the probability of chi-square is statistically significant at a 1% level implying that the estimated model is adequate to explain the impact of explanatory variables on residential satisfaction in the study. The maintenance facilities measured by the services of plumbing, marinating of the corridor, garbage collection, cleaning services, and elevator facilities all significantly impact residential satisfaction except garbage collection. The beta weights presented in Table 3 suggest that adequate plumbing services, availability of elevator facilities, maintenance of corridors, and adequate cleaning services contribute moderately to the residential satisfaction of the housing unit.

The coefficients of plumbing services, marinating in the corridor have a positive sign indicating that, when these services are available at a satisfactory level, the respondents who live in the apartment, their level of residential satisfaction also will increase. The marginal effects of these variables are also indicated in Table 3 and according to that, the occupants are 24.3 percent and 14.5 percent more satisfied in their residential place when plumbing services, and marinating the corridor are provided in a proper way with quality. Similarly, the coefficients of cleaning services and elevator facilities also positively impact residential satisfaction and their marginal effects revealed that if these services are available at a satisfactory level, the overall

satisfaction of dwelling place will also be higher by 11 percent and 17.5 percent respectively.

Table 4 illustrates the impact of neighbourhood facilities measured by accessibility to markets, schools, hospitals and parking on residential satisfaction and among these features, all are significant determinants except accessibility to hospitals.

**Table 4: Results of order probit model for neighbourhood characteristics**

| Variables | Coefficients | Standard error | Marginal effects | | |
| --- | --- | --- | --- | --- | --- |
| | | | 1 | 2 | 3 |
| Accessibility to markets | .545*** | 0.168 | -0.201 | 0.051 | 0.149 |
| Accessibility to schools | .463*** | 0.175 | -0.171 | 0.043 | 0.127 |
| Accessibility to hospitals | .030 | 0.173 | -0.011 | 0.002 | 0.008 |
| Accessibility to parking | 1.404*** | 0.211 | -0.518 | 0.132 | 0.385 |
| Number of observations | | 150 | | | |
| LR chi$^2$ (5) | | 70.53 | | | |
| Probability > R$^2$ | | 0.000 | | | |
| Pseudo R$^2$ | | 0.2609 | | | |
| Log-likelihood | | -99.90 | | | |

Note: *** represents levels of significance at 1%.
1, 2 and 3 represent dissatisfied, neutral, and satisfied respectively.

Source: Developed by author based on primary data, 2020.

The coefficient of accessibility to markets is positive and significant, indicating that market accessibility is an important factor in affecting residential satisfaction. For the respondents who have market accessibility, their probability of satisfaction towards their residential will be higher by 14.9 percent while among the public services such as schools and hospitals, only accessibility to school has significant at 1 percent level in the study and this is aligned with the findings of Harris, (2001) and Parkes et al., (2002) and this finding is contradictory with the previous study done by Zeng et al., (2021). Marginal effects of school facilities show that the accessibility of schools will improve the possibility of residential satisfaction by 12.7 percent which may be explained by the fact that young respondents care more about school facilities and their services than hospital facilities. Parking facilities, another significant feature in the neighbourhood aspect, which has a marginal effect of 0.385 suggests that the

individuals who are satisfied with their parking facilities tend to be 38.5 percent more likely to get overall satisfaction towards the housing apartment in the study.

Among the housing characteristics bedroom size, bathroom size and size and electrical installations are significant factors in explaining the levels of residential satisfaction.

Kitchen size is not significant in the model which is inconsistent with the findings of Sirman & John, (1991) and Sirmans, Sirmans, & John, (1994).

