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DOCTORAL DISSERTATION

A STUDY ON DWELLERS' SATISFACTION WITH SLUM REHABILITATION SCHEME APARTMENTS AND ITS IMPROVEMENT IN MUMBAI, INDIA

インド・ムンバイにおけるスラム・リハビリテーション・スキームによる共同住宅への住民の満足度とその改善に関する研究

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September 2018

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ABSTRACTS

A STUDY ON DWELLERS' SATISFACTION WITH SLUM REHABILITATION SCHEME APARTMENTS AND ITS IMPROVEMENT IN MUMBAI, INDIA

Introduction:

Since the last several decades, UN-Habitat and World Bank report published about the necessity to provide tenure security to the slum dwellers and discussed the way to overcome the situation (Davis; 2006, Neuwirth; 2004). Rapid urbanization tends to migrate millions of people from the village to the big cities and create slums near their workplace. Indeed, dwellers of these slums are facing several problems including tenure right, because the slum located near CBD are often evicting. In 1996, Habitat-II was held in Istanbul in 1996 about "Adequate shelter for all" and "Sustainable human settlements development in an urbanizing world" and pointed tenure security (Geoffrey Payne; 2000, Banerjee; 2002, Jean-Louis van G.; 2017). After recognition of demand of tenure security, several policies, schemes are adopting by the policymaker. The study selects Mumbai's Slum Rehabilitation Scheme (SRS) because from 1995 till to the date there are 1,513 projects are developed at Mumbai that provides formal housing to millions of slum dwellers.

Meanwhile, an extensive body of literature has been published on the subject of SRS modifications, encompassing both positive and negative issues (Michael Barke, 1998; Ronita, Sayantani, Arnab, & Nagendra, 2015; Nakamura, 2015; Das, 2003; Nijman, 2008; Praja, 2014). Therefore, some modifications to SRS might be necessary. Though several papers have evaluated SRS, and some researchers have even assessed its effects, most of these discussions focus on the outer appearance of SRS, such as physical features of the building, health, management service and so on (Banerjee, 2002; Das, 2003; Nijman, 2008; Restrepo, 2010). However, no research has conducted on SRS apartment dwellers' opinions and their satisfaction with living in SRS apartments. Therefore, this study aims to answer the following research questions: "How do SRS apartment dwellers evaluate SRS?" In other words, "Are SRS apartment dwellers satisfied with living in SRS apartments?" Additionally, another research question that arises is, "How Mumbai's SRS can be modified to increase dwellers' satisfaction?"

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Target or Goal of Study:

The study interested in recommending improvement Mumbai's Slum Rehabilitation Scheme; SRS apartment dweller's living satisfaction through proposing a modification.

The objective of the Study:

1. To identify the dwellers' satisfaction at Slum Rehabilitation Scheme (SRS) apartment

2. To identify the factors that affects Slum Rehabilitation Scheme (SRS) apartment dwellers' living satisfaction and recommends the improvement.

3. To identify the possibilities to transfer the policy of SRS at Dhaka's slum that will secure the tenure of slum dwellers.

Slum rehabilitation scheme; SRS:

Mumbai's SRS is the concept to include land privatization through free Market ideology. One separate body of government is serving the scheme in different locations in Mumbai. The name of the authority is Slum Rehabilitation Authority (SRA). To drive SRS, at first, slum dwellers need to create a cooperative society and this slum society hired developer and architect for SRS apartments. Developing companies requires having 70% dweller's agreement to develop one project. Private developers are benefited with some relaxing construction facilities such as extra FSI (Floor Space Index) and the option to TDR (Transfer Development Right). Furthermore, developers are allowed to develop a sale component to sell to the construction cost of slum dweller's housing and some profit. Finally, SRA checked the formalities and order to the developer to construct. In this whole process slum dwellers and government doesn't need to pay any cost. Furthermore, developer deposited 20,000 Rupees to each dweller as maintenance subsidy.

Methodology of the Study:

The study conducted questionnaire survey in three different areas of Mumbai, and the areas are Dharavi, Lower Parel, and Chandivali. Initially the study conducted a pre-survey on October 2016 for test questionnaire and train interviewers to avoid bias. December 2016 to January 2017, the study conducted a questionnaire survey with SRS dwellers to identify their

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level of satisfaction with living at SRS apartment. After that, on January 2018, the study conducted another questionnaire survey with SRS apartment dwellers and the cooperative housing society to identify the improvement of living at SRS apartment by its dwellers.

Dwellers Living Satisfaction at SRS Apartments and its Affecting Factors:

The study aimed to evaluate Mumbai SRS dweller's levels of satisfaction with living in SRS apartments and the factors that affected their levels of satisfaction. The study developed an analytical framework based on relevant discussion and previous research to explain factors affecting the degree of satisfaction with living in SRS in three areas in Mumbai. The result of the questionnaire survey found that the dwellers are highly satisfied with living in SRS apartments. Then, correlation analyses, MW tests, and SEM analyses were conducted to verify the analytical framework.

These analyses show that SRS management and the apartments' physical features affect dwellers' satisfaction with SRS apartments. Since management influences more than an apartment's physical features, it is essential to develop a cooperative society that might ensure sound management. To ensure the satisfaction, SRS apartments should have some options of the unit size that respecting the number of dwellers' family. Therefore, if families were given units sized appropriately for the size of their family, their ages, and their lifestyles, their satisfaction would be expected to increase.

SRS Dwellers Living Satisfaction Improved by Providing Quality Maintenance from Cooperative Housing Society (CHS):

The study found that SRS dwellers are not satisfied with the management and maintenance service by Cooperative Housing Society (CHS). The satisfaction about maintenance service increases the living satisfaction but the level of satisfaction varies projects wise. The study prepared a hypothetical framework to identify affecting management and maintenance service by CHS of SRS apartment. After that the study conducted an exclusive interview with three CHS of three SRS apartment to identify their service. All three societies follow the rules provided by Maharashtra Cooperative Rules; 1961 for management and maintenance service. The study found dwellers of Dharavi SRS project are much unsatisfied then other two case study projects. In case of Dharavi SRS project, society does not support all fundamental factors that need to concern for effective society management. The society of Lower Parel

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SRS also doesn't involve women in decision making in management. But, naturally, women are staying home more than men. About 66% of the female population in rural areas of India is unutilized, and it happens mainly for existing social customs (Rajeswari; 2017). In case of SRS apartments, it is easier to evolve women to distribute information and train maintenance service to all dwellers. Furthermore, according to the Indian government, provide training to newborn and mother is mandatory in every apartment. SRS apartment is highly dense housing; therefore, involving women in CHS is essential. Cooperative housing society of SRS Chandivali is supporting all factors in the study's hypothetical framework. Furthermore, the degree of satisfaction with management and maintenance satisfaction of SRS Chandivali dwellers are higher than other two areas. The study found CHS of SRS Chandivali is initially formed by an NGO named "Nivara Hakk" and this NGO guide them about maintenance service as well. It means that NGO plays a vital role to improve management and maintenance service.

Possibilities of Transferring Policy of Mumbai's SRS:

SRS is driving by three identical stakeholders, they are (1) slum dwellers, (2) Private Developing Company (PDC) and (3) the authority, SRA. In this research, the study also conducted some interviews with experts of Dhaka city, capital development authority for Dhaka city, conducted questionnaire survey with Dhaka's PDC and used a result of Dhaka's slum dwellers acceptability to live an apartment building with full-ownership. According to the expert, SRS has possibilities for adopting Dhaka's slum as it derives from the free market ideology. Authority expressed their judgment about Mumbai's SRS positively however they agreed it's crucial to modified regulation of Dhaka's planning system to fit this policy. Meanwhile, the result of Dhaka's PDC showed that they are interested in adopting TDR in developing business. In case of slum dweller's judgment, they are accepting to live in an apartment building when they get full-ownership in their current locations.

Conclusion:

Since dwellers' living satisfaction is increasing with their management satisfaction so, it's important to improve management and maintenance service at SRS apartments. Therefore, it's necessary that the management and maintenance service of the cooperative housing society should be upgraded in SRS apartments. Meanwhile involving NGO for SRS project would be

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beneficial for the dwellers as NGO trains both times before construction and after allotment of room/unit.

The Slum Rehabilitation Scheme has been criticized, but it has also provided secure tenure to many slum dwellers in Mumbai. This study proved that most of the dwellers are satisfied with living in the SRS apartments. A very large number of people across the globe live in slum areas without tenure security, and the SRS can be one of the measures used to provide tenure security, not only in India but also in other developing countries such as Dhaka, Bangladesh. At the same time, SRS proved a successful step towards in the modern urban and regional planning that ensures the improvement of housing where the basic definition of the housing was ignored. Further studies about the conditions involved in applying SRS to other cities/countries are needed.

Limitation:

Meanwhile, there are some limitations also traced in the research, especially when adopting a new business strategy, Dhaka's developing companies are interested, but the number of response is less than expected. Therefore, further research on this issue needs to be conducted.

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LIST OF ABBREVIATION

1. ADB: Asian Development Bank
2. ADR: Additional Development Right
3. ADR: Additional Development Right
4. BMC: Bombay (Mumbai) Municipal Corporation
5. BDD: Bombay (Mumbai) Development Department
6. CBD: Central Business Districts
7. CHS: Cooperative Housing Society
8. CA: Conjoint Analysis
9. CVM: Contingent Valuation Method
10. DIT: Dacca Improvement Trust
11. DMA: Dhaka Metropolitan Area
12. DCC: Dhaka City Corporation
13. DMDP: Dhaka Metropolitan Development Plan
14. DSP: Dhaka Structure Plan 2016-2035
15. FSI: Floor Area Index
16. FAR: Floor Area Ratio
17. GJ: Gomata Janata (Cooperative Society)
18. JICA: Japan International Cooperative Agency
19. LP: Lower Parel
20. MHADA: Maharashtra Housing and Area Development Authority
21. MUTP: Mumbai Urban Transport Project
22. MCGM: Municipal Corporation of Grater Mumbai
23. MNNN: Muslim Nagar Nabi Nagar (Cooperative Society)
24. NSSO: National Sample Survey Office
25. NGO: Non-Government Organization
26. PWD: Public Works Department
27. PMGP: The Prime Minister's Grant Project
28. RAJUK: Capital Development Authority [রাজধানী উন্নয়ন কর্তৃপক্ষ]
29. SRS: Slum Rehabilitation Scheme
30. SRA: Slum Rehabilitation Authority
31. SEM: Structural Equation Modelling
32. SGNP: Sanjay Gandhi National Park
33. TDR: Transfer Development Right
34. UN: United Nation
35. UNDP: United Nations Development Program
36. WHO: World Health Organization
37. WB: World Bank

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ANNEXTURE

[Note: This set of questionnaire used to identify SRS apartment dwellers satisfaction with living. Before conducting the main questionnaire survey, a pre-survey conducted to revise the questionnaire and make the questionnaire bias-free. In this dissertation, there are few students from TATA Institute of Social Science, Mumbai and The National Law College, Bombay hired. The way was face to face, random survey in three areas of Mumbai. The areas selected according to its characteristics. The areas are (1) Dharavi, Lower Parel, and Chandivali]

[Note: This set of the questionnaire used to interview with cooperative housing members to know the general characteristics of SRS apartment construction.]

[Note: This set of questionnaire was used to identify Mumbai's private developing company's expression of SRS projects handling. Basically, this structural questionnaire set used for the interview with the owner of the private developer in Mumbai. The process was a snowball survey]

[Note: This set of the questionnaire used to identify the most preferred construction attribute of SRS project construction at Dhaka by the private developer. The process of the survey was face to face interview of the member of the companies who make a decision for any project and explain the reason for the investigation. After interviewing and explanation, the questionnaire emailed]

[Note: This set of the questionnaire used to identify the recent scenario of the cooperative housing society of SRS apartments. This questionnaire prepared to interview the key responsible members in a cooperative society. The structure questions prepared to find the similarities and dissimilarities of the maintenance services in the cooperative society]

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Chapter: 1
Introduction

1.1 Background of the Research:

Developing countries are the leading importer to increase the world's total population. 28 mega-cities in the world, home to 453 million people or about 12% of the world's urban dwellers. Among these 28 mega-cities, 16 located in Asia. (UNDP reported on 2000). The World's fastest-growing regions regarding population and urban growth are located in South-Asian countries such as; Delhi, Mumbai, Kolkata in India, Dhaka in Bangladesh, Islamabad, Karachi in Pakistan or Kathmandu in Nepal (SAPIENS; 2009). In the present, more than a million people inhabitants in over 200,000 slums in earth and maximum of them are tracing at the developing countries (UN-Habitat, 2004).

Every day thousands of people migrate from rural areas and increase the total number of urban populations. Maximum of these migrate people use to starts living at slums and squatter areas because of two reasons; (1) there are no formal housing for lower-income people and (2) formal housing is very costly for poor. Some of them stay illegally. Naturally illegal settlements have high possibilities for eviction, and the poor became homeless. Many research pointed out the importance of secure tenure for the poor as it could a crucial factor to upgrade social and financial conditions. To some extent, the urban poor play an essential role in society and the national economy through their day labor or informal jobs. Even if slum inhabitants lived in the city or city center for a long time, they have limited access to the economic and social systems in place.

The emergence of Tenure Right: An UN-Habitat report pointed the emergence of the active policies for securing tenement of slums and squatter in the cities of developing nations and the necessity for the human development in future decades (UN-Habitat,2006). Meanwhile, many kinds of literature including World Bank focus on the necessity of legal protection by assuring individual property right or tenure right and its effect since several years (World Bank, 1993, De Soto, 2000, Durand-Lasserve and Royston, 2002). There is three basics of tenure security; (a) tenure are legally secure, (b) no threatening of forcible eviction and (c) dwellers perceive themselves as secure (Pyne; 2001, V. Gelder; 2010, S. Nakamura; 2015). Some institutions and authors also claim, to provide the legal and sustainable shelters to the

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slum habitats is only possible with the support of the national government, civil society actors and international community's support (UN-Habitat; 2004& 2006, Davis; 2006, Neuwright; 2004).

In 1950, it had been seen many existing slums reformed and started new slums through expansion and then started to evict these slums for many development reasons between the years of 1960 to 1980. Eviction has done by policymaker because of public safety to reduce the number of local crime and environment hygiene purpose sometimes also for city beautification. For example, slum eviction before Seoul Olympic in 1988 at South Korea, for "Miss Universe Contest" in Manila, Philippine, "World Bank Congress" in Bangkok, Thailand.

Tenure insecurity is one of the significant slum characteristics mentioned in the definition of UH-Habited (Habitat-II; 1996). Second United Nations Conference on Human Settlements by Habitat-II was held in Istanbul in 1996 about a concept that encouraging tenure security (Geoffrey Payne; 2000, Banerjee; 2002, Jean-Louis van G.; 2017). However, the importance of tenure security is focused, and its' emergency recognized, but, this recognition has not led the compromise with needs (Jean-Louis van G.; 2017). Public housing, sites‐and‐services, slum upgrading, and government assisted self‐help‐programs have failed to provide sufficient housing of the urban slum dwellers' demand to meet their needs because the scale of the slum dweller is increasing the growing need for low‐cost shelter. Governments in developing countries will face problems to provide adequate shelter for the urban poor households as it requires a high cost. Policymaker realized that the financial demand of the housing for poor slum dwellers must be supplemented by some effective schemes that reduce the costs of housing construction and increase the participation of communities including involvement of private agencies (Rondinelli, D. A.; 1990).

