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Dwellers Satisfaction on Slum Rehabilitation Scheme; SRS and its Affecting Factors in Mumbai, India

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Abstract

Mumbai is the most populous city in India and 4th largest in the world. Within last two decade, Mumbai's population become double and led to serious housing problem of those who don't have formal housing. Currently, 41.3% from the total 20.7 million, people are living in slums in greater Mumbai. Meanwhile, Indian government with the collaboration of private developer at Mumbai introduced a scheme named, "Slum Rehabilitation Scheme"; SRS in the year of 1995 to solve the serious housing crisis at Mumbai slum area. From the day of launching SRS to till today SRS continuing its construction progress where slum tenements are provided to dwellers at zero cost. Mumbai city has some basic criteria that are influencing SRS projects to success. First; the city has serious land scarcity, second, city already has extended a lot therefore a further extension is not possible and third, due to high land-price, compactness of city is not avoidable. This study conducted a questionnaire survey with SRS dwellers at three different areas considered the judgment of land-price, distance from the city center and high-dense slum area as well as interviewed with some private developing companies who have the experience to deal SRS projects at the different area in Mumbai. The goal of the questionnaire survey is to identify the level of satisfaction in living at SRS projects by its dwellers and affecting factors on their satisfaction. In spite of having some in-house criticism by slum researchers and NGOs, overwhelmingly SRS dwellers are satisfy living at SRS projects, and unlike their satisfaction in living at SRS projects, the maximum has an intention to living here in future. The study interviewed with those private developer companies who had been constructed SRS projects within the study's targeted area where a questionnaire survey conducted with the SRS dwellers. Structural Equation Modeling; SEM has been used to find the key factor or factors that affecting dwellers satisfaction in living at SRS apartments.

Keywords: Mumbai, Slum Rehabilitation Scheme, Satisfaction, Structural Equation Model; SEM

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1. Introduction:

1.1 Background

Mumbai is the state capital of Maharashtra, located at the coast of Arabian Sea on the west coast of India. The city can be called as the financial hub of India as the major force to pull migrants in industrial sectors. The pulling phenomenon plays a crucial role to increase population growth though a huge industrialization mainly concentrate on cotton industries (Jan Nijman, 2008). As a result of industrial and commercial supremacy, the city becoming one of world's "mega cities" The population of Mumbai is about 18.41 million in 2011(Srivastava; 2004). From then till now, a large number of people facing housing problem with poverty and many of them are living at the slum and squatter illegally (P. K. Das; 2003). After independence many act policies and scheme have been applied to overcome the housing problem. Tenure in Mumbai represents a direct relation between affordability and subsequent access to adequate land and secure housing tenure relationship has a historical background about its tenancy, such as: regular tenancy and lease hold because a large part of the population cannot afford a piece of land here (Michael Barke; 1998, Ronita, Sayantani, Arnab, Nagendra; 2015, Amita Bhide; 2016). Figure 1 is the chronological evaluation of act, policies, and scheme for slum and squatter dwellers in Mumbai, India. Figure 1 shows that the latest initiatives of slum rehabilitation are (a) Rajiv Awas Yojana, (b) Cluster Redevelopment. However, these two projects do not start the application yet. For this reason, the research targeted Slum Rehabilitation Scheme; SRS in Mumbai India as SRS is the latest scheme that still continuing its progress. SRS is a Scheme where government handover the illegally formed slum areas to the private developing company for the construction of low-cost apartments for slum dwellers. The government gives some attracting benefits to the developer only for constricting SRS apartments such as (1) extra FSI (Floor Area Index), (2) TDR (Transfer Development Right) and (3) the land price is free of cost.

Therefore private developing companies show their interest to construct SRS apartments. The study is focusing the scheme because SRS is a scheme where the government does not need to pay any cost for rehabilitation.