**Table 5: Results of order probit model for physical features of housing characteristics**

| Variables | Coefficient | Standard error | Marginal effects | | |
|---|---|---|---|---|---|
| | | | 1 | 2 | 3 |
| Bedroom size | .445** | 0.178 | -0.166 | 0.033 | 0.133 |
| Bathroom size | .409** | 0.199 | -0.153 | 0.030 | 0.122 |
| Kitchen size | .210 | 0.187 | -0.078 | 0.015 | 0.063 |
| Washing and drying | .209 | 0.174 | -0.078 | 0.015 | 0.062 |
| Electrical installations | .316** | 0.133 | -0.118 | 0.023 | 0.094 |
| Number of observations | | 150 | | | |
| LR chi$^2$ (5) | | 44.25 | | | |
| Probability > R$^2$ | | 0.000 | | | |
| Pseudo R$^2$ | | 0.1637 | | | |
| Log-likelihood | | -113.04 | | | |

Note: ** represents a level of significance at 5%.
1, 2 and 3 represent dissatisfied, neutral, and satisfied respectively.

Source: Developed by the author based on primary data, 2020.

The coefficients of bedroom size and bathroom size have the marginal effects of 0.133 and 0.122 representing that, the residents who live in apartments with adequate bedroom size and bathroom size tend to be 13.3 percent and 12.2 percent more satisfied. Adequate electrical installation has a positive and significant impact on residential satisfaction, suggesting that respondents who have enough electrical installation facilities tend to be more satisfied than their counterparts.

## CONCLUSION AND RECOMMENDATIONS

The survey data was used to assess the residential satisfaction of occupants who live in the 'Siri Sara Uyana' government housing complex in the Colombo district and explore the factors that determine the levels of residential satisfaction. The occupants who live in the housing complex have different socio-economic characteristics and their expectations of the residential place also differ from one person to another. When they resettle from their place to this housing complex, they may bear more and thus, attracting and retaining them in the new living environment in the housing complex is an important policy for the government. Thus, this study identifies whether they are dissatisfied or satisfied with their current residential place and underlying the satisfaction and factors that affect the residential satisfaction of the housing complex. Dissatisfied people may tend to move out, especially when they know that opportunities are available and affordable somewhere else or some may try to give this government apartment to other people for rent and like to live in their previous place. Therefore, understanding the factors that result in satisfied residents plays an important part in making successful housing policies in Sri Lanka.

The policy implications of the study suggest that residential satisfaction of the housing complex can be enhanced by improving the maintenance facilities, neighbourhood characteristics, and physical features of housing rather than the socio-demographic characteristics of the residents.
Among the socio-demographic characteristics, only family members are the significant factor in determining residential satisfaction while plumbing services and corridor and elevator facilities are the major maintenance features that affect residential satisfaction. However, garbage collection is insignificant in the study suggesting that a proper garbage management system might significantly increase the level of residential satisfaction.

Among neighbourhood characteristics, the predictors such as accessibility to parking, accessibility to marketing, and accessibility to schools have high beta coefficient values, indicating that these factors significantly influence the satisfaction of the occupants. However, accessibility to hospital facilities needs to be upgraded through improved medical services to enhance the study's residential satisfaction.

The dwelling unit related to the predicted variables of physical features of housing characteristics such as bedroom size, bathroom size and electrical installations are the important determinants in residential satisfaction. However, kitchen size and washing and drying facilities were not significant, indicating that these facilities need to be considered in the future. Also, the policy implication of this observation indicates that the future housing design should focus on these two dwelling features by providing larger spaces, which will result in an overall increase in residential satisfaction. Thus, the findings of the study would support the government and non-government to take the appropriate policies and programs towards the housing complex or residential places which may increase their satisfaction.

This study recommended that the government should pay proper attention to the socio-demographic characteristics of the occupants and the different features such as

maintenance facilities, neighbourhood environment and its characteristics, and physical features of housing in providing the housing scheme. This will enhance the quality of lifestyle and the residents' residential satisfaction, which may encourage them to contribute to the local growth economy in the future.

## REFERENCES

Baum, S., Arthurson, K., & Rickson, K. (2010). Happy people in mixed-up places: The association between the degree and type of local socioeconomic mix and expressions of neighbourhood satisfaction. *Urban Studies*, *47*(3), 467–485.