This research is discussing a policy applied at Mumbai commonly known as Slum Rehabilitation Scheme (SRS). In India, when policy maker, administrators, and sectoral professional recognized the right tenure issues and it requires to involve of the market (Banerjee; 2002), then government privatizes land. An essential land policy needs to create a relevant land market through privatization (Minar P and Lyse J; 2002). Slum Rehabilitation Scheme (SRS) is the policy still practicing in Mumbai that includes private land market and success its progress till to the date (Restrepo; 2010).

Meanwhile, the State government of Mumbai has taken the initiative of providing acts, policies, and schemes to ensure tenure security for the urban poor since Indian's independence

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in 1947 however, several government criticisms after application these acts, policy, and schemes. Maximum policies either modified or excluded but SRS continue its progress till to the date. It is true that SRS is a modified version of past policy, but after initiations of this scheme authority include and revisited the regulation several times but don't stop the progress. Some researchers and academics, therefore applaud government's intervention for tenure rights that supplies betterment for the slum society (Banerjee, 2002; Das, 2003; Ronita, Sayantani, Arnab, & Nagendra, 2015). As well as some also claim that among many applied policies for tenure security in big Indian cities, SRS has demonstrated improvements regarding comforting the rules, if comparing the past applied policies and schemes in Mumbai (Nijman, 2008). From 1995, the year the SRS was introduced, until 2014, 157,402 apartments have completed, and another 86,069 units are under construction (Praja, 2014).

1.2 Problem Statement for the Research:

SRS is providing tenure security by supplying housing to the slum dwellers, where the government does not pay as the government privatizes the land and free-market ideology run the scheme. For this reason, this research was inspired by the scheme "Slum Rehabilitation Scheme (SRS)," which broadly practiced in Mumbai and other cities in India. Private developers are involved in SRS, and consequently, there is no financial burden on the government (Slum Rehabilitation Authority).

Meanwhile, an extensive body of literature has been published about SRS modifications, encompassing both positive and negative issues (Michael Barke, 1998; Ronita, Sayantani, Arnab, & Nagendra, 2015; Nakamura, 2015; Das, 2003; Nijman, 2008; Praja, 2014). SRS is appreciated and receives accolades since it provides tenure security to many of Mumbai's former slum dwellers. Indeed, SRS involves market, and the market drives the policy till to the date. Private developing companies are preceding the SRS projects mainly for the housing business; however, the developer needs to provide housing free homes to the slum dwellers. It means SRS not only providing secure tenure to the slum dwellers but also open a door for marketing. According to many researchers, private developing companies interested to provide their interest instead to consider slum dwellers (Ronita, Sayantani, Arnab, & Nagendra, 2015). Some researchers also argued about the poor condition of the physical features, such as the size of the room, ventilation, natural lighting and so on of the SRS apartment for the slum dwellers (G. Mehta; 2015). Though several papers have evaluated SRS, and some researchers have even

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assessed its effects, most of these discussions focus on the outer appearance of SRS, such as living, health, and economic conditions (Banerjee, 2002; Das, 2003; Nijman, 2008; Restrepo, 2010). However, no research has been conducted on SRS apartment dwellers' opinions, and their views have not evaluated until now. Academics and practitioners, whose views are discussing the feature of slum rehabilitation scheme, have criticized especially about the environment of the building, the physical feature. Therefore, the study realized that some modifications to SRS might be necessary.

1.3 Research Questions:

Many Studies have done on securing tenure, and many policies have launched to solve the problems. UN-Habitat, World-Bank and other international donor agency are pointing the right tenure issues and aiding. Provide tenure security to the cities that have a large number of slum populations and also face land scarcity. Moreover, providing a formal housing to the slum dwellers by the government is very costly, and it also requires vast areas. Furthermore, regular housing supply becomes much complex in the cities where the number of slum population is higher. Therefore, the research intended to find the answer to the question:

1. "Which policy could provide tenure security to the urban poor where the government does not need to pay"?

Therefore, the research inspired by a scheme named 'Slum Rehabilitation Scheme; SRS,' which broadly practiced in Mumbai, and some other big cities in India. Because SRS, involves private builders/ developing companies for construction and there is no financial burden on the government (SRA; 2017).

Indian government follows the federal system for this reason urban development, housing, and land act are functioned and control by the state governments. The central government usually assists the urban development issue directives and provides advisory services and set up model legislation (Banashree; 2002) However; it is up to the state governments to adopt policy and legislation by article 246 of the constitution (Banashree; 2002). In most cases, state policies and acts follow central government directives and models with appropriate modifications to suit specific local requirements. Examples are the (a) Land Acquisition Act, (b) Transfer of Property Act, (c) Town Planning Act and Slum (Improvement and Clearance)

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Act (Banerjee, 1994; Shaw 1996).

Slum Rehabilitation Scheme is a modified version of the Slum Redevelopment Scheme (SRS) was brought up by the newly elected party in 1995. Following the recommendations of the Afzalpurkar Committee (1995), as well as gathering some criticism from the researchers and civil society, authority produces a separate body called Slum Rehabilitation Authority (SRA). Since the past policies has some administration problem in terms of time duration because the slum rehabilitation requires permissions from several organizations and therefore, the implicating body requires to visits many offices to have permission to execute. For this reason the rehabilitation process required much time and output was very less. Government realized the necessity to launch another authorizing body whereby the implementing body can do all the process under one roof. SRA offered three types of rehabilitation such as; (1) in-situ SRS apartment for slum dwellers, (2) Project Affected People (PAP) SRS apartments for those who lost their home for any development by government such as; highway, Rail Rapid Transit or so on. (3) Permanent Transit Tenement (PTT) SRS apartments for those dwellers how need some permanent relocation in order to protect water body or green or mountain areas. The private developers provided a room/unit to the eligible slum dwellers without any cost and a rent amount for the rental house during construction period. The builder supplies an amount for maintenance subsidy to each household. SRA offered builders some construction benefits extra FSI, 1:0.75 in the inner City and 1:1 in the suburban areas. Authority also allow builders build a sell component for market and construction cost and if the slum land is not located at lucrative place for sell then the builder could transfer their development right to another project or another location through Transfer Development Right (TDR).

Several kinds of literature and academia applause government interference about poor tenure right (Banerjee; 2002, Das; 2003, Ronita, Sayantani, Arnab and Nagendra, 2015) and SRS proves improvement if comparing previous policies and schemes applied in Mumbai (Nijman, 2008). From 1995, the year of SRS inauguration till 2014, the number of completed units in SRS apartments is 157,402 and under construction are 86,069 units (Praja, 2014), an extensive body of literature has published about SRS modification, positive and negative issues (Michael Barke, 1998, Ronita, Sayantani, Arnab, and Nagendra; 2015, Nakamura; 2015, Das, 2003, Nijman, 2008, Praja, 2014). Some research argues that the scheme of rehabilitation is more inclined towards the interests of the wealthy developers rather than the actual slum

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population. According to Patel (1996), it is a mixture of "admirable and dubious." The strong market forces favor active rehabilitation and vice versa. The private developers are more interested in those areas where the sale component can hike with higher prices. Though the SRS scheme seems to be very lucrative, the actual statistics fail to establish it as a real success (Das, 2003; Nijman, 2008). Till April 2014, the total number of completed units is 157,402 and 86,069 units are under construction (Praja, 2014).

SRS is appreciated and accolades as it provides tenure security to many slum inhabitants in Mumbai indeed. Simultaneously, it receives some criticisms from academia and practitioners too, which will be discussed in later sections. Several papers evaluate SRS and some researchers even assess its effects, but most of these discussions are about the outer appearance of SRS such as their living conditions, health, and economic condition (Banerjee; 2002, Das; 2003, Nijman; 2008, 2010, Restrepo; 2010). However, there are not any publications that reflect SRS dwellers' opinion, and no evaluation examines about their point of views. For this reason, this study targeted to ascertain another research question;

2. "How SRS dwellers evaluate SRS?", alternatively, other words, "do the SRS dwellers are satisfied with living at SRS?"

As noted previously, their stakeholders are directly involved with SRS; first, the government, who is a managerial stakeholder to drive the policy, second, private developer companies who are the implementation and third, the slum dwellers who are the benefited stakeholder or real stakeholder figure 1 shows the relationship between these three stakeholders.

The figure-1 shows the responsibility of three stakeholders to drive the Slum Rehabilitation Scheme (SRS). The stakeholder-1, Slum Rehabilitation Authority (SRA) executes or management the policy. They provide all rule and regulations to the application of SRS in slum areas. The authority also provides specific rules and regulations to the interested private developing companies as well as the slum dwellers. The private developing company is the second stakeholder, who is the implementation body of the SRS policy. They construct the projects as well as provide some money to the slum dwellers for maintenance of the building for the next ten years as per regulations by SRA. Third and most important stakeholders are slum dwellers, who are the beneficiaries. It means slum dwellers are the real stakeholders of Mumbai's SRS policy.

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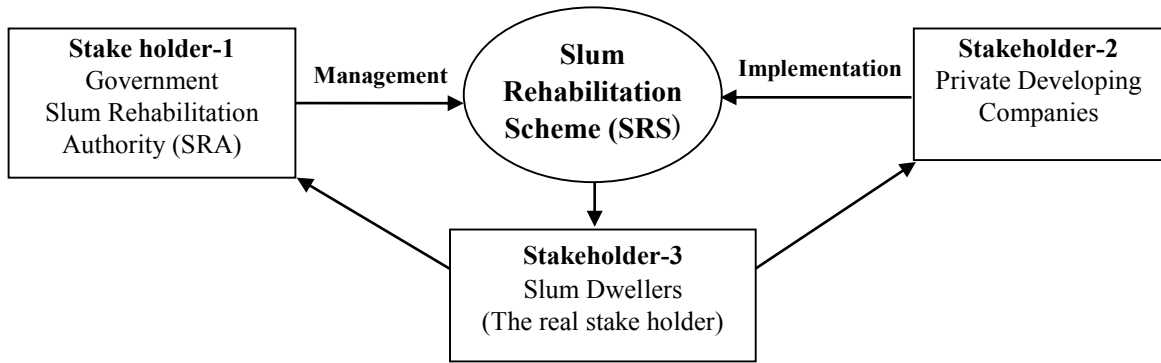
Figure 1.1: Three stakeholder of Slum Rehabilitation Scheme (SRS)

Interestingly there are several types of research have argued about the positive and negative features of the SRS policy, but no study has discussed on the judgment of SRS dwellers living satisfaction with living at SRS projects. Therefore, the research intended to evaluate the SRS dwellers satisfaction with living at SRS apartments.

Naturally, after evaluating dwellers judgment; there will be some results require modifications. For this reason, the third question of the study is:

3. "How to modify the SRS policy for dwellers' better satisfaction with living at SRS apartments."

After evaluating the way to modify the policy for dwellers better satisfaction with living at SRS, the study farther interested the check the possibilities of the application of the modified SRS policy at Dhaka's slum. SRS policy would derive from three stakeholders, therefore, if the policy needed to apply at Dhaka's slum its necessary to know, whether the three stakeholders of Dhaka will accept the policy or not. In this research, the study only focused on finding the possibilities of SRS application at Dhaka's slum by stakeholder-1, authority and stakeholder-2 private developing companies. The study will not intend to identify slum dwellers judgment about SRS policy application because Dhaka's slum dwellers are accepted staying at middle-rise building developed in-situ even with payment.

1.4 Research Goal and Objectives:

Many types of research and international agencies such as; World Bank, Un-Habitat and others international financial institutions are taking initiatives, to the solving the potential of tenure security for improving living conditions in slum areas around the world. Therefore, secure tenure has assumed to encourage these investments to slum communities, for many

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reasons such as; (a) alleviate poverty, (b) facilitate the provision of urban services and infrastructure, (c) improve health conditions, (d) make credit accessible, (e) enable land markets, and (f) contribute to the realization of the right to adequate housing (Jean-Louis van G; 2009)

Unlike researchers and publications and many actions for tenure security, many policies have been adopted by the government of the developing nations those are facing the lack of formal housing or other words, slums and squatter formation at the cities. The present research is focusing the policies for securing tenure, which has adopted by the government and it continues its progress, and most importantly, the government does not need to bear any financial burden.

In fact, there are several policies around the world must provide securing tenure to the urban slum dwellers with such features that the study has discussed earlier. However, it is also essential to adopt policies which have some similarities between the cultural, regional and ethnic characteristics of two societies. The study focused on the policy of tenure security broadly applied in Mumbai, India was formally known as Slum Rehabilitation Scheme (SRS). Since the SRS policy have both positive and negative criticism about its features in literature and from some independence researchers, therefore, the study targeted to evaluate the overall outline of Mumbai's Slum Rehabilitation Scheme (SRS). There are some key reasons to select SRS for this research, such as; (1) SRS is a policy that provides secure tenure ship to the slum dwellers (2) where the government does not need to contribute financially (3) it is continuing its progress with modification time to time. However, it also has some debate about the providing feature which may affects dwellers overall living conditions. The scheme also requires a modification in it is regulation for construction and dweller's eligibility.

The research has several objectives to acquire the answer to the research questions. However, the primary aim of this research is;

Target or Goal of Study:

The study interested in recommending improvement Mumbai's Slum Rehabilitation Scheme; SRS apartment dweller's living satisfaction through proposing a modification.

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Research Objectives:

This study has three objectives those are written below:

1. To identify the dwellers' satisfaction at Slum Rehabilitation Scheme (SRS) apartment

2. To identify the factors that affects Slum Rehabilitation Scheme (SRS) apartment dwellers' living satisfaction and recommends the improvement.

3. To identify the possibilities to transfer the policy of SRS at Dhaka's slum that will secure the tenure of slum dwellers.

1.5 Methodology:

The study intended to deal with four objectives. Initially, the study targeted to survey the SRS policy outline an interview with some researchers and expertise relevant to this research than a questionnaire survey with three stakeholders. However, the method of the study depends on its objectives. For example:

Objective 1. To identify the dwellers' satisfaction at Slum Rehabilitation Scheme (SRS) apartment

Method: To determine the factors that affect SRS dwellers living satisfaction, the study requires identifying the overall outline of Mumbai's SRS by reviewing the literature and consulting with some researchers and visiting some SRS apartments at Mumbai. Therefore, the study reviewing literature related with the rehabilitation policies including Slum Rehabilitation Scheme (SRS) and then visited Mumbai on March 2016 to see the real feature of SRS projects. Interview with some officers of Slum Rehabilitation Authority (SRA), researchers of TATA Institute of Social Science (TISS) and Indian Institute of Technology Bombay, Architect P. K. Das, designer of an SRS project and owner of the NGO, "Nivara Hakk." The study also interviewed local NGO, URBZ and the slum dwellers at SRS apartments.

Significant Findings of Objective 1:
After visiting an interview with the expert, researchers and most importantly the SRS dwellers,

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the study have found some factors which are actively affecting the dweller's level of satisfaction with living at SRS apartment such as; room/ unit size, social relationship, management and maintenance by the cooperative housing society and so on

Objective 2. To identify the factors that affects Slum Rehabilitation Scheme (SRS) apartment dwellers' living satisfaction and recommends the improvement.

Method 1:

The study conducted a pre-questionnaire survey in October 2016 to evaluate the questionnaire about the dwellers satisfaction and how SRS dwellers would respond to it. Another target of pre-survey was to train the interviewers to avoid biased responses. After testing the questionnaire, the central questionnaire survey was conducted in the three areas from December 2016 to January 2017. The acquired data was evaluated with more than analytical methods. At first, correlation coefficient analysis and nonparametric tests were applied to verify the relationships between the five components and dwellers' satisfaction with living in SRS apartments. We then conducted SEM analysis, to verify the more complex structure of satisfaction with living in SRS apartments, each component, and each indicator. We used SPSS AMOS 23 to manipulate the SEM analysis.