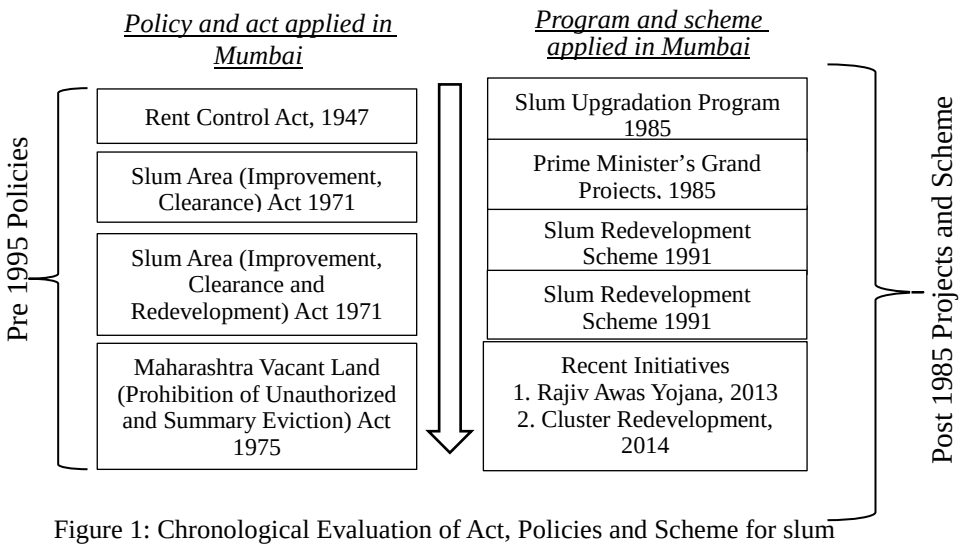

Figure 1: Chronological Evaluation of Act, Policies and Scheme for slum dwellers in Mumbai, India (Ronita, Sayantani, Arnab, Nagendra; 2015)

1.2 Slum Rehabilitation Scheme; SRS:

In the year of 1995, Maharashtra state government with the collaboration of central government provided a scheme named Slum Rehabilitation Scheme; SRS. A separate body of government called Slum Rehabilitation Authority; SRA was formed to handle SRS. This scheme is the first policy that involves internal private developing companies to develop the slum with having some exclusive benefits such as extra FSI (Floor Area Index) and provision of TDR (Transfer Developing Right) as well. This scheme is the initiation of public and private partnership in slum rehabilitation issues in Mumbai through involving private developer companies. The scheme has a threefold category such as: first, the shift from government intervention to reliance on the free market; second, the shift of responsibility from government to civil society; and, third, the rescaling of government from central to local levels. From 1995, till now, the scheme is continuing its progress with some rule upgradations and modification (SRA; 2016). The size of the tenements has been increased to 225 sq. feet (20.9 sq. m) to recently to 269 sq. feet (24.99 sq. m) (SRA; 2017). The tenements usually make free of cost for the slum dwellers and government also not need to pay for construction (SRA; 2017). The private developers were provided incentives in the form of free sale component of 7.5 sq. feet for every 10 sq. feet free rehabilitation construction (SRA; 2017). Tenement constructed in sale component is allowed to be sold in open Market (SRA; 2017). The developer was also generating Transferable Development Rights; TDR even from one area to another, SRS at Chandivali is one of the examples that used TDR. SRS changes its regulations as per dwellers requirement and to meet the criticism from the civil society. Till now, approximate 1.5800,000 SRS apartments have been constructed, and 300,000 tenements are under constructed (SRA; 2017).

1.3 Aftermath criticism of SRS:

Many researchers indicated that the scheme concentrates only towards the interests on private developers therefore to some extend poor slum dwellers are ignored. According to some researchers, poor building design is another weak point for SRS apartments. The impact also varies with the variation in the local property prices and the developers will be more interested in areas where the sale component can raise higher prices (Ronita, Sayantani, Arnab, Nagendra; 2015). Though the SRS scheme seems to be very lucrative, the true statistics fail to establish it as a real success (Das, 2003; Nijman, 2008, Nakamura S; 2015).

Thus SRS has both criticism and applause by academia. Here we have questions, ‘Are dwellers in SRS apartments satisfied with the SRS apartments?’ and ‘How to improve SRS apartments to increase their satisfaction?’. Therefore, our research tries to identify dwellers’ satisfaction toward SRS apartments and to find the factor that influence in overall satisfaction in living at the SRS apartments.

Figure 2 depicts the hypothetical causal relationship with the satisfaction in living at SRS and some factors, where each components of the hypothesis have been selected from the literature review and interview with some researchers. Satisfaction in overall living at SRS depends on some hypothesis or factors such as; Social environment, physical environment , distance of the workplace from SRS, relation with neighbor and maintenance. Each of the hypotheses has several parameters which would effects on satisfaction.