Biswas, B., Ahsan, M. N., & Mallick, B. (2021). Analysis of residential satisfaction: An empirical evidence from neighbouring communities of Rohingya camps in Cox's Bazar, Bangladesh. *PloS One*, *16*(4), e0250838.

Clark, W., Deurloo, M., & Dieleman, F. (2006). Residential mobility and neighbourhood outcomes. *Housing Studies*, *21*(3), 323–342.

Dekker, K., de Vos, S., Musterd, S., & Van Kempen, R. (2011). Residential satisfaction in housing estates in European cities: A multi-level research approach. *Housing Studies*, *26*(04), 479–499.

Galster, G. C., & Hesser, G. W. (1981). Residential satisfaction: Compositional and contextual correlates. *Environment and Behavior*, *13*(6), 735–758.

Guillen-Royo, M., Camfield, L., & Velazco, J. (2013). Universal and local reconciled: Exploring satisfaction with Universal and Local Goals in Thailand and Bangladesh. *Social Indicators Research*, *113*(2), 627–645.

Harris, D. R. (2001). Why are whites and blacks averse to black neighbours? *Social Science Research*, *30*(1), 100–116.

Huang, Z., & Du, X. (2015). Assessment and determinants of residential satisfaction with public housing in Hangzhou, China. *Habitat International*, *47*, 218–230.

Lakshman, I. M., Ekanayaka, A., & Lakshman, R. W. (2017). Going to school from a relocated urban community: Struggling for education within imposed walls. *Migration and Development*, *6*(2), 198–214.

Lane, S., & Kinsey, J. (1980). Housing tenure status and housing satisfaction. *Journal of Consumer Affairs*, *14*(2), 341–365.

Li, Z., & Wu, F. (2013). Residential satisfaction in China's informal settlements: A case study of Beijing, Shanghai, and Guangzhou. *Urban Geography*, *34*(7), 923–949.

Lu, M. (1999). Determinants of residential satisfaction: Ordered logit vs. Regression models. *Growth and Change*, *30*(2), 264–287.

Mohit, M. A., Ibrahim, M., & Rashid, Y. R. (2010). Assessment of residential satisfaction in newly designed public low-cost housing in Kuala Lumpur, Malaysia. *Habitat International*, *34*(1), 18–27.

Morris, E. W., Crull, S. R., & Winter, M. (1976). Housing norms, housing satisfaction and the propensity to move. *Journal of Marriage and the Family*, 309–320.

Oh, L. S. (2000). *Housing satisfaction of middle-income households in Bandar Baru Bangi, Selangor*.

Parkes, A., Kearns, A., & Atkinson, R. (2002). What makes people dissatisfied with their neighbourhoods? *Urban Studies*, *39*(13), 2413–2438.

Salleh, A. G. (2008). Neighbourhood factors in private low-cost housing in Malaysia. *Habitat International*, *32*(4), 485–493.

Sirmans, S., Sirmans, C., & Benjamin, J. (1994). Apartment rent, concessions and occupancy rates. *Journal of Real Estate Research*, *9*(3), 299–312.

Speare, A. (1974). Residential satisfaction as an intervening variable in residential mobility. *Demography*, *11*(2), 173–188.

Tao, L., Wong, F. K., & Hui, E. C. (2014). Residential satisfaction of migrant workers in China: A case study of Shenzhen. *Habitat International*, *42*, 193–202.

Zanuzdana, A., Khan, M., & Kraemer, A. (2013). Housing satisfaction related to health and importance of services in urban slums: Evidence from Dhaka, Bangladesh. *Social Indicators Research*, *112*(1), 163–185.

Zeng, H., Ke, Q., & Yu, X. (2021). Investigating the factors affecting the residential satisfaction of new-generation migrants: A case study of Hangzhou in China. *International Journal of Urban Sciences*, *25*(1), 16–30.