Method 2:

The present study then conducted another whole interview with the key member of the Cooperative Housing Society (CHS) of three SRS projects where the past study conducted the research to identify the dweller's satisfaction with the living at SRS apartments on January 2018. The study also interviewed with the registrar at the cooperative cell of SRA, staffs of local NGO, Nivara Hakk". The study also involves a small questionnaire survey with the SRS dwellers in three SRS projects as they are the fundamental stakeholder of SRS policy.

To analyze the data collected from the survey, the study designed a theoretical or analytical framework which was prepared to respect a government report on management and maintenance service in the housing sector, interview with expert and researchers and literature.

Major Finding of Objective 2: The SRS dwellers' degree of satisfaction depends on their management satisfaction which is conducted by the cooperative housing society. In another word, SRS dwellers are satisfied when they are satisfied with the management and

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maintenance service by the cooperative housing society of the SRS apartments.

All cooperative housing society of SRS apartments should follow the instruction and rules provided by the authority as well as authority should monitor the cooperative society. Local NGO plays a vital role in comprehensive management service; therefore, authority needs to include NGO's contribution for management service by law.

Objective 3: 3.   To identify the possibilities to transfer the policy of SRS at Dhaka's slum that will secure the tenure of slum dwellers.

Methods: The study interviewed with some researchers and expert at Dhaka, Bangladesh to identify whether the SRS policy would have any possibilities to apply at Dhaka's slum or not. At first, the study interviewed with some researchers of Bangladesh University of Engineering and Technology (BUET), Ahsanullah University of Science and Technology (AUST). The study also interviews with some government officers at the Capital Development Authority (RAJUK) and Department of Architecture, Public Works Department (PWD). To know the possibilities of SRS projects as a housing business, the research conducted a questionnaire survey with the Dhaka's private developing companies. The response is analyzing with conjoint analysis. The study also conducted an exclusive interview with the NGO- BRAC to identify whether the local NGO is ready to help the slum dwellers to train them about the way to live in an apartment building and the way to maintain the building.

Significant Findings of Objective 4: Mumbai's SRS policy has an opportunity to adopt at Dhaka's slum to reduce housing problem which is facing poor urban dwellers in Dhaka. Private developing companies at Dhaka are also interested in dealing a housing business of SRS projects. And the developer's most preferred condition of SRS project is development type of SRS and the second condition to use TDR option in developing business. Finally, the NGO "BRAC" agreed to train and guide the slum dwellers about the way to live in an apartment building and the way to improve the maintenance service of the building.

1.6 Scope and Limitation of the Research:

The research has attempted to evaluate a successful slum rehabilitation policy and then recommended to apply the policy at Dhaka, Bangladesh. However, this evaluation could be

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applied in other cities has slums and squatter settlements in developing countries. The study will evaluate the dweller's satisfaction not only by reviewing the literature and discussion with the researchers on this field but also using the result of questionnaire survey conducting with the real stakeholder, SRS dwellers which will stand for the first time for the policy, SRS.

Moreover, the study is intended to recommend the require modification which could be applied later to improve the policy. The discussions of the way to enhance the overall scheme will also increase the level of satisfaction of the dwellers. In fact, the discussion to improve SRS is also an opinion of a new attempt because lack of research publication depends on dwellers judgment on SRS policy.

The research is also intended to evaluate the judgment of three stakeholders such as; government, private developing companies, and slum dwellers at Dhaka to find out the possibilities of the application in any slum area at Dhaka. In this point, the study will use the result of past research of slum dwellers willingness to stay in their current location for two reasons; first, prior research result has shown that Dhaka's slum dwellers were accepted to stay in an apartment at their current place by giving some monthly rent. Second, time is quite limited to questionnaire survey with slum dwellers at both for two times at Mumbai and one time at Dhaka. Since the past research result about the evaluation of dwellers, acceptability with living at an apartment by payment and SRS offers them to stay at their current location with zero amount; therefore, it is expected to have their acceptation with living at SRS apartments. Consequently, the study considers only survey with the SRS dwellers at Mumbai. The study also intended to evaluate private developer companies to accept SRS policy for apartment business at Dhaka which will be another new attempt for this arena. However, to get the actual scenario of willingness to accept a new strategy for housing business, a questionnaire survey is not enough. It also requires some intense workshop to explain the real concept of SRS to private developing companies at Dhaka which is impossible because of time and academicals budget.

For this reason, in future, this research has the vast potentiality to evaluate more about the acceptability of SRS at Dhaka which could be utilized in many cities of developing nations. Indeed, future study of the extensive research will enrich the overall concept of slum rehabilitation policies around the world as well as assure tenure security of the millions of urban homeless poor.

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1.7 Outline of the Dissertation:

This dissertation represents a total of nine chapters. The chapters are including initial discussions of Mumbai's Slum Rehabilitation Scheme that respects literature reviews and discussions with some expert and practitioners. Chapter 1 is discussing the introduction of the research. In this chapter, the dissertation is introducing the problem occurring for tenure security and unavailability of formal housing for urban dwellers. This chapter is also representing the research question and the objectives of this study. The aim and goal of this research and the limitations are also discussed in this chapter.

Chapter 2 discussing literature reviews about debates on slum rehabilitation policies and its aftermath scenarios in different cities and the necessity of policy implementation.

Chapter 3 is the discussion about the outline of Slum Rehabilitation Scheme (SRS) and the concept and the reason for initiations in Mumbai slums and the process of modifications from time to time.

Chapter 4 of this dissertation discusses the Indian act, politics, and schemes to overcome the disputes over illegal tenements. This chapter is also discussing how Indian government modified their rules and regulations from time to time for providing formal tenements to the urban poor. It also reflects the chronological evaluations of policies that could gradually improve the tenements condition of slum dwellers.

In this dissertation chapter, 5 discussed the three case study areas. The study selected Dharavi, Lower Parel and Chandivali in Mumbai. The characteristics and the reason for selection of these sites area debated in this chapter. This chapter is also talking about the way that the study evaluated the judgment of dwellers; it means the questionnaire survey and the characteristics of interviewers. The research interviewed Slum Rehabilitation Scheme (SRS) apartment dwellers and cooperative societies of SRS apartments, private developers in Mumbai and discussed some professors from Indian Institute of Technology; IIT Bombay, Tata Institute of Social Science (TISS), some NGOs and Slum Rehabilitation Scheme Authority (SRA) in Mumbai, India. These questionnaire survey and interview process conducted within the time of 2016 March to 2018 January, four times.

Chapter 6 discussed the judgment of the dweller's degree of satisfaction with living at SRS apartments as the physical features are tremendously criticized. Chapter 6 also discussed the results of the judgment of SRS dwellers level of satisfaction with living at SRS apartments. In this chapter, the study is also discussing the analysis method of the evolution and why the study selected this analysis to evaluation. In this dissertation, chapter 7 is the discussion of

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management and maintenance services by the cooperative housing society of SRS dwellers. Chapter 7 is also an argument about the factors that will increase the quality of management and maintenance services which is very important for SRS dweller's living satisfaction.

The study also conducted the discussion with some professors, experts, and researchers in Dhaka. To identify the possibilities of Mumbai's SRS application in Dhaka, the study also conducted the interview with the Capital Development Authority (RAJUK) and Dhaka's' and questionnaire survey with Dhaka's private developing companies.

Chapter 8 is the discussion about the planning history and the planning system of Mumbai and Dhaka. The recent planning system of these two cities will process till 2035 and these planning systems have some similarities and there are also some dissimilarity is also discussed in this chapter.

Chapter 9 is the discussion about the possibilities of acceptance of Mumbai's slum rehabilitation scheme (SRS) at Dhaka's s slum. The study conducted an interview survey with the governmental organization for urban development as well as researchers in different universities. This chapter is also discussing the result of the questionnaire conducted with Dhaka's developing companies about their acceptance about SRS.

Chapter 10 is the discussion of the conclusion of this research. This chapter is also discussing and recommends the overall research result, and it also discusses the possibilities of the future study of the research.

BOX- A

Chapter 1 Introduction
Chapter 1 is the discussion of the problem, questions and aim of the research.

Chapter 4: Outline of Indian Policy for tenure security
Schemes and policies by Indian govt. for slum dwellers' tenure security

Chapter 2: Literature Review
Literature Reviews on tenure legalization debates around and the world including India and the necessity of policy transfer

Chapter 3: Slum Rehabilitation Scheme (SRS)
Outline of Mumbai's Slum Rehabilitation Scheme (SRS)

BOX- C

Chapter 8: Planning System of Mumbai & Dhaka

Chapter 9: Policy Transfer
Evaluation the policy transfer from Mumbai to Dhaka

BOX- B

Chapter 7: Management and Maintenance of SRS Apartment
Discussion of cooperative housing societies and their providing services for quality management and maintenance service at SRS

Chapter 6: Evaluation of the Most Affected Factor of Satisfaction
Using cross tabulation analysis, Correlation analysis and SEM to find most affecting factors from five factors

Chapter 5: Target Research Area and Interviewer
Selection of areas with different characteristics for questionnaire survey and questionnaire design for identify the factors that affects dwellers satisfaction

BOX- D

Chapter 9: Conclusion and Recommendation

Figure1.2: Outline of the Dissertation

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Chapter 2
Literature Review

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2.1 Introduction:

Mike Davis in his book "planet of slum" claimed that urban populations in developing countries are around 95% and it will be double within the next generation (M. Davis; 2006). The urban population is swelling in the countries like China, the Indian sub-continent, and some nations in Latin America, which is equal to the total population of Europe and North America. The huge population increases the scale of cities, for example, the city of UK, London grew larger eventually that can be compared seven times than the earlier size within the year of 1800 to 1910; however, Dhaka, Kinshasa, and Lagos are now approximately around forty times larger than they were in 1950 (M. Davis; 2006). It means, when the cities of developing countries are growing larger, the maximum urban population lives in informal settlements such as slums and squatter. Meanwhile, Abrams (1964) described the word slum as "a catchall for the poor housing." Slum and squatter of course not supply sound environment for living and always lack essential amenities and it can be defined as a place where conducting crime is an accessible service; however, it is a place for hope to starts living (Abrams; 1964).

In the twentieth century, the term "slum" expanded to include not merely a house or housing but entire neighborhoods. The immorality of the people not blamed for the dilapidated housing; instead, the poor living conditions were a cause of immoral behavior (Bystedt C; 2011). Neighborhood environment defection pattern is the main reason to risk of childhood illness in the slums or urban squatter in Indian cities (M Geruso, D Spears; 2014). Moreover, recently several researchers argued about the importance of neighborhood effects affect the community with lack of essential amenities, and these effects can be traced in slum areas (G. Galster; 2012, M J Parks; 2014, Gruebner, MM Khan & S Lautenbach; 2012 and LB Nolan; 2015). The neighborhood effects refer to the factors that effect on (1) health at the community level, (2) individual household level, and (3) household levels of poverty or deficiency. One experimental study in the USA shows that providing vouchers for moving to a better-neighborhood improved health in short-term, and young children prospects in the long term (R Chetty, N Hendren, L Katz; 2016, A. Ezeh, et al.; 2017)

The slum and its dwellers are not only considered for some people living in slums that is not

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a proper place to live, but its concern of a group of people and the count of the group is huge. Naturally, this huge growth of slums and squatter settlement are attracting international concern. The growing phenomena of swelling slums and squatter settlements correspond some neoliberal public policies with global and local interests such as world bank, large and small NGOs, local private organizations and of course governments of these developing countries. Simultaneously, voluntary actions by local level including empowerment and self-help indicate the key concepts to reforming the slum areas that accomplish to the global requirement (Nijman; 2008). Although community-based initiatives for slum improvement have the advantage of being "bottom-up" rather than "top-down." The researcher also argued that help the slum dwellers active and understandable to understand and also easy to handle the number of problems with this approach. It has been demonstrated, for example, that community leader is often better educated, better off and more highly motivated than the majority of the community they are supposed to represent.

2.2 Debates on Tenure legalization Since Decades:

Urban land use and tenure legalization are emerging as a significant issue for the policymakers, professionals, researchers involves in urban innovations and implementing some new policies of the urban poor in the global society (A Durand-Lasserve and Lauren Royston; 2002).

Tenure insecurity is one of the significant slum characteristics mentioned in the definition of UH-Habited. Tenure legalization is not a matter to concern on land titling it's also linked with the access to the workplace, education, credit, health care, drinkable water and sanitation service and of course family and neighboring social networks (A Durand-Lasserve and Lauren Royston; 2002). However the most critical issues for land legalization is to rid out of sudden evictions for this reason some researchers mentioned the approach legalization can be implemented through the policies of tenure security which act as a contingency measure to limit the eviction as well as demolition threat in slums (R. Sietchiping; 2005, Jenkins; 2001). Therefore, tenure legalizations also act as an internal remedy of all essential amenities in slum areas. Most of the slums are located near slum dwellers working place, and these lands either owned by the public or private but sometimes these lands are not considered by the owner, and it remains vacant for so long, and new migrant usually contributes to the scale of the slum areas (Agbola, Tunde; Elijah M. Agunbiade 2009).

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Sometimes local government provides land to the people, which will later develop into slums and the residents don't have property rights (Bolay, Jean-Claude 2006) for example, the people how, migrated from the different country or victims of a devastating disaster then government shift these population to a safer place for some time being. Informal land tenure also includes the occupation of land belonging to someone else (Brueckner, Jan K.; Harris Selod; 2009) such as owner are not living near them, or the property has some legal dispute within the owners and remains abundant. Securing tenure is an essential mechanism for slum dwellers to recognition their residential status in urban areas as well as to improve their financial condition. It also encourages them to upgrade their housing facilities, which will give them protection against natural hazards such as flood and storm. Illegal ownership of land or house is not supported the poor slum dwellers to improve their financial condition because they will not be applying for the mortgage or loan to do small business (Ezeh, A et al.; 2017). Besides, without registration of the land ownership, the government has difficulty upgrading necessary facilities and improving the living environment. It also provides the tenure insecurity of the slum, as well as the lack of socially and politically acceptable alternatives to slums. It also creates difficulty in city-wide infrastructure development such as rapid mass transit, electrical line and sewer pipe layout, highways and roads (Ravetz, A. 2013)

According to the United Nation Human Settlement Program, governments of developing countries recognize that the existence of slums and its dwellers condition and they consider them as a marginal poor neighborhoods rather than their illegal habitation, so, the slum dwellers have always threatened of eviction and gained differing and fluctuating levels of security of tenure (A Durand-Lasserve and Lauren Royston; 2002). Even though the tenure security provided by the government is not formal but it strengthen pro-poor policies, land being public and without competing owners, historical longevity of the community, low demand for land development and correspondingly low land prices, and also it gives guarantee to the slum dwellers that they won't be evicted in future (Baker, & McClain, 2008). Baker & McClain (2008) also claims many governments establish semi-formal lease or registration systems for slum dwellers, particularly on public land and this initiative also improves the overall improvement of the dweller's physical environment. Many researchers claimed a definite causality between titling, security of tenure and investment in housing (Friedman et al., 1988; Jimenez, 1983, 1984; Malpezzi and Mayo, 1987). Simultaneously, some also pointed about Upgrading Housing Settlements in Developing Countries and

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economic wisdom of tenure legalization (Mukhija; 2001). According to Mukhija (2001), low-income housing settlements depends less on legal status. However, these settlements have the probability of eviction, the availability of services (Doebele, 1983; Gilbert, 1990; Razzaz, 1993; Strassman, 1984). Then, tenure has not any value to investments since housing finance is not available (Bruce, 1981; Mehta and Mehta, 1991; Smets, 1997). Furthermore, tenure legalization seems most difficult for the poor due to raising the value of the property and its rents (Angel, 1983; Burgess, 1985; Payne, 1989; Sanyal, 1996; Varley, 1987). Research indicated that the tenure legalization is demanding some public contributions from the slum dwellers such as electricity and water billing and regular taxation of their formal habitation and sometimes it becomes difficult for them to provide. However, it has also noticed in many literature reviews argued that slum dwellers when classified as a legal user, it improves their overall financial and social life because they become more confident to improve their lives and they start saving (Restrepo; 2015)

2.3 Slum Clearance Force and Adopting Policies:

In 1960 there was evidence of slum shift from town to suburb or villages with a slogan as slum clearance and provided free apartment houses (Todaro, M. P., & Smith, S. C; 2012). This action also followed by some developing nations, for example, in 1966 state government of Maharashtra declared "Slum Clearance Act" (Rorita, Shantoni, et al.; 2015). However, this action does not control the unlimited growth of slum placement at the urban areas. Then in 1970 slum was considered as an illegal but unavoidable phenomenon because it seemed difficult to make the cities slum-free. Many researchers pointed out that slum is a problem and this problem can be solved by introducing economic development. Many donor and aid agency started to introduce "Trickle Down" theory. They started to donate to the high group to solve urban poverty by introducing occupation facility (Todaro, M. P., & Smith, S. C; 2012). Todaro and Smith also stated in 1970 when international donor agency realized that the trickledown theory does not work. 1n the year of 1980 World Bank changed their policy because according to World Bank, site and service policy was much cheaper than providing private apartment. Different international NGOs and donor agency started to work together with the national government to assist the urban slum dwellers. They started to invest directly in the lower income group people. It means, then the trained was started to provide educational or vacationer training to the slum dwellers and also some NGO started

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to provide funding for internal infrastructure to the dwellers (Banerjee; 2002). They started this kind of activities because to give basic human need to urban poor. These needs are education, sanitation, infrastructure and health facilities. However, without having the security of tenement slum dwellers are not adequately maintained this assistance.