Hypothetical Casual Model:

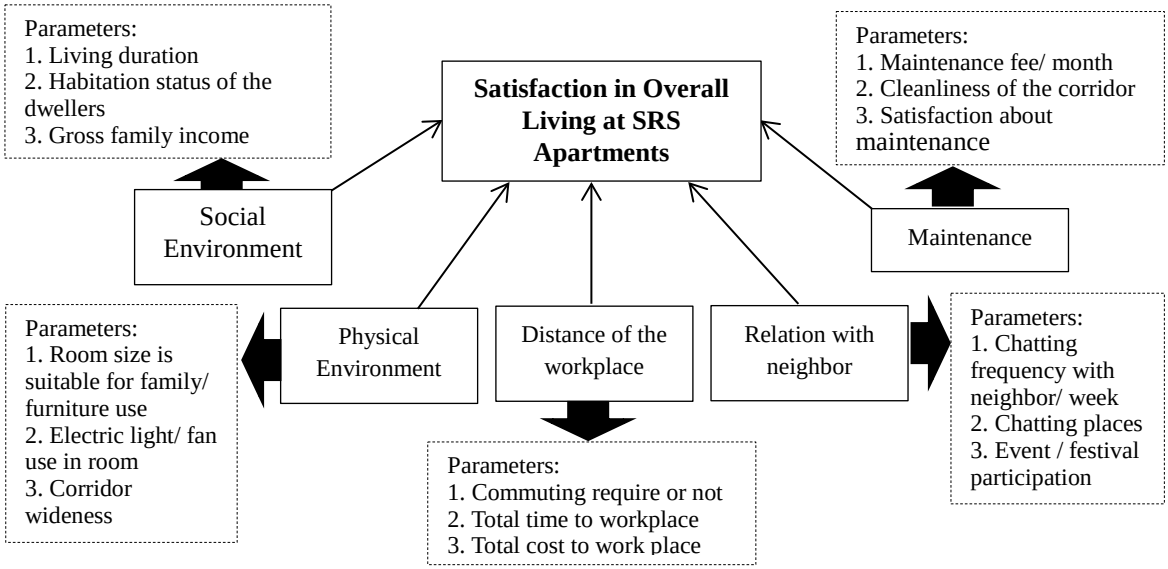

Figure 2: Proposed Hypothetical Casual Model

2. Methodology:

There are many research that intendent to find out the level of satisfaction, using Structural Equation Modeling; SEM (Kennon M Sheldon & Andrew J. Elliot; 1999, Stefan Gaertner; 2000, Konstantinos Kafetsios & Leonidas Zampetakis; 2007, Pei-Chen Sun, Ray J. Tsai, Glenn Finger, Yueh-Yang Chen; 2008, Yooshik Yoon, Jin-Soo-Lee, Choong-Ki-Lee; 2010,). In this study, we use SEM model to verify the main hypothesis or factor that effect in satisfaction. We used AMOS 23 here to calculate SEM. As this study targets to identify the satisfaction in living at the SRS apartment, which is relatively new study for slum habitation therefore, the study reviewed some literature those are discussing about the satisfaction in other sectors such as; consumer satisfaction, customer satisfaction and so an (Yooshik. Muzaffer; 2003, Jamshid E Amoli, Farhoomand; 1996, Pardis Mohajerani; 2013).

2.1 Statement of the Questionnaire Survey:

Before discussing questionnaire survey, the paragraph written below is discussing the study sites those are chosen for the sampling because of some particular characteristic.

a) Case Study area:

The Brihan Mumbai Metropolitan is divided into two major districts namely Mumbai and Mumbai suburb (Srivastava; 2004). Therefore the study targeted to cover both city center and suburb. Three areas have been selected for the questionnaire survey from all over Mumbai, within these three areas two are located at the main city and one is located nearly close to suburb. Fig.1 shows the map of Mumbai where pointed three areas, (a) Dharavi, (b) Lower Parel and (c) Chandivali, which was the targeted area for questionnaire survey (Figure 3). Before the main questionnaire survey, a pre-survey was conducted to verify the location and test the questionnaire whether the questionnaire is satisfactory for the SRS dwellers or not.