After recognition of this problem, policymakers decided to provide land, or they selected land which is relatively cheap and located near the city. "Site and Service" approach has two distinguished wing to derive the policy such as; (1) Utility wall which is consideration of contains connection for gas, water, electricity and sewerage and on the other hand (2) Core house is the consideration directly related with dwellers activity such as construct/ extends or improves their house (Todaro, M. P., & Smith, S. C; 2012). However several reasons are pointed by Todaro & Smith (2012) is not successful in practicing the approach of site and service. Bureaucratic policy reflected long and complicated registration because urban slum dwellers usually don't pay tax properly to the government which was a significant problem. Then, the approach was relatively expensive, and slum dwellers were not able to pay where the middle-class group took away the benefits. Another issue also mentioned that the relocation area has not become favorite for slum dwellers. They came back to another slum and sold their tenure middle income and high-income group (Todaro, M. P., & Smith, S. C; 2012)

In 1970 there was another approach of slum improvement project was disclosed by policymakers. This approach is known as on-site slum improvement project. In this policy, there are two actors' plays two significant roles. These actors are: Government usually provides a provision of essential urban service such as; footpath, drainage, water supply, public toilet and emergency facility and so on. In this case, slum dwellers usually improve their house and other living environments. This policy is similar to land regularization and or land tenure security. The government could lease the land where slum dwellers occupy illegally, for a specific time to slum dwellers such as 30 years or negotiate the time with dwellers (Ravetz, A. 2013). This policy facilitated those slum dwellers with better infrastructure, sanitation and water supply, health care, education and so on (Ravetz, A. 2013)

In 1980, UN-Habitat and Word Bank started to consider a policy that reflects the role of government under consideration of the private organization. Turner (1972) argued that low-income people housing settlements could be improved over a period and no need to demolish slums because it depends on ownership instead of housing condition. He claims

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slum dwellers are interested in improving their living condition as self-help which is opposed by the government (Turner 1967, 1977; Turner and Fichter, 1972). He also identified perceived security of tenure as the critical variable to facilitate housing improvement because of the different title of ownership. Literature widely notified another approach for ensuring tenure security that island sharing approach. Landowners who fail to acquire land from the illegal occupier can develop their share of the land for commercial use (Yap and De Wandeler, 2010). This approach was attempted mainly in Bangkok (Yap and De Wandeler, 2010), Angel et al., 1988, Panroj and Yap, 1989). Yap (1992) said the land-sharing scheme is successes because it provides tenure security to the urban poor without substantial subsidy (Yap; 1992). Land sharing remains one of the schemes applied in the slum-upgrading program called the Baan Man-Kong (Secure Housing) Program (Somsook, B. 2005), which had ongoing or completed projects in 1,546 communities, benefitting over 90,000 households as of 2011(Archer, 2012). Unlike Bangkok, other Asian cities also follow the land-sharing scheme and the scheme started adopting from the 1970s. Land sharing scheme also proceeds at the slum areas in an Indian city called Hyderabad (Rabe; 2005). He argued, a land-sharing scheme in Phnom Penh, represented an innovative means to finance the slum dwellers to environmental improvement of their housing, where public funding for this scheme does not require (Rabe; 2005). Rabe also said in his paper that land sharing scheme in Bangkok has conducted in different slum areas including one government land after recognition of the prospectus of land sharing scheme, Thai government approved a slum upgrading program called Baan Mankong national slum upgrading program, which was approved by the Cabinet in January 2003 (Rabe; 2005).

2.4 Indian Slum Clearance Policies and Modification for Acceptancy:

The research is focusing on a policy that is applying in Mumbai, India and many international and Indian researchers discussed the policy adaptation and chronological modification respecting the demand for acceptation. After that, Habitat 2nd conference in Delhi suggested about the "Importance of Tenure Security" and many developing nations including big cities in India started to adopting some policies and schemes who are interested to provide policies to meet the unstable tenure condition of slum dwellers in the city (Banashree; 2002, Choguill; 2007 and Durand-Lasserve and Lauren Royston; 2002). Indian big cities are also starting to consider the tenure issues of slum habitation. Choguill; (2007)

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claims that there are threefold phases have seen in adopted policies in big Indian cities. The first phase allocated the construction of more public housings. Where, the second phase of the housing policies emphasis self-help and finally in the third phase adopted enablement strategy however several researchers also mentioned that Indian government only focused to clear slums from the city instead provide tenure legalization (Banerjee, 2002, Das, 2003, Ronita et al.; 2015). At least the initial acts that focused on slum clearance act. The target was only clearing slums from the city and doesn't consider the resettlements the victims who lost their home (Ronita et al.; 2015). These researchers argued the different act's implementation and the failure and success where every act and policies tried to focus on modifications. Meanwhile, Banerjee (2002) argued that state intervention in regularization and shelter and infrastructure development and improvement always targeted toward the land owned privately and sometimes public owned land which is already occupied by slums. She argued the slum dwellers are always paying for these regulation implementations in the cities. However, it could not stop the growing phenomena of slums in the cities. Furthermore, the regulation process in conflicting various interests between all the stakeholders such as landowners and the slum dwellers between central and state government between the environmentalist group and regularization authorities (Banerjee; 2002). In case of Delhi capital of India, the government tried to impose an act for development which has several, but several developments were done for urban squatter settlement which was not respecting the act because to avoid the social complexity (Neelima Risbud; 2002). She argued that significant problems exist in the policy implementation in Delhi was enforcing regulatory provisions, and its recovery was not active the goal of the target because the target population does not afford. Imposing regulation cannot be the solution to ensure tenure right because it always demands some issues that might not make possible by the group that requires assistance. Another city of India, Mumbai, where the authority proposed several acts, policies, and scheme to ensure tenure right of the slum dwellers but the first interventions was clearing slums to form the city and the authority failed and most of the time output reflected much worse than past. The security of tenure approach derives from the assumption that when the residents have the sense of appropriation, they also have the confidence, motivation and will to invest, upgrade or improve their environment (Choguill; 2007, Ronita, Sayantani, Arnab, Nagendra; 2015). Several kinds of research have conducted for Mumbai's slum issues, and these researchers' mentions the reason for failure due to land ownership complexity, regulations without aftermath foreseeing. Jagdale, 2014 said that the urban

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homeless in Mumbai are not illegally occupied the vacant public/ government owned land but also illegally cover-up the vacant private land too that sometimes located in prime locations. For this reason, the authority also invited private land or house developer to provide the cheapest housing options to the homeless in Mumbai at the same time they could also earn some profit by the free market (Jagdale; 2014).

2.5 Ensuring Tenure Right; Mumbai Practice:

Banashree (2002) mentioned about 55 million people live on public land and private lands with no tenure rights and in deplorable environmental conditions and to solve these disputes of uncountable illegal settlements, the government of India, proposed several approaches (Banashree; 2002). She also argued that different act was developed according to by requirement however up to 1970s, policies only based on the notion that slums and squatter are transient phenomenon and the slum Act (improvement and clearance) Act of 1956 provided the legal that adopted by most states (Banshee; 2002). This act also adopted by the state government of Maharashtra as it was the regulation offered by the central government. However, the act resulted with a massive eviction around the Mumbai as the act only proposed to slum area improvement act but no resettlements of the dwellers how lived in those areas, so these victims formulation slums in different locations (Ronita et al.; 2015). The improvement was considering after realizing the act did not go well and required a modification which was finally amendment on 2011 (Burra, 2005). The issues are not modifications its issues about the slum area improvement or used as a part of national developments. Then authority starts providing in-situ policies such as; in 1985- Slum Upgradation Program (SUP), in 1985- The Prime Minister's Grand Projects (PMGP), and 1991- Slum Redevelopment Scheme (SRD) and then in 1995- Slum Rehabilitation Scheme (SRS) and some recent initiatives which have not execute later (Ronita, Sayantani, Arnab, Nagendra; 2015). Because, it is understood as an advocating that legal, administrative, economic, political, urban stakeholders and financial institutions should facilitate and secure the shelter and tenure to the most vulnerable portion of urban dwellers so in-situ rehabilitation is unavoidable (Banshee, 2002, Jagdale; 2014)These group of researchers also mentioned, unless the execute policies; all applied policies have some problems. Especially the first few acts which were only focused on evictions instead provide security in the tenement.

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After a long struggle to solve the housing problems and slum dweller's tenure right, authority adopted the enable approach where they allow market interventions and slum community participation (Nijman; 2008). Slum Rehabilitation Scheme (SRS) is an enabling policy that involves local businessman for housing business. SRS also considers as a modified policy then another policy practiced in Mumbai especially for economic improvement and poverty reduction (Nijman; 2008) Providing secure and formal housing to the thousands of illegal slum dwellers at Sanjay Gandhi National Park as well as protecting nature is simultaneously considered in one policy and that is slum rehabilitation scheme at Chandivali (R. Sietchiping, 2005). Some research also claims that SRS is one of the most significant agenda for millions of urban poor done by government, it not only benefited poor homeless in the city but also open a window for Indian private industries as well (Jagdale; 2014). Slum clearances with inadequate rehousing schemes involve many policies that continue for at least 30 years of improvement. In Chandivali, Mumbai, the policy SRS ensured 33,000 slum dwellers formal habitation however the number is not so high as the requirement was 80,000 formal houses (R. Sietchiping; 2005, Jagdale; 2014). Slum Rehabilitation Scheme in Mumbai includes a vital role of community participation of slum areas which proved useful in understanding dwellers need as well as the lands which having multiple ownership (R. Chatterji; 2005). Moreover, when this community linked with any local NGO then the participation of community dramatically increases (Michael Barke; 1998).

The scheme of rehabilitation is more inclined towards the interests of the wealthy developers rather than the actual slum population. According to Patel (1996), it is a mixture of "admirable and dubious." The strong market forces favor active rehabilitation and vice versa. Some research also mentioned the developers are much interested in the location of the slum areas (Alam, Matsuyuki; 2017). Some also argued, since the policy SRS is more beneficial for the private developer, so it always creates a barrier to reach on the high success (Das, 2003; Nijman, 2008). Till April 2014, the total number of completed units is 157,402 and 86,069 units are under construction (Praja, 2014). According to Dr. Amita, SRA and their projects SRS has the primary challenge to lower down the power to control the whole context from the private builders. Interestingly, on one side government wanted to solve the slum habitation issues by proposing SRS through SRA but they also consider the bigger land market through privatization. For example, in 1997, just after forming SRA in 1995 state government developed massive infrastructure throughout the state and Mumbai city is

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wholly connected through these developments. After this considerable development, the slums, those were located a little far from CBD, now located next to the massive road network and of course, it opens up the door of the private land business. In another context, private builder to some extent undermining the power and focuses only on the land market instead to slum habitat. However, the city compactness and the land scarcity still need to establish SRS within the Mumbai city.

2.6 Necessity of Policy Transfer:

In recent times, an increasing number of researchers and author have focused on the circulation of urban policies and the concept of policy mobilities through a series of an arguement for urban policy mobilities studies. Many researchers are pointed in both global and local and produce studies of a number of areas of policy making, such as (1) Creativity (Prince, 2010), (2)Public health (McCann; 2008), (3) Economic Development (Ward; 2006), (4) Financing (Ward; 2012), (5) Sustainable Planning (Temenos & McCann 2012), (6) Transport (Wood, 2013) and Welfare (Peck & Theodore; 2010). In this consequence, Tom Baker and Cristina Temenos believed "Researchers have long been aware that urban politics and policy is never only local." It's a direct indication of policy mobilities and these policy mobilities been practicing since long through the studies of a number of areas of policy-making – e.g., creativity (Prince, 2010), public health (McCann; 2008), economic development (Ward, 20006), financing (Ward; 2012), sustainable planning (Temenos & McCann; 2012). In this point, it is requiring mentioning the name of the model; "Barcelona Model" is one of the most famous examples of global urban policy mobilities. Meanwhile, according to Eugene McCann; 2009, in one hand, numerous researchers and authors have sketched the contours of a recent "mobilities turn" in social sciences (Urry 2000a, 2000b, 2004, 2007; Cresswell 2001, 2006; Heyman and Cunningham 2004; Sheller 2004; Hannam, Sheller and Urry 2006) and on other hands, many from them started to critique certain aspects for it (Ray 2002; Andey 2006; Binnie at al. 2007). As mentioned previously, "Barcelona Model" is widely recognized as a prime practice of policy transfer; however, it only fits well into the strategy contributing to the image of a city with outstanding urban design, clear governance, and good strategic planning (Andy Thornley; 2011). It means, without having these unique criteria, "Barcelona model" would not properly go through.
Eugene McCann and Kavin Ward (2010) explain the dualism of policy mobility, and this

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dualism has three criteria;

First Dualism for Policy Mobility: It is considering the success and failure, and it depends on how much the policy successes. There are several criticisms related about this dualism (Wolman; 1992, Jacobs; 2012) and McCann and Ward said the Barcelona as a success in post-industrial regeneration and Detroit as failure mobility of policy.

Second Dualism for Policy Mobility: This dualism means present and absent of the policy. In this approach, constricting presence against absent can be found where some condition may present, and some are absent due to the locations and system.