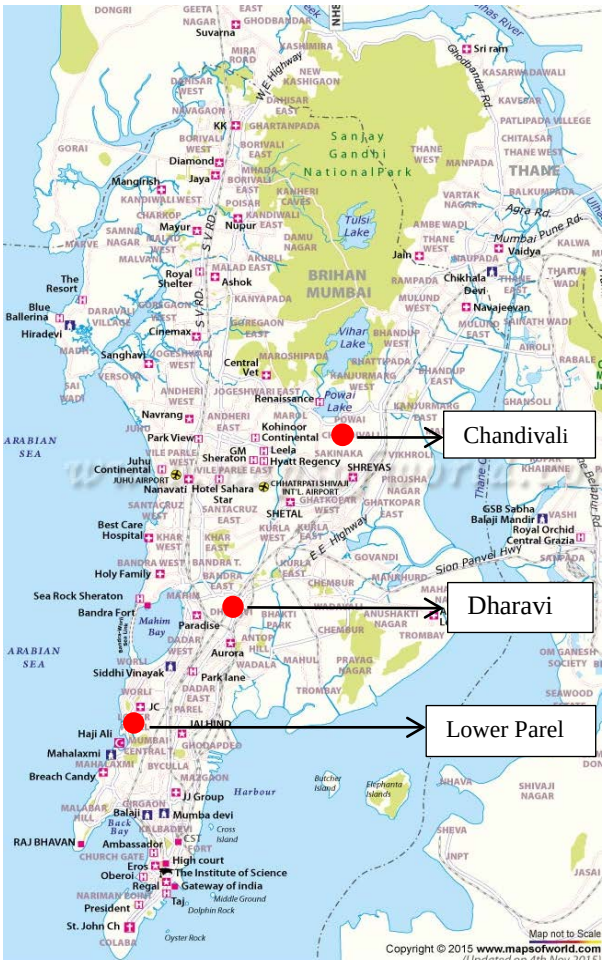

Figure 3: Map of Mumbai (showing the location of questionnaire survey; 2015)
Source of Map: www.mapsofworld.com

b) Reason of Area Selection:

As mentioned previously that three areas were targeted however each of the sites were not only selected for SRS apartment availability but also for different criteria. For example, [1] Dharavi has been chosen for (a) the area contains world's largest slum area (b) high dense population and (c) there are many pocket SRS apartments development. [2] Lower Parel was selected because (a) it's a commercial area (b) land price is very high here and (c) housing complex SRS apartment developed. [3] Finally, we had chosen Chandivali because (a) this area is a little bit offset from city center (b) relocation housing complex of SRS have developed for the people who lived before at the "Sanjay Gandhi National Park." Table 1 shows the general characteristics of the case study area of the survey at Mumbai. As Dharavi contains many slums therefore from Dharavi, a questionnaire was conducted from four locations and Lower Parel and Chandivali only in one area the survey had been conducted.

Table1: General Characteristics of the selected area at Mumbai:

No	Area	SRS is located	Total no of SRS apartment been surveyed	Total no of Apartments
1	Dharavi	Mukund Nagar	1	6
		90 Feet Road	3	
		Muslim Nagar	1	
		R. P Nagar	1	
2	Lower Parel	Gomata Nagar	5	5
3	Chandivali	Sangrash Nagar	4	4

2.2. Questionnaire Design and Research Variables:

In order to identify the overall satisfaction in living SRS apartments, the questionnaire design is focusing some hypothesis or factors that are effecting on the degree of satisfaction of the dwellers. In this study, degree of satisfaction is the main objective factor, other factors are selected through literature review and interview with some researchers who involves with slum dwellers rehabilitation.

Table 2: The target hypotheses with variables and the questionnaire pattern of response:

No	Hypothesis	Variable	Questionnaire Patterns for Respondents
1	Physical environment	Room size is suitable for family member	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
		Room size is suitable for furniture use	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
		Electric light use in room/ day (hours)	Total time (hours) count of light use/ day
		Electric fan use in room/ day during summer (hours)	Total time (hours) count of fan use/ day
		Corridor or common space wideness	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
2	Social environment	Habitation Status of the residence	0= Relocation, 1= In-situ
		Total family Income (rupees)	Total count of income (rupees)
		Need to change their job for SRS apartment	0=No, 1=Yes
3	Distance to the workplace from house	Commuting require to the work place or not	0=No, 1=Yes
		Walking is the access mode of commuting	0=No, 1=Yes
		Public transport is the only access of commuting	0=No, 1=Yes
		Time to work place/ day (both-way) (in minutes)	Total count of time (both way , in minutes)
		Cost to work place / day (both-way) (in rupees)	Total count of money (both way, in rupees)
4	Relation with the neighbor	Chatting frequency/ week	Total days count in week
		Chatting place is at the corridor	0=No, 1=Yes
		Chatting place at their own room	0=No, 1=Yes
		Chatting place at the street of the SRS building	0=No, 1=Yes
		Participation at the events arranges by neighbor	0=No, 1=Yes
5	Maintenance	Corridor or common space cleanliness	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
		Maintenance fee/ month (in rupees)	Total count of money/ month (rupees)
		Satisfaction about management	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough

The table-2 below shows the targeted hypotheses and the variables that affected the hypotheses as well as the questions that uses for response. In the questionnaire, the study used several patterns that show in Table 2.

As mentioned in the table above that some response of the questionnaires was lower to higher grade of the expression. For example; (1) satisfaction about maintenance (1= disappointed, 2= unsatisfied, 3= moderate, 4= satisfied, 5= fully satisfied), (2) does the room size is suitable for all family member? (1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough) (3) Do you feel the corridor or common space is properly clean? (1=very dirty and suffocated, 2= not clean, 3= moderate, 4= clean, 5= very clean).