Third Dualism for Policy Mobility: This consideration for policy transfer is about mobilities and Immobilities. Mobilities and immobility are constitutive because sometimes time most mobile policy also has immobility due to institutional and physical infrastructure (Temenos & MacCann, 2013)

Additionally, some policy proved successful in some countries due to its local conditions of social characteristics and geographical conditions. For example, the policy named Land Sharing had been successful to tenure security in Bangkok, Thailand. Because it was reallocating several slum dwellers that were facing tenure insecurity as they do not have the formal living condition. This tenure securing policy had also appeared as a beneficial commercial phenomenon for the private developing company. The land sharing pilot project from Bangkok transferred to a historic breakthrough for the slum areas in Phnom Penh, Cambodia between the year of 1990 and 2003 (Paul E. Rabe; 2003-2009). Rabe, also argued that Bangkok model (Land Sharing) did not succeed in Phnom Penh because for the large-scale land speculation that pervaded the city during the 2000s, and residents of three from the four pilot settlements were relocated in favor of 100 percent commercial development – this despite the government's stated commitment to on-site slum upgrading (Paul E. Rabe; 2003-2009).   Philippine, where World Bank's applied a policy of site and service for a slum located in a vital point of metro manila that has been relocated from the city to a suburb which was not appreciated by the slum dwellers as they could not be able to reach their working place (Gilbert; 2002). Moreover, according to some researchers, land sharing agreements pose a challenge to planners, calling for densification and reconstruction while meeting severe financial constraints and possibly strict standards as well (Angle; Boonyabancha; 1988). Therefore, it is also necessary to study, the financial feasibility of slum dwellers and their ability to pay per month and then the research will become more successful and accepted. To support this statement, Angle and Boonyabancha stated that land

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sharing, even after densification, will be more successful if it follows common practices of sites and services projects, allocating sites for individual families to finance and build their shelter by their mean (Angle; Boonyabancha; 1988). Form, this argument it is clear, this policy has a lacking of academicals research where the policy needs to justify and evaluated. After evaluation and compare the conditions the possibilities of policy transfer to increases and ongoing the success after application within different conditions.

2.7 Conclusion:

The chapter discussed the necessity of tenure policy and how the policymaker deal chronologically. Because providing tenure security is not only to deliver formal housing to the urban poor it also increases the overall condition of living which already proved, and still, researchers are busy demonstrating it. Several types of research initiated to contributed to the growing consequence of tenure security, and by late 1990s tenure security became one of the significant issues to officially including in various program of habitation (Durand-Lasserve and Lauren Royston; 2002). Necessity identifies and taking action is not new instead of a modification of the action, and then the application is innovative. The study intended to identify the policy which will produce tenure security as well as has the potentiality to transfer. The research including international agencies pointed out the importance of urban slum dwellers tenure conditions and their right. This part of the dissertation is discussing the demand for the tenure and the application of different actions and its success and failure. The primary intention to argue this section is tenure right and how researchers contribute to ensuring it which is the permanent deficiency deal by the urban poor since so long. It was also essential to ensure the appropriate policy that could provide tenure security to the poor should be transferred to the location

Chapter- 3

Outline of Slum Rehabilitation Scheme (SRS)

3.1 Introduction:

In the year of 1995, Maharashtra state government with the collaboration of central government, provided a scheme named Slum Rehabilitation Scheme; SRS. A complete separate body of government called Slum Rehabilitation Authority; SRA was formed to handle SRS. This scheme is the first policy that involves local private developing companies to develop the slum with having some construction benefits such as extra FSI (Floor Area Index) and provision of TDR (Transfer Developing Right). This part of the dissertation is discussing the outline of the Mumbai's SRS with respecting the exclusive interview with some officers from Slum Rehabilitation Authority, discussion with some researchers at TATA Institute of Social Science (TISS) and IIT Bombay and a series of literatures. The interview with authority and discussion with some researchers at Mumbai was conducted several times within the period of four visits at Mumbai separately from March, 2016 to January, 2018.

3.2 Consecutive History of Slum Rehabilitation Scheme's Formation & Modification:

Slum Rehabilitation Scheme (SRS) is the modified version of Slum Redevelopment Scheme proposed in 1991 and both slum rehabilitation scheme and slum redevelopment scheme are followed the act called "Slum Areas (Improvement and Clearance) Act of 1956". From 19th century the slum upgrading policy was limited to demolishing and redeveloping slums through land privatization using innovative planning that derived from the 'industrially superior Britain' (Dossal, 1989). The authority conducted this action based on a survey and it became the first step to apply SRS to any slum area within Mumbai city. The Slum Area (Improvement and Clearance) Act gives the right to demolish the slum area and redevelop the slum land (Jagdale 2014). The Slum Areas (Improvement and Clearance) Act, 1956, Section 10, Sub-section 4 states:

"When a slum clearance order has become operative, the owners of buildings to which the order applies shall demolish the buildings before the expiration of six weeks from the date on which the buildings are required by the order to be vacated or before the expiration of such longer period as in the circumstances of the case the competent authority may deem reasonable."

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The act says that if any land is vacant and not used for any development, proposed in city plan then government will get the right of the land within 12 months after clearance act is proceed. SRS formed within some modifications or changes of provided acts. Because these changes have the goal to demolish slums from the city and for this reason they are accepting to provide tenure security to the slum dwellers. At first they started to demolish the slums and tried to relocate the dwellers to suburban but the living standard was criticized by some researches. Abrams (1966) claimed that most of the slum-dwellers relocated to new accommodation which was substandard (Abrams, 1966). He also mentioned slum dwellers were rehabilitated in some remote locations, their social life was unfit with their past slum city life and made difficult for them to continue their lives smoothly as well as continue their past informal works.
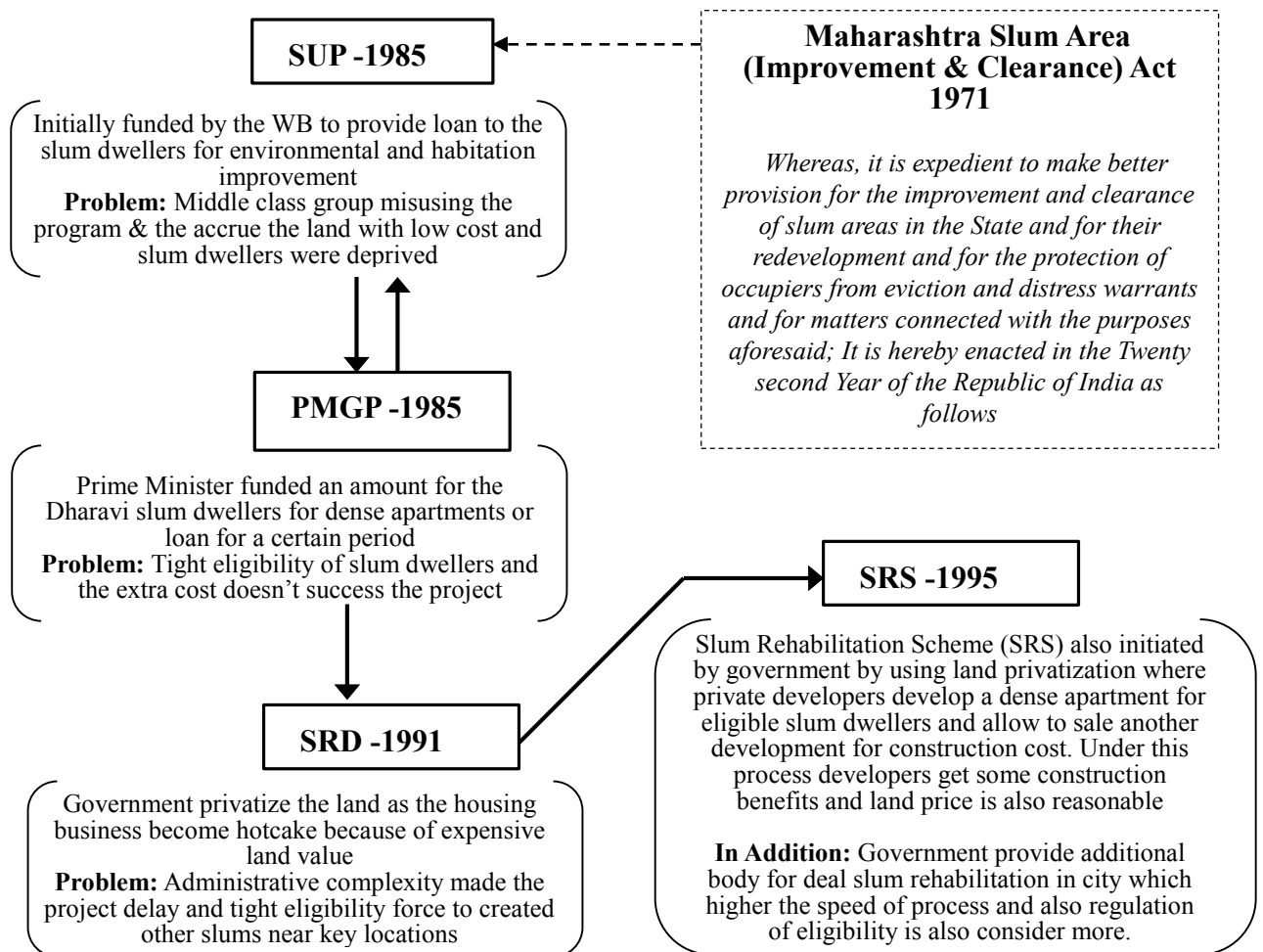
Figure 3.1: Slum Rehabilitation Scheme's Formation & Modification

Then, governments replaced slum clearance strategies with the more modest aim of

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improving slum conditions by providing basic services and better amenities. In Mumbai, the Slum Improvement Program (SIP) was introduced in 1971 (Jagdale; 2014, Restrepo, 209, 2010). Figure 3.1 is representing the changes the modifications of the acts and evaluation of SRS.

3.2.1 Slum Upgrading Program (SUP) 1985:

In 1985 Supreme Court of India amendment a regulation against Olga Tellis because they evicted slums and dwellers became homeless (Supreme Court of India, 1985). The SUP could only be implemented on State Governance, Municipal Corporation and Housing Board lands which were not reserved for other uses according to development plans (SRA, 2007). Meanwhile, in 1980 the World Bank (WB) took initiatives to facilitate the poor for providing homes which was mainly focused on the benefits of government of several developing countries rather than fundamental role in the housing of the poor. Pugh (1991) argued that this action was based on affordability on cost-recovery replacement.

During that time WB funded one program at Mumbai, India to reduce the vulnerable condition of slums, known as "The Slum Upgrading Program" (SUP). SUP, supported leasing of existing slum land and gave loans for environmental and housing improvements to slum cooperative groups within affordable rates (Naik, 1996). But some research argued about the complexity of this program, Panwalkar, (1996) claims that SUP gaining private land that has complexity and in Mumbai, half of the slums are occupied the private land (Panwalkar, 1996). A major problem faced by this program was that middle-income groups used this scheme to get accommodation in prime locations at low or negligible rates. This could have been avoided by taking help from NGOs during the selection of beneficiaries (Jagdale; 2014).

3.2.2 The Prime Minister's Grant Project (PMGP), 1985

During the year when WB sponsored SUP, the Prime Minister of India provided grant of Rs. 1 Billion for housing projects (Jagdale; 2014). The grant was focused mainly on upgrading slums at Dharavi area and the state government established a PMGP unit in the state housing authority. Because the largest slum area in India and even in Asia contain in Dharavi area. Furthermore the location of this area is central, it means its' location is in-between the main city and island city. Government of India is focused to redevelop Dharavi not only for rehabilitation but also to Mach the area with other areas. In this project, 1985 electoral rolls

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or prior slum dwellers were eligible and they had to pay the construction costs. The slum dwellers could either selects tenure at their current location and applied subsidized loans for its improvement or they could another option. Another option was for the dwellers to choose for an alternative reconstruction option where they need to demolished their past house and their property was redeveloped with high dense residential complexes (SRA; 2017). This was possible because of the involvement of the state housing authority in the form of the PMGP Unit, which gave an additional 20% of development rights (Restrepo; 2010). This project not succeed because in some context slum dwellers who took the loan need to pay extra and another option for separated rehabilitation for slum dwellers requires a tight eligibility. Many slum dwellers how lives in the slum area for the long time were become victims and policy maker or different NGO raise their voice against this project.

3.2.3 Slum Redevelopment Scheme (SRD), 1991

After a long stand criticism of the policies allotted by the authority, so in 1991, only six years after the policy started, policy maker realized that most of the slums dwellers were not able to pay construction costs and many were not eligible especially for the policy deadline. Even though the PMGP had not achieved substantial improvement of Mumbai's slums, it left the local government with an important lesson: this scheme ensured both local government and then slum dwellers that they are not afford the cost of construction (Restrepo; 2010). After having experience of the construction budget, Indian government starts adopting starts land privatization in slum rehabilitation (Jagdale; 2014) however slum rehabilitation is one criteria among different sector privatization. In this circumstance, in 1991, the Congress Government came to power after a lost term in 1985 (Founder: BAL Thackeray, Party: Shiv-Sena, the most popular government in Maharashtra). Mr. Thackeray promised the huge slum dwellers about their tenure security before election and to fulfil the promise their government proposed a scheme named as Slum Redevelopment Scheme (SRD) in 1991 to provide free houses to the slum dwellers in the city (Jagdale; 2014). At the same time they utilize the new regulation of land privatization in this scheme. This action benefits both private developing companies to involve a new property business and illegal slum dwellers for securing free houses. This scheme represents the first policy to involve private companies in rehabilitating illegal slums and it did so by giving developers some exclusive rights and benefits that included an extra floor space index (FSI) and the "transfer of developing rights" (TDR). These two attractive benefits attract the private developers because they could

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develop more space than regular as well as they could sell development right and use the right in their other projects. However, The Municipal Corporation of Grater Mumbai (MCGM) was not supporting all facilities for plan approval related with SRD under one roof therefore the process become lengthy and expensive. With long procedures for approval, in 1995, only 86 out of the 185 proposed projects through the SRD had been approved (Mukhija, 2001). This scheme is one of the first public and private partnerships for slum rehabilitation in Mumbai. The scheme provides some benefits for construction to meet the high density such as; only 1.00 to 1.33 FSI was past construction limit but SRD could construct a little more than regular. Since the different steps of SRD required permitting from different offices and the benefits was also not expected the developer desire so many researchers claims the procedure became very complex and taking long to execute therefore, out of 185 projects of slum redevelopment scheme, only 86 projects was approved and it took 5 years (Mukhija, 2001, Ronita, Sayantani, Arnab, Nagendra; 2015). Furthermore, the eligibility of slum dwellers was also tight because slum dwellers need to stay the slum more than 10 years and it made many dwellers unfit for this scheme.

3.2.4 Slum Rehabilitation Scheme (SRS), 1995

Mumbai is over populated and city with high land scarcity, in 1995, the value of property in Maharashtra state of India became very high in the world (Jagdale; 2014). Therefore, land developers were seeking cheaper land for housing business. Even though they tried to handle SRD but the benefits were not meet the requirement. Meanwhile, for the second time Shiv-Sena government came to power by forming a coalition government in Maharashtra (Jagdale; 2014). Then the government decided for a complete cross subsidizing process in housing sector and launched the new program named Slum Rehabilitation Scheme (SRS) where they relaxing the construction conditions more than SRD to attract more private developing companies. After the change of government, the Afzalpurkar Committee (in-charge of formulating the development plans of Mumbai in the 1990s) further modified the regulation for new scheme SRS. The most beneficial action for SRS was to develop a new and complete separate body of government to handle slum rehabilitation. The authority serve rehabilitation is called as Slum Rehabilitation Authority (SRA) (Restrepo, 2009; Ronita, Sayantani, Arnab, Nagendra; 2015) Under SRS, the slum dweller those participated 1995 electoral vote was eligible for the formal housing benefits. In the case of SRS projects,

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the private developers can use extra FSI till 3.00 for the slum areas where the number of habitants are 500 to 650 and till 4.00 where the slum habitation has more than 650 dwellers in a hectare (10,000 m^2) of a land area for the in-situ developments.