2.3. Survey and Sampling Procedure:

The total survey is followed by 3 steps. Initially, in March 2016, we visited Mumbai to conduct

some interview with government and some researchers who are evolving research with slum and its habitation. The government body who are dealing only slum rehabilitation and related issues the body deal SRS named Slum Rehabilitation Authority; SRA. We also visited some SRS apartments and had some idea about its social context. After getting information's and the image of the Mumbai slum dwellers and their attitude towards the outsider, the study decided to conduct a pre-questionnaire survey or test survey in the area to identify, whether the questionnaire is appropriated or not. In October 2016, the research conducted its first questionnaire survey at Dharavi and Chandivali. After testing the questionnaire, the main questionnaire has done.

3. General Characteristics of the Respondents:

Table 3 shows the overall characteristics of respondents. The questionnaire survey was targeted to the household head or his/ her spouse. In the case of the spouse, several answers were considering household head such as the distance of the workplace, family income and so on.

4. Analysis and Result:

The main goal of the research is to identify the satisfaction in living at SRS and find out the key factor/ hypothesis as mentioned in the earlier chapter. The analysis follows the steps that written below:

4-1 Satisfaction in Living at SRS Apartments and Desire to Stay in Future in Three Different Locations in Mumbai:

As mentioned previously that the questionnaire survey was conducted in three different areas in Mumbai that was considering some characteristics. Here, the degree of satisfaction will show that how it varies in area wise. Figure 4 and 5 illustrates the level of satisfaction in living at SRS and the desire to stay in future at SRS apartments by its dwellers. As figure 4 shows that almost 179 SRS dwellers from 245 that are 73% are satisfied among these number 29 inhabitants, 12% are strongly satisfied. In the case of the desire to stay in future, 183 dwellers that are 75% are interested in staying at SRS in future where 54 dwellers, 22% are very much interested to stay in future. From the figure 4 and 5, it can be seen that the maximum number of slum dwellers in Chandivali SRS apartments are very much satisfied and also interested in staying at SRS in future

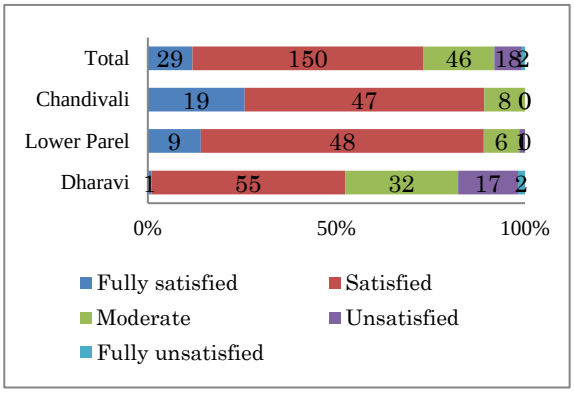

Figure 4: Satisfaction in Living at SRS

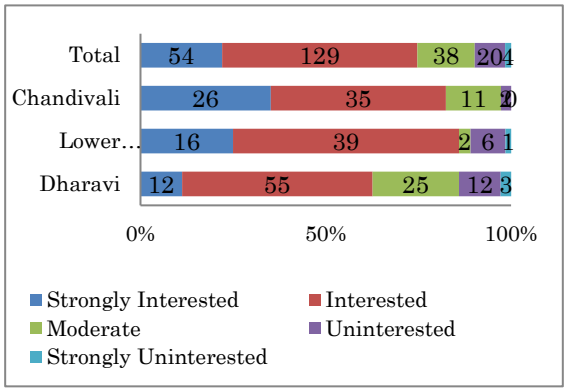

Figure 5: Desire to stay at SRS in Future

Table 3: General Characteristics of the Respondents (Slum Dwellers):