The previous 25% on the profits to the authority was removed and the slum rehabilitation authority handle the scheme without and charge (Restrepo; 2019).Unlike SRD this scheme also offer the option of Transferable Development Rights (TDR) for attract private developers. TDR allowed the developers to transfer part of development rights from their constructed SRS project to any other sites in the city. The builders usually selects the area that would bring them more profit than the SRS sites (Jagdale; 2014). The Scheme required 75% of the slum dwellers agreement for construction, because the dwellers need to leave the place during construction period and some dwellers are not interested to leave the place as they doesn't have any legal evidence of that property (Restrepo; 2010). Interestingly, still there were some confusion between the scheme SRD and SRS; as mentioned previously that SRS is the modified version of SRD, therefore some debate still conducting for SRD which are not accounted by SRS. For example; some news article argued that the performance of the SRS was not up to the expectations of 1991- 2000, only 3486 units had been redeveloped (The Times of India, 2000) whereas SRS was initiated on 1995 and first allotment was not earlier then 1998. Then, gradually many complain and criticism were made by the researchers and civilian for example Mukhija claimed that despite path-breaking innovations the SRS did not succeed in attracting the full potential of the competitive housing market that was booming in the nation elsewhere, to slum rehabilitation (Mukhija, 2003). Arguments are also made about regulatory guidance and the physical fitness of the apartment was criticized, such as Architect P. K Das call the scheme as "mother of all bluffs" (Das, 2003).

Even though there were many debates about the scheme but since the scheme derive by the market force therefore SRS still continuing its progress. Private developing companies and slum communities process the scheme in-spite of have several debate. According to the SRA, after the launched of the policy in 1995 until the 30 June 2009, 150,129 slum households got a room/unit with permanent ownership, 1,252 SRS projects are proposed or under construction, where at least 450,905 slum dwellers will have secure tenement without any cost.

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3.2.5 Modification and Addition in SRS:

After several criticisms about the scheme, SRA modified size of the room, amount of maintenance subsidy and providing transit shelter. At first, developers provided the carpet area of tenements was increased to 225 feet^2. (Approx. 20 meter^2) and dwellers also need to pay a cost of Rs 15,000 for the new houses. Jagdale said that the modified options such as relaxing FSI and living duration and cancelation of charge by SRA, as well as providing accommodation to slum dwellers virtually free of cost as per the promise by the government is one of the great achievement (Jagdale; 2015). Some researchers then start arguments again about the payment of slum dwellers to enter and their inability to support the maintenance fee per month. SRA not only cancelled the entry payment but also provide a regulation for the private developing companies to provide 10,000 rupees as a maintenance subsidy to each household for long term maintenance. As well as SRA also provide another regulation for providing transit shelter to the dwellers if it's not possible then private developer should provide rent to the all household of the slum that is under construction during construction period.

Establishment of SRS in1995

- Provide room/unit 225 feet^2 (1 room+ bathroom+ toilet+ verandah+ kitchen) per household
- Dwellers need to pay 15,000Rs for entering the room/unit
- 25% from profit by the authority, SRA

Cancellation Entry Payment and Charge for Authority; SRA Include Maintenance

- Cancellation 15,000 Rs from the dwellers and dwellers will get a room/unit with zero cost
- Authority cancel the charge of 25% from profit by developer
- Developer pay 10,000 maintenance subsidy to each household

Transit Shelter or Rent

- Developer started to provide transit shelter if no then provide rent to the dwellers temporary staying during construction

Modification the size of room/unit and increase maintenance subsidy

- Room size increase from 225 feet^2 to 260 feet^2 (24.1 meter^2)
- Maintenance subsidy increase from 10,000 Rs to 20,000 Rs/

Figure 3.2: Slum Rehabilitation Scheme's Gradual Modification (SRA; 2018)

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However, the criticism and debate were not stopped against the scheme and then the argument was started about the room size and the amount of maintenance subsidy is not enough for support all households. Therefore, SRA increased room size form 225 feet^2 (20 meter^2) to 260 feet^2 (24.1 meter^2) and also the maintenance subsidy increases from 10,000 rupees to 20,000 rupees/ households (SRA; 2018). These all modification has conducted gradually according to the demand and since SRA is only concerning the slum area rehabilitation, therefore, the modification process doesn't require longer lime like past policies.

Meanwhile, some argues were about intention about authority that SRS is an improvement on the previous policies as it was based on "cost recovery by input of market forces however government should not charge (Ruiter, 1999, p. 220). After these comments and criticize authority canceled their charge. Interestingly, after many addition and cancelation in another word modification apartment of SRS still receive criticize, such as; Deshpande (2004, p. 24) said that SRS only provide accommodation of 26,000 households by 2002 which is very low. Recently, during the questionnaire survey conducted between the year from 2016 to 2018, it was detected that some new SRS projects provides more new options such as fire exhaust stair, increasing the number of elevators and providing a Balwadi room in each building. Also open space for children. Still the argument is continuing, therefore, the research intended to identify whether the SRS dwellers are satisfied with living at SRS apartments or not.

The figure 3.2 is representing the gradual or time to modification by the authority SRA to improve the regulation and quality of SRS apartments. The figure is developing with some reference from literature review and the interview with some officers in Slum Rehabilitation Authority. Since there is no specific guidebook for SRS development, the cooperative society, represented of slum dwellers and developer needed to follow the instructions from SRA which is not mentioned the date therefore, in the figure, the study doesn't mentioned and year of modification.

3.3 Formation of Slum Rehabilitation Authority (SRA)

Slum Rehabilitation Authority (SRA) is forming to manage and to execute the policy Slum Rehabilitation Scheme (SRS). The concept of authority's main target to provide free houses to the slum dwellers was "Land as a Resource". Another target of SRS is to allowing

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incentive floor space index (FSI) in the form of tenements for sale in the open market, for cross-subsidization of the slum rehabilitation tenements which are to be provided free to the slum-dwellers. The authority deals both slum dwellers and private developing companies.

3.3.1 Jurisdiction of SRA

According to the regulation provided in 3A (1) of Chapter I-A of Maharashtra Slum Areas (Improvement, Clearance and Redevelopment) Act of 1971 state government proposed to formation of an independence body for serve a planning authority. In this circumstances, Housing and Special Assistance Department of government alerted in the phrase no. SRP/1095/CR37/Housing Cell on 16th December, 2016 stated, SRA will serve as a Planning Authority for all Slum area of the Municipal Corporation of Greater Mumbai (MCGM) (SRA; 2018). After the jurisdiction made, SRA become an independent autonomous body of government, basically the amendment accepted for an act declare on 1966 for Maharashtra Regional & Town Planning (SRA; 2018, Jagdale; 2014). Under this jurisdiction SRA works as a local authority for planning and development of the slum and squatter areas within the peripheral boundary of MCGM. The Chief Executive Officer (CEO), of this authority has the highest power to control and approve all submitted proposal and modification and addition or cancellation of all sections and regulation to develop any SRS project in Greater Mumbai (SRA; 2018).

3.3.2 Main Objective of Slum Rehabilitation Authority (SRA)

As mentioned past that some criticized had made about the time duration for executing the project of slum redevelopment scheme (SRD) because the process required some permission from different office which made the whole work delay. After formation of SRA, the process doesn't take longer because authority serve as a single window to approve of all types of application that are required for the SRS project such as; (1) formation of co-operative societies, (2) certification of eligibility of slum-dwellers, (3) taking punitive action on non-participating slum-dwellers obstructing the scheme, (4) survey and measurement on slum lands grant of building permissions, (5) leasing of rehabilitation plots and free-sale plots and (6) updating of property cards (PR cards).

In order to provide quick and better service SRA has goal where the key objectives are:

1. To survey and review existing position regarding Slum areas in greater Mumbai.
2. To formulate schemes for rehabilitation of slum areas.

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3. To get the slum rehabilitation scheme implemented.
4. To do all such other acts and things as may be necessary for achieving the objective of rehabilitation of slums.

3.4 Concept of Slum Rehabilitation Scheme (SRS):

Concept of Slum Rehabilitation Scheme (SRS) can be categorized into two sections; (1) Responsibility of the three stakeholders before construction of SRS and (2) Concept of the construction procedure for SRS projects. These two categories of the concept will discuss below:

3.4.1 Responsibility of Thee Stakeholders before Construction:

There are some rules and regulations need to be followed to SRS construction as well as require considering the process guided in a regulation handbook for SRS projects that supplied by SRA (Jagdale; 2014). Eligible dwellers can join an SRS project who are living in the slum since January 1, 2000, however, previously January 1, 1995, was the requirement (SRA; 2018).
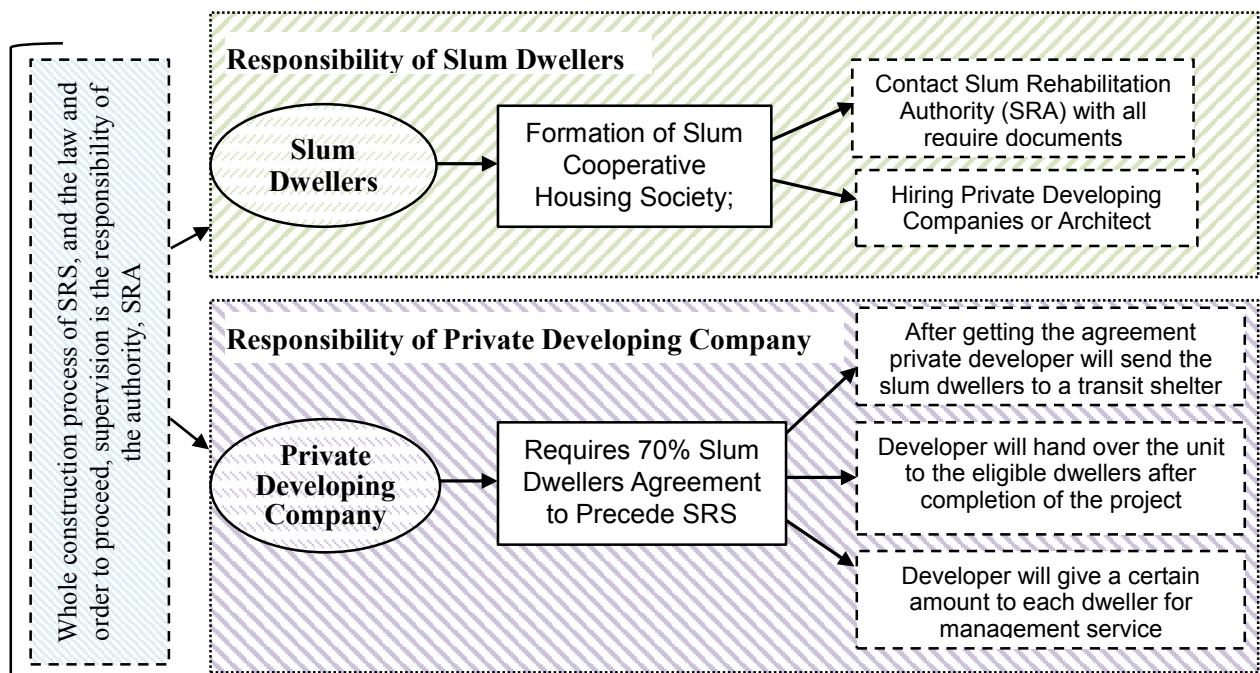
Figure 3.3: Responsibilities of Three Stakeholders for SRS Projects

At first slum dwellers must form a cooperative society, which in turn selects a builder or a developer and the cooperative members are the responsible bodies to hire architect or planner (SRA; 2018). At least 70% of the eligible slum dwellers' approval is needed to start

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an SRS project. As mentioned previously, that to precede SRS projects, three stakeholders; authority, private developing companies, and slum dwellers need to deal the whole process together. The first responsible stakeholder is slum dwellers because it is their decision whether they need an apartment building in their current location or not. Then their first duty is to form a cooperative society with some of the active dwellers who will handle further responsibility. Slum cooperative society will contact the private developing company for construction as well as they should the main responsibility to fulfill law and order requires by the authority, SRA to execute an SRS project. A second responsible stakeholder is the private developing company; they need the agreement from the slum dwellers of that slum that would go for construction. At least 70% dweller's agreement needs to be passing for the next step for construction. The private developing company also needs to provide transit shelter to the slum dwellers for the construction period. If there is no any vacant large space for transit shelter, then the private developing company should pay the monthly rent to the dwellers (SRA; 2018). Moreover, after allotment the rooms/units to the dwellers, the developer should pay an amount of 20,000 Rupees, (previously, 10,000 Rupees) for the maintenance fee to each dweller (SRA; 2018). The third stakeholder is an authority, the Slum Rehabilitation Authority (SRA). SRA usually, check all the required documents needed to have a slum that will go to construct for SRS project. Moreover, slum cooperative society and the private developer is one of the critical duties to inform SRA after completion and before stars any activity related to SRS construction. SRA, officers, and staffs also monitor the construction progress from time to time. The figure below shows the responsibility of three stakeholders in SRS projects.

3.4.2 Concept of Construction Procedure of the SRS Project:

As mentioned, the scheme represents the first policy to involve private companies in rehabilitating illegal slums, and it did so by giving developers some exclusive rights and benefits that included an extra floor space index (FSI) and the "transfer of developing rights" (TDR) (Slum Rehabilitation Authority) (Figure 3.4). This scheme is one of the first public and private partnerships for slum rehabilitation in Mumbai. In Municipal Corporation of Greater Mumbai (MCGM), only 1.00 to 1.33 FSI is available. However, in the case of SRS projects, the private developers are allowed to use extra FSI till 3.00 for the slum areas of 500 to 650 habitations and till 4.00 where the slum habitation has more than 650 dwellers in

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a hectare (10,000 m^2) of a land area for the in-situ developments. These "free-sale components" can be sold on the open market (Slum Rehabilitation Authority). In most cases, the free-sale components are considered suitable for middle and higher middle-class groups. If there is extra space available for building additional housing, then the builder has the right—an additional development right (ADR)—to construct additional free-sale components, and ADRs can exceed Mumbai's standard fixed FSI for metropolitan areas (P. Restrepo, 2010).

Another benefit is a TDR that allows builders to sell their development rights to other contractors, or to use these benefits in other projects within the Municipal Corporation of Greater Mumbai's peripheral area (Slum Rehabilitation Authority). Some rules and regulations apply to SRS construction and stipulate the process to be followed for SRS projects. Residents eligible to join an SRS project are those that have lived in the slum since January 1, 2000 (previously January 1, 1995) (Slum Rehabilitation Authority).