Respondents Household Characteristics:				
1	Area located at Mumbai	Dharavi	Lower Parel	Chandivali
2	No of respondents	107	64	74
3	Gender	Male: 58 Female: 49	Male: 41 Female: 23	Male: 29 Female: 45
4	Interviewer	Household Head: 67 Spouse: 40	Household Head: 47 Spouse: 17	Household Head: 36 Spouse: 38
5	Average age	44.2 years	52.7 years	47.8 years
6	Average living duration	13.6 years	8 years	8.4 years
7	Habitation Status	In-situ: 105 persons Relocation: 2 persons	In-situ: 105 persons Relocation: 2 persons	In-situ: 0 person Relocation: 74 persons
8	Average family member	5.6 persons	5.2 persons	5.2 persons
9	Participating at the meeting during construction	Attended: 73.8% Absent: 26.1%	Attended: 93.75% Absent: 6.2%	Attended: 87.8% Absent: 12.1%
10	Total family income / month	(0-5,000 Rs) = 2.8% (5,000-10,000 Rs) = 16.8% (10,000-15,000 Rs) = 33.6% (15,000-20,000 Rs) = 24.2% (More than 20,000 Rs) = 22.4%	(0-5,000 Rs) = 12.5% (5,000-10,000 Rs) = 15.6% (10,000-15,000 Rs) = 23.4% (15,000-20,000 Rs) = 21.8% (More than 20,000 Rs) = 26.5%	(0-5,000 Rs) = 12.1% (5,000-10,000 Rs) = 29.7% (10,000-15,000 Rs) = 27.0% (15,000-20,000 Rs) = 16.2% (More than 20,000 Rs) = 14.8%
Respondents Employment Characteristics:				
1	Employment status	Employee = 94.3% Unemployed= 5.60%	Employee = 67.1% Unemployed= 35.9%	Employee = 90.5% Unemployed= 12.1%
2	Average time to workplace	45.8 minute /day	30.6 minute /day	83.4 minute /day
3	Average cost to workplace	31.0 Rs/ day	12.2 Rs/ day	34.6 Rs/ day
SRS Design and Common Facilities:				
1	Average room and service area size	Room: 12.0 m^2 Service area: 9.7 m^2	Room: 11.6 m^2 Service area: 9.2 m^2	Room: 11.6m^2 Service area: 2.2 m^2
2	Electric light use in room/ day	11.5 hours / day	9.35 hours / day	9 hours / day
3	Electric fan use in room/ day	19.7 hours / day	17.3 hours / day	19.0 hours / day
4	Average corridor size	171.1 mm	175 mm	190.2 mm
Relation with Neighbor:				
1	Chatting frequency / week with neighbor in average	4.7 days/ week	4.8 days/ week	5.7 days/ week
2	Chatting place with neighbor	Corridor: 58.8% Own Room: 55.1% Street: 0.9%	Corridor: 89.0% Own Room: 62.5% Street: 0%	Corridor: 77.0% Own Room: 48.6% Street: 10.8%
3	Event participating which arranges by neighbor	79.4% dwellers	87.5% dwellers	93.2% dwellers
Management:				
1	Management fee/ month in average	492.5 Rs/ month	575 Rs/month	378.3 Rs/ month

4-2 Correlation Analysis:

At first, the study was analyzing correlation analysis with all variables with the degree of satisfaction in living at SRS by its dwellers. The variables that show the stronger relationship between satisfaction about living at SRS as well as having a statistically significant score of {p= 0.001} and correlation coefficient score is more than {r = 0.2} have been chosen.

(a) Physical Environment:

The factor, physical environment analysis is showing in Table 4. The correlation analysis of this factor with satisfaction in overall living at SRS reveals that at least two variables have the significant statistical score; (1) room size is suitable for the family member and (2) wideness of the corridor.

Table 4: Correlation Coefficients of Physical Environment with Satisfaction in living at SRS Apartments

No	Physical Characteristics or building design	Satisfaction in living SRS Apartments
1	Room size is suitable for family member	r = 0.225 (p = .000)
2	Room size is suitable for furniture use	r = 0.142 (p = .026)
3	Electric light use in room/ day	r = 0.185 (p = .004)
4	Electric fan use in room/ day	r = 0.076 (p = .233)
5	Wideness of the corridor or common space	r = 0.214 (p = .001)

(b) Social Environment:

The study got some fundamental characteristics of social context such as the habitation status in the SRS apartments and the family income or changing job for SRS apartments. Table 5, shows that one variable is significantly related to satisfaction in living at SRS, that is; (1) habitation status of SRS dwellers such as whether they are relocated of in-situ.

Table 5: Correlation analysis of social characteristics and satisfaction about SRS Apartments

No	Social Characteristics	Satisfaction in living SRS Apartments
1	Habitant Status	r = 0.309 (p = 0.000)
2	Family Income	r = 0.084 (p = 0.191)
3	Job change for SRS	r = -0.027 (p = 0.669)

However other two variables named (2) family income and (3) job change for SRS hasn't statistical significant score therefore the study will not consider these two variables.

(c) Employment status:

To know the satisfaction whether related with the distance of the workplace of the current job is affecting or not, we asked about their necessity of commuting to the workplace and the total time and cost for commuting. Table 6 shows that all variable in this factor has not statistically significant at the level of {p = 0.01}. However commuting require to the workplace has the significant at the level of p= 0.05 but this study will not consider those variables that have the significant score at the level of {p = 0.05}. Therefore, the study will not consider any variables from this factor.

Table 6: Correlation analysis of employment status and satisfaction about SRS Apartments

No	Employment Status of Dwellers	Satisfaction in living SRS Apartments
1	Commuting require to workplace or not	r = 0.132 (p = 0.040)
2	Walking is the access mode of commuting	r = 0.106 (p =0.098)
3	Public transport is the only access of commuting	r = -0.031 (p = 0.632)
4	Total time to work place / day	r = -0.099 (p = 0.121)
5	Total cost of the workplace /day	r = -0.015 (p = 0.821)

(d) Relation with the Neighbor:

In this factor, the study considers few variables that might effect on the relation of the neighbor of the SRS dwellers. Table 7 shows the relationship of the correlation coefficient of the relationship between the neighbor and the satisfaction in living at SRS. Two variables have the statistical significance at the level of {p =0.01}, (1) chatting place at the corridor and (2) participating in the events arranges by neighbors. Even though these two variables have the significant score but the correlation coefficient score is below {r = 0.2}, therefore, the study will not consider these two variables. As a whole, from this factor, the study will not consider any variables.

Table 7: Correlation analysis of relation with neighbor and satisfaction about SRS

No	Relation with the Neighbor	Satisfaction in living SRS Apartments
1	Chatting frequency/ week	r = -0.102 (p = 0.111)
2	Chatting place is at the corridor	r = -0.171 (p = 0.007)
3	Chatting place at their own room	r = -0.029 (p = 0.650)
4	Chatting place at the street of the SRS building	r = -0.086 (p = 0.181)
5	Participation at the events arranges by neighbor	r = -0.170 (p = 0.008)

(e) Management and Maintenance:

This factor depends on the management and maintenance quality and satisfaction about it. Table 8 shows the relationship between the management and maintenance and the satisfaction of living at SRS. There are two variables; those have strong relationship with satisfaction in overall living at SRS such as (1) Corridor or common space cleanliness (r = 0.445) and (2) satisfaction with management and maintenance (r = 0.755). However, the maintenance fee/ month haven't any relationship with satisfaction in living at SRS. Therefore the study will consider the variables that have significant value as well.

Table 8: Correlation analysis of the maintenance and satisfaction about living at SRS

No	Management and Maintenance	Satisfaction in living SRS Apartments
1	Corridor or common space cleanliness	r = 0.445 (p = 0.000)
2	Maintenance fee/ month	r = -0.004 (p = 0.954)
3	Satisfaction about management	r = 0.755 (p = 0.000)

(f) Summary of correlation analysis:

Table 9 shows the variables that have significant relationship with satisfaction in living at SRS apartments. All these variables don't contain any dummy variables during data input. From the three categories of hypothesis, it can be seen physical characteristics provide the variables which are significant score however the value of r is low.

Table 9: The variables that has significant correlation with satisfaction in living at SRS

No	Hypothesis/ Factor	Related Variables	Correlation Coefficient
1	Physical Environment	Room size is suitable for family member	r = 0.225
		Wideness of the corridor	r = 0.214
2	Social Environment	Cleanliness of the corridor or common space	r = 0.304
3	Maintenance	Habitation Status of the dwellers	r = 0.445
		Satisfaction about management and maintenance	r = 0.755

4-3 Structural Equitation Modeling; SEM Analysis:

In order to confirm the finding of the hypothesis/ factor that affected the overall satisfaction in living at SRS, the study further analyzing structure equation modeling; SEM. The analysis has done using SPSS and then AMOS 23. Figure 6, shows the path analysis model that indicates the relationship between hypothesis/ factor and the overall satisfaction in living at SRS. The final Structural Equation Model; SEM for dwellers satisfaction in living at SRS is shown in Figure 6. Latent variables are expressed as ellipses; casual relations are shown by single headed arrows and the standardized correlation between two variables uses double headed arrows. GFI and AGFI of this model are 0.991, 0.968 respectively. Furthermore, NFI and CFI of the model are 0.981 and 0.998 correspondingly. Therefore, the model proved a good integral fit model.

The standardized path coefficient of the latent variable of social environment is composed of three variables (1) the satisfaction about maintenance (2) the habitation status and (3) the cleanliness of the corridor. The standard path coefficient shows a positive significant on (1) satisfaction about the maintenance of 0.93 and (2) habitation status of 0.39. That means these two variables have the significant correlation with the social environment. Furthermore, the objective of the study, satisfaction in living at SRS and the latent variable, social environment shows a positive standardized significant of 0.73. It means more maintenance of the SRS apartments follows more satisfaction in living at SRS apartments by the SRS dwellers.