Slums cover the area before the application of Slum Rehabilitation Scheme (SRS)

Developers rehabilitate the slum and create tenements for the eligible slum-dwellers and free tenements for the open market. In some cases, they transfer their development rights to other areas to recover construction costs and general a profit (Slum Rehabilitation Authority; SRA)
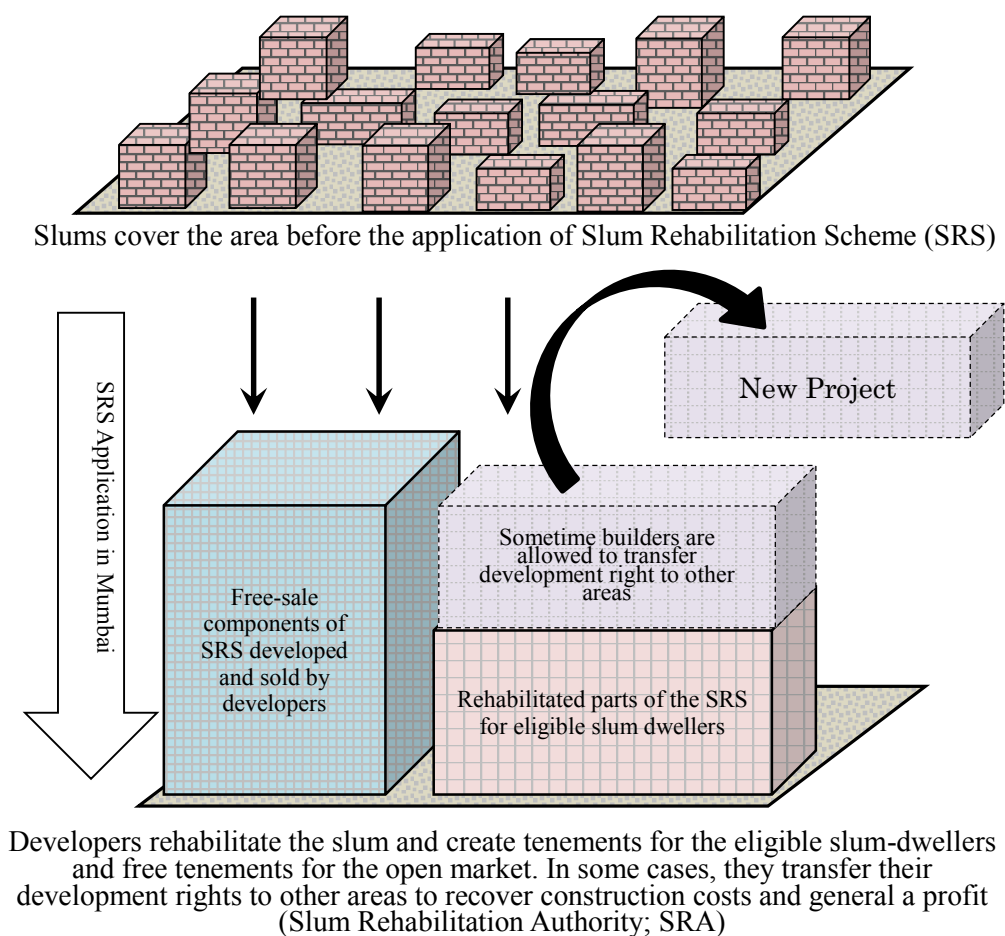
Figure 3.4: Concept of Slum Rehabilitation Scheme (SRS)

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To initiate an SRS project, slum dwellers first must form a cooperative society, which in turn selects a builder or a developer. At least 70% of the eligible slum dwellers' approval is needed to start an SRS project. Eligible slum dwellers will ultimately be allotted 25-m^2 tenements, which consist of a living room, kitchen/alcove, a bedroom, bath, and toilet, and they do not have to pay for the tenement (Slum Rehabilitation Authority). After an SRS project has been approved by the SRA, the now-displaced slum-dwellers are relocated to a temporary shelter, after which the slum is demolished to make way for the new construction. After the building has been completed, eligible slum dwellers are allotted an apartment in the new development. Since the former slum-dwellers cannot afford to pay rent for a temporary tenement, developers should pay the rent for the period of construction. In addition, an FSI bonus of up to 4.00 in both the rehabilitation portion and the free-sale component is granted to the SRS developer (Slum Rehabilitation Authority).

3.5 Why the Policy SRS is Success in Mumbai:

The study conducted some interview with some Indian researchers in March 2016 for identifying the outline of the Slum Rehabilitation Scheme (SRS). All most all researchers claim that Indian all cities have some experience to provide some solution for slum, but it differs in state wise as the political and geographical condition in Indian cities are varies. In 1991, when the state government of Maharashtra decided to provide housing for the slum habitat, they applied Slum Redevelopment Program (SRP), but this program required some money from slum dwellers. At the same time the individual eligibility (the dwellers should have long living experience in that slum) of the applicant that was quite rigorous and it lowers down the level of success of SRP. After that, the state government starting approaches of SRS and formed a separate government body called the Slum Rehabilitation Authority (SRA). Maximum researchers and civil society appraised about the formation of SRA because it is an independent government body that only deals with slum and squatter settlement in Mumbai city (Dr. Amita, Ar. P. K. Das; 2016). Slum rehabilitation authority and their scheme is a success in the Mumbai city because of two primary reasons;
(1) Mumbai city has a vast scarcity of land and land value not varied as much as other cities in India and is comparatively too high. For this reason, the private developer is much interested in land business by having slum land from the government so that this proposal becomes a good land and housing market for the builders (Ronita, Sayantani, Arnab,

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Nagendra; 2015).

(2) The second reason is compactness. The city already extended in a large scale and it cannot expand more now so slum dweller should live within the city periphery, and the government should dispute the right of slum dwellers and land-related resolution (Ar. P. K. Das; 2002, Rishbad; 2003).

Another reason is political leaders appreciate SRS because the government will not compromise on the privatization theory as it is not only related to providing a home to the slum dwellers, but this land privatization creates a new option in developing business. Furthermore, already one independence body of government formed to serve slum development where thousands of worker are working, and authority run to deal only slum development and rehabilitation, so it is difficult to close the whole body or change the name of the authority (Jagdale; 2014). Some Indian research claims that all Indian political parties appreciate SRA and their scheme; therefore, this policy has not any chance to stop in future it only modified. Whereas, Rajiv Awas Yojana (RAY) was a proposed policy for slum habitation right and later proposed a project by the Congress government be NIL completely vanish now. Interestingly, the authority was unable to response any concrete information about RAY when the study asked in an interview.

3.6 Slum Rehabilitation Scheme and Free Market Achievement by Private developer

The upper discussion about the policy SRS has some innovative approaches which is new for slum rehabilitation and that is involving market force. In fact, the market drives the policy till to the date. Though many researcher and local NGOs have criticized the involvement however, without market involvement slum rehabilitation scheme will not exists like other applied policies and scheme in India. This research also conducts interview with some private developing companies to know their experience about handling SRS projects. The study realized that the necessity to have some discussion with the private developing companied to know the future prospectus of SRS projects business in Mumbai as one of the key stakeholders of the policy is private developing companies.

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3.6.1 Interview with Private Developer:

To know the prospect of the SRS project business by Mumbai's private developing companies the study conducted an exclusive interview with six private developing companies at Mumbai from December 2016 to January 2017. All of these private developing companies have the construction and marketing experience of slum rehabilitation scheme projects in Mumbai cities. The target of the interview with the private builders was not only identifying about the prospectus business condition of SRS at Mumbai area but also their expression of satisfaction for the SRS business especially in the market. The study asked them about their judgment on two categories for of SRS construction conditions such as extra FSI (Floor Area Index) and TDR (Transfer Development Right). Another question was about their satisfaction on negotiation with slum dwellers and the authority. Because, some criticized was made about the time duration for application and the approval and also slum dwellers' are forcefully enter the SRS project process. If the dwellers are forcefully approved the project then developer couldn't be able to handle the project smoothly, therefore the question about their satisfaction to deal slum community was made.

No	Name of the company	Interviewer Position in the company	SRS project Location	Total no of SRS project dealing by the company	Type of SRS projects
01	Sumer Corporation	General Manager	**Chandivali**	**2**	Relocation SRS
02	Manraj Group	Managing Director	Kurla	**3**	In-situ composite/ pocket SRS
03	Reliable Group	Chief Engineer	**Dharavi**	**5**	1. In-situ composite/ pocket SRS
			Dadar		2. In-situ masterplan based SRS
			Gore Gaon		
			Kurla		
04	Shahana Group	Director	**Lower Parel**	**2**	In-situ masterplan based SRS
05	City Homes	Director	Kurla	**2**	In-situ composite/ pocket SRS
06	Rawnak Group	Vice President	Thane	**3**	In-situ composite/ pocket SRS
			Sion		
			Mahim		

Table 3.1: General Characteristics of Interviewer (Private Developer in Mumbai)

Table 3.1 represents the name of the companies and their SRS projects criteria and location. The research already has discussed that the SRS projects have two development types; (1) in-situ composite development type and (2) relocation type. Generally, pocket type slums

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develop as in-situ development, and relatively big area slum and relocation SRS projects build relocation type. The study conducted a questionnaire survey with the slum dwellers about to identify their level of satisfaction of living at SRS apartments at three different areas, such as; Dharavi, Lower Parel, and Chandivali. Therefore, the study targeted to find the developers who have SRS projects in those areas.

The research also interested to identify whether the developer is interested about the project in future or not as well as which attributes are most attractive for them to business. As mentioned on the previous sections that SRS policy has some beneficial tools for construction which is offered by the authority such as; (1) Extra FAR, (2) TDR option. The research also asked the reason to selecting SRS project business. The study conducted interview with six developing companies which has the experience to handling SRS projects in different areas of Mumbai. Table 3.2 represents the reason of SRS project handling by the private developing companies. The table 3.2 shows that almost all companies like to have more FAR benefits rather TDR and private developing companies agreed the scarcity of land and flexibility of construction regulation is the most attracting tools for SRS project.

Table 3.2: Reason to Handling SRS Projects by The Private Developing Company

No	Name of the Company	Main reason to deal SRS project	Construction benefit		Introduced SRS projects by
			Using benefit	Attracted benefit	
01	Sumer Corporation	Land price Land scarcity	TDR	FSI	Slum Dweller
02	Manraj Group	Land Scarcity FSI flexibility	FSI	FSI	Slum Dweller
03	Reliable Group	Land Scarcity Land Price	FSI	FSI	Slum Dweller
04	Shahana Group	Land Scarcity Social Welfare	FSI	TDR FSI	Slum Dweller
05	City Homes	Land Scarcity FSI flexibility	FSI	FSI	Slum Dweller
06	Rawnak Group	Land Scarcity Land price	FSI	FSI	Slum Dweller

The research also intends to know whether the private developing companies are satisfied to deal the SRS business or not. The study asked the developers five liker scale about their judgement related with other two stakeholders of slum society and SRA. They scale were (1) fully satisfied= 5, (2) satisfied= 4, (3) Moderate= 3, (4) unsatisfied= 2 and (5) disappointed= 1. The table below shows the Satisfaction about overall SRS business and dealing slum society and SRA by Mumbai's private developing companies.

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Table 3.3: Private Developer's Judgment about SRS Project Handling

No	Name of the Company	Overall Satisfaction with SRS business	Satisfaction in dealing slum society	Satisfaction in dealing slum Authority; SRA
01	Sumer Corporation	Fully Satisfy	Fully Satisfy	Satisfied
02	Manraj Group	Fully Satisfy	Satisfy	Satisfied
03	Reliable Group	Fully Satisfy	Satisfy	Satisfied
04	Shahana Group	Fully Satisfy	Satisfy	Moderate
05	City Homes	Fully Satisfy	Fully Satisfy	Satisfied
06	Rawnak Group	Fully Satisfy	Fully Satisfy	Satisfied

According to the six-private developing company's judgement about the SRS project business, the builders are fully satisfied about the SRS policy handling where 50% builders are fully satisfied about to deal slum society but in case of SRA, one developing company doesn't express their judgement about to deal SRA. However, overall the table 3.3 reflects Mumbai's private developer are interested to handle SRS policy in future which is a sign that the policy will run long.

3.7 Contribution of Slum Rehabilitation Scheme in Planning System:

The dissertation already mentioned that the study conducted interview with some private developing companies at Mumbai, which have the experience to construct SRS projects. The main objective of the interview was to identify the outline of SRS project business and the market response through their satisfaction in SRS project business. From the respondents, almost all developers claimed that SR Schemes are not only provide housing to the slum dwellers but also provide some benefits in planning system in the city as well. Sometimes government fails to develop because of slum area, then application of SRS will supply in both the tenure security to the illegal slum habitant as well as improvement in city planning.

3.7.1 Kurla SRS Projects in Mumbai:

Kurla is a neighborhood of East Mumbai, India. It is the headquarters of the Kurla taluka of Mumbai Suburban District. Kurla had two cotton mills, one of them, the Dharamsi Punjabhai, being the largest cotton spinning and weaving mill in the Bombay Presidency, with 92,094 spindles and 1280 looms. The other was the Kurla Spinning and Weaving Mill

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(Maharashtra State Gazetteers; 1987 Reviewed; 2012).

The southern end of Kurla began developing with the arrival of the cotton mills and the railway line. Some prominent localities and landmarks are also located in this place which have attracts millions of informal workers such as labors of cotton mills and worker of third grade employee at different commercial developments. Therefore there are some pockets slums are seen in different locations in Kurla areas.

West Kurla

East Kurla

Government wanted to develop a road to connect the two areas west and east Kurla which will later connected with the main highway.

final slum plan
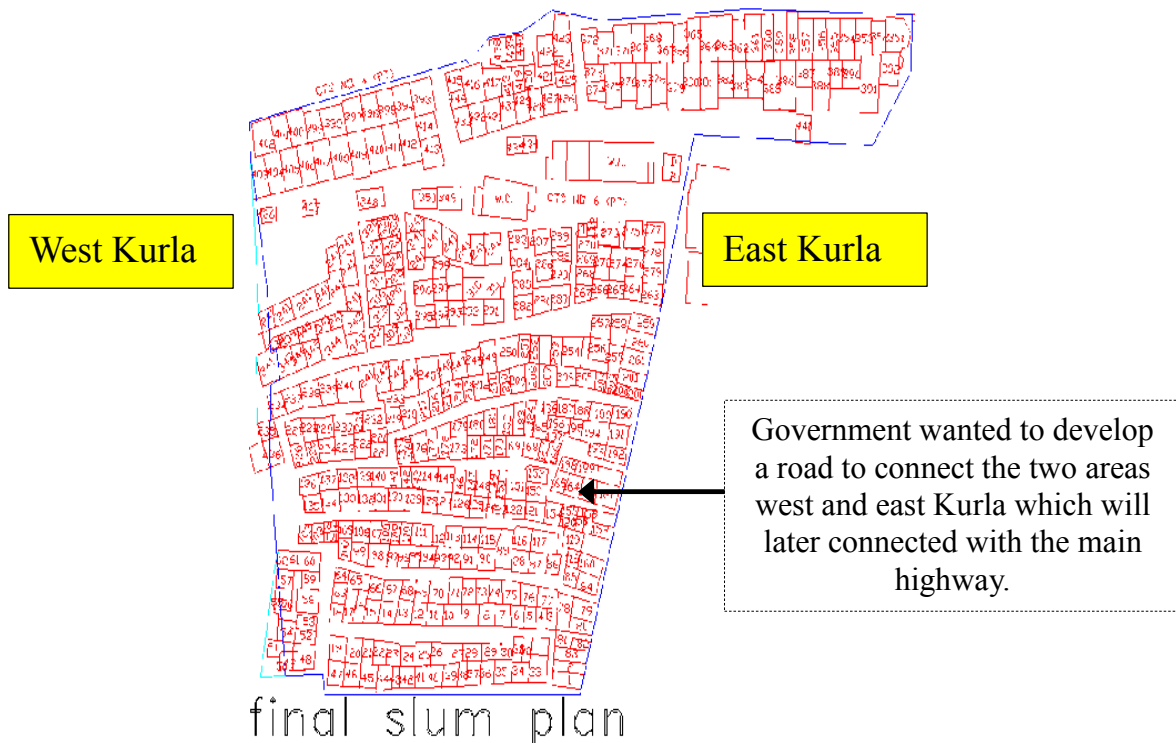
Figure 3.5: Slum area at Kurla which is occupied with illegal dwellers
Source: Chief Engineer, Reliable Group, Kurla, Mumbai

Among these slums, there was a big slum which is located near city center and where, many important government and private commercial development was also located. The municipal government of Maharashtra wanted to develop a connecting road from east to west Kurla because there were no direct connection was here. Moreover, this connecting road will continue to national highway. However, government was unable to develop the connecting road as the land was occupied with slum areas and dwellers are involves with their informal works in nearby cotton mills and some commercial developments. There is no option for the slum dwellers to live unless slum and also mills and commercial development also need to serve with these populations. It means, even though the slum dwellers are contributes to the society through their informal work but they will get the right to stay near their work place.