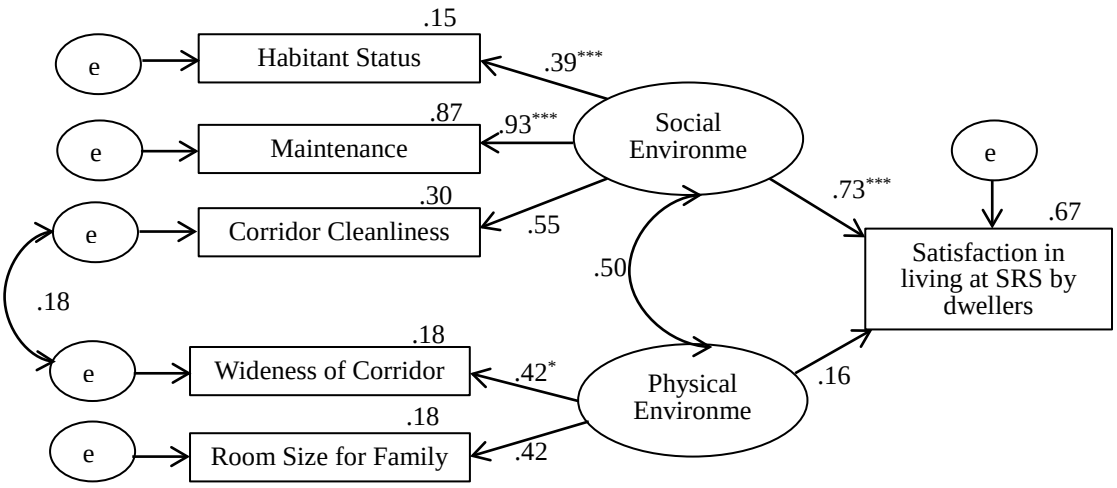

Figure 6: The Model with Slandered Solution
X^2 =6.8, *df* = 6, *RMSEA* = 0.023
*** = 1%; ** = 5%; * = 10%

On the other hand, another latent variable physical environment composed of two variables such as (1) wideness of the corridor and the room size is suitable for the family member. The path coefficient of the wideness of the corridor is 0.42. However, the variable, room size is suitable for the family has no significant correlation. And the standardized path coefficient between latent variable 'physical environment' and satisfaction in living at SRS is not significant.

According to the SEM model, only social environment plays the key role in satisfaction in living at SRS apartments by the slum dwellers.

5. Discussion and Conclusion:

The study aims to identify the level of satisfaction in living at SRS at Mumbai by the dwellers of SRS and also find the hypothesis/ factor that affect most on it. Initially there are five hypotheses/ factors; however, the correlation coefficient analysis showed that two hypotheses do not have strong relationships with satisfaction they are (1) distance to the workplace from house and (2) relationship with the neighbor. Still, there are three hypotheses those might have a chance to show the stronger relationship. In this case, we decided to avoid the hypothesis named "maintenance" and connected it with the social environment for producing a reasonable and logical SEM model. In fact, social environment is relatively close to society maintenance; therefore the study evaluated the relationship between satisfaction in living at SRS and two primary hypotheses, (1) social environment and (2) physical environment. Then, we are conducting SEM model to find out the hypothesis/ factor that affects most. Figure 8, the path analysis model shows that the stronger and positive relationship between satisfaction in living at SRS apartments and the social environment. The social environment contains three variables; (1) habitation status that is the resettlement in situ or by relocation, (2) satisfaction about maintenance, and (3) cleanliness of corridor/ shared space. Among these three variables, satisfaction about maintenance has the stronger relationship. Furthermore, the model also shows that the variable, corridor/ common area cleanliness is related with the wideness of the corridor/ common space. It is natural that the wideness and cleanliness of the corridor/ common space should be associated many reasons like the more wide corridor make a space for social gathering and it influences to clean the common space regularly.

At the first chapter, of the article, we discussed that the intention to find out the level of satisfaction and the factor that influence satisfaction which was determining some literature review and information from the researcher. Some researcher and authors argued that building design is the key reason for dissatisfaction by its dwellers; however, the analysis shows that the most important factor for satisfaction in living at SRS apartments is satisfaction about society maintenance. This means that the SRS building has proper maintenance and decent relation with society makes dwellers more satisfied in living at SRS apartment. Finally, it could be said that the SRS apartments at Mumbai could provide livable rehabilitation if the society produces proper consideration in maintenance.

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