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So, the slum dwellers start to stand against the infrastructure development. Figure 3.3 shows that the area occupied with slum area. Though government wanted to develop connecting road network but failed to provide because of slum.

Sale Component for Free Market

Rehabilitation for Illegal Slum Dwellers

Developer requested to provide a connecting road from east to west Kurla after applying Slum Rehabilitation Scheme.
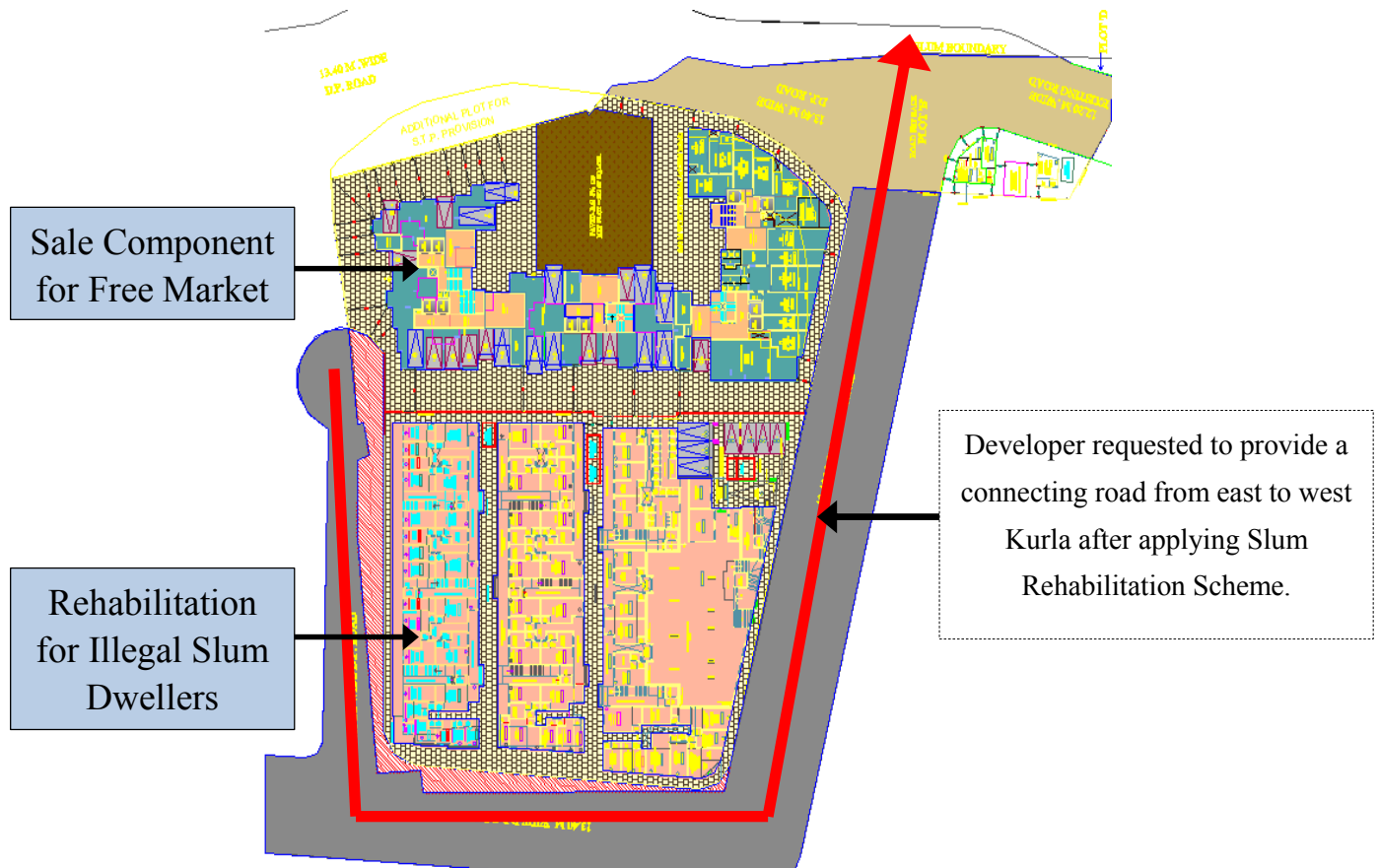
Master Plan of Slum Rehabilitation Scheme Project at Kurla, Mumbai

Figure 3.6: Slum area after SRS application
Source: Chief Engineer, Reliable Group, Kurla, Mumbai

After a long stand of fights with the government and the slum dwellers, finally, government failed to provide the road as dwellers were completely against to leave the land. Then, finally after slum rehabilitation scheme launching in different areas in Mumbai, then government finally, handover the land to the private developing companies through adopting the scheme to provide tenure security to the illegal slum dwellers as well as find a possibilities to provide a connecting road network from west to east Kurla.

One of the cities popular private developing companies, named "Reliable Group" was interested to handle SRS project on that slum area. The company was able to collected at least 70% slum dwellers agreements. It means, dwellers are ready to live in SRS apartment, therefore, the builder was able to demolish the land and they provide a connecting road from

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west to east Kurla. The figure 3.4 shows the scenario of SRS project application at that slum area. Figure 3.4 shows the master plan of Kurla SRS projects at Mumbai. In this SRS projects, private developer companies able to supply more than 600 eligible slum dwellers at the same time they provided different sized units for both lower middle class and high middle class people.

3.8 Conclusion:

Slum rehabilitation scheme in Mumbai, not only supply secure tenement to the thousands of slum dwellers but its free market economy also provide formal housing to the middle-class and rich people as formal housing has a big demand in Mumbai. Furthermore, it seems SRS also contributes some beneficial approaches in overall planning system. Many researchers claims that SRS is much improved when consider the past policies (Das; 2003, Nijman; 2000, 2008, Restrepo; 2010) and it has the high potentiality to transferring to meet the change of housing demand, poverty reduction and economic upgradation as well as education. The example discussed in previous sections that some SRS projects also benefited to the whole nation through providing some infrastructures which was impossible before.

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Chapter 4

Indian Policies for Tenure Security

4.1 Introduction:

India has few megacities such as; Delhi, Mumbai, Bangalore, Kolkata and so on contains a massive number of populations. The total population in India is over 1.2 billion segregated its 29 different states. The number of population is quite large, and it makes the country the 2nd largest populated country in the world. Every year millions of migrating uses to come into the big cities for the searching job. Many articles argued that almost one-third of urban population, are residing at urban slums and unlike other slums around the world, Indian slums also faced insufficient access to infrastructures such as internal road network, sanitation, garbage dumping, and drinking water with substandard housing insecure habitation (UN-Habitat, 2013). The latest survey on urban slums in 2012 by the National Sample Survey Office (NSSO) shows at least 10.5% from the total urban population in India lives in slums and squatter areas, and some of these slum and squatter dwellers are lives theirs without having legal permission (UN-Habitat; 2013).

Unlike other developing nations, India also experiences land crisis and due to this crisis government fail to distribute housing facilities especially to the poor. So, urban poor starts living in the slum areas illegally. These slum dwellers are usually creating slums at the nearest vacant place from their workplace. Some slums are buildup at the city center to get the most accessible services to commute for the informal job. The informal sector characterizing where the people do not pay tax, have no legal working rights, and other facilities people who are working in the informal sector do not have the minimum required educational background and working experience. During the year of 1991, about 55 million people live on public land with no tenure rights and in deplorable environmental conditions (GOl, 1991)

In Indian cities, squatter settlements found in various locations such as rail track, river bank or near national parks or forest sometimes people squatting at the age of the city. Squatter settlements are also found abundant or no particular owner and less valued. Squatter settlements are also varies with age and nearest job availability. In India, there are many squatter settlement are seen at the edge of the big cities and near forest or park.

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4.2 Squatter Settlement in Indian Big Cities:

Indian big cities such as; Delhi, Mumbai, Ahmadabad, Pune, Kolkata, Chennai and so on are the famous cities having different categories of formal and informal job availabilities. Rural people are attracting these cities to get employment and create slums illegally and squat the vacant land. These illegal and squatter settlements are categories according to their duration of living, and the scale of informal settlement and the number of the population are living there. Several arguments reflect the irregular and complex criteria of informal settlements in India. The irregular settlements and slums are in the big cities in India are devised by the policy maker, and different policy and action have been taken respecting different situations that depend on the nature and characteristics and scale of the informality of the settlement. The purpose of providing secure tenement is high demand; however, the existing framework of squatter settlement is quite complicated (Banashree Banerjee: 2002). Banashree Banerjee; 2002, claims that big Indian cities need to consider classifying into two broad categories such as; (a) Squatter settlement and (b) Illegal subdivisions before providing tenure security. Interestingly, slum can classify with both categories. Figure-2 reflects the criteria of squatter settlements in Indian cities.
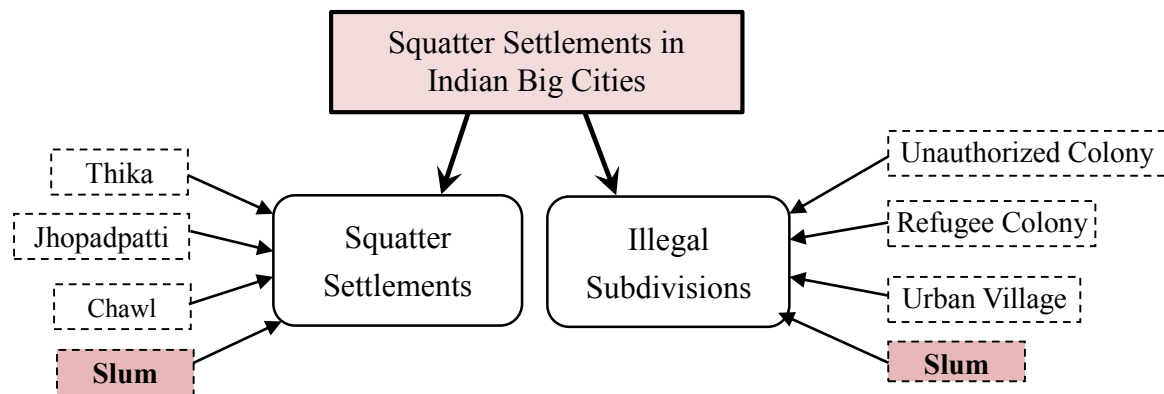
Figure 4.1: Squatter Settlement in Indian Cities

4.2.1 Squatter Settlements:

Squatter settlements in Indian cities contain different local names, and even the same criteria of the settlements have different statewide names such as: Jhompri, Jhopadpatti, Basti, Thika and so on. The definition of a slum varies in India, though government agencies typically regard as slums residential areas with undesirable living conditions (Banerjee, 2002; Risbud, 2009). Census of India defines slum as; residential area, where dwellings are unfit for human

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habitation by reasons of downfall, overcrowding, faulty arrangements and narrowness of infrastructure, sanitation facilities and even in the housing which are dangerous regarding safety and health. (Source: Census of India; 2013). The public and private land illegally occupied, and these buildings do not follow the construction rule; thus violation in the construction is the typical scenario in the squatter areas. (Banerjee; 2002) These buildings have poor concerning the living condition, and the inhabitants have no legal rights in land or its development. Illegal tenure excludes such settlements from getting building permission or access to regular city services. The poorest people live in these settlements (Banerjee, 1994). Figure-2 is reflecting the different informal squatter settlements in Indian cities at a glance.

4.2.2 Illegal subdivisions in Indian Cities

Illegal subdivisions are in the Indian cities are known as unauthorized colonies, unauthorized layouts, refugee colonies (West Bengal), slums, village extensions and so on. In such categories land subdivided illegally by illegal developers, and they sold as plots (Banerjee; 2002). This type of subdivisions is illegal because of some reason, such as; violate the construction rule, space zoning, and another important reason is these kinds of land has no legal value. Illegal subdivided land may privately own under notification for expropriation, urban fringe agricultural land or common land of a village engulfed by city growth (Banerjee; 2002). The sale or transfer of land and hence ownership of the plot may have a legal or quasi-legal status, but because of the illegality of the subdivision, plot holders cannot get permission to build. Besides, the area is not eligible for an extension of infrastructure services.

4.3 Actions Taken by the Authorities in Different Time

After independence, Indian public policy makes initiated many actions to settle down the problem of poor housing management as mentioned previously. In this part of the paper would like to describe the initiatives by central and state government meet the illegal housing management through providing different actions.

4.3.1 Initiatives by Central and State Governments

Indian government follows the federal system for this reason urban development, housing, and land act are functioned and control by the state governments. The central government usually assists the urban development issue directives and provides advisory services and set

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up model legislation (Banashree; 2002) However, and it is up to the state governments to adopt policy and legislation following article 246 of the constitution (Banashree; 2002). In most cases, state policies and acts follow central government directives and models with appropriate modifications to suit specific local requirements. Examples are the Land Acquisition Act, Transfer of Property Act, Town Planning Act and Slum (Improvement and Clearance) Act (Banerjee, 1994; Shaw 1996).

The central government directly controls some policies that are close to national development policy instead considering only an issue in a State. For example; urban poverty alleviation, improvement of shelter and essential services for the poor and development of small and medium towns, types of policies are directly controlled by the central government. Generally, slum improvement and clearance or activity that would impact on the particular state is controlled by the state government, and however, of course, the state authority follows the guideline from the central authority.
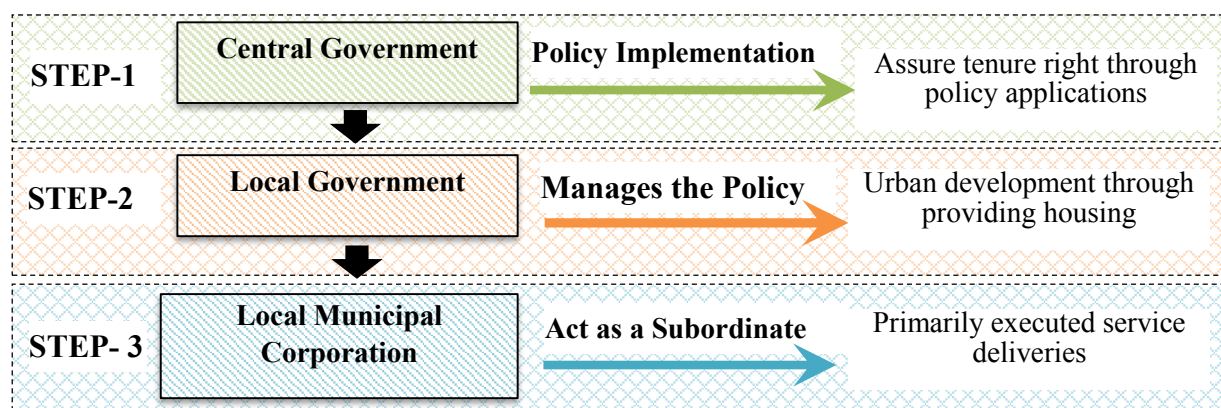
Figure- 4.2: Actions by the Authority for Rehabilitation Policy Execution

As mentioned previously, from the time of independence, Indian central and state government provided some act, policies and introduces many projects, program and scheme to ensuring the existing right to the urban poor. These actions done with some authorities with their technical support and these authorities play their role as a leader for development. Figure-4.2 below shows the conceptual step that has been taken by the Indian government for urban development especially in case of slum and squatter settlements. Generally, some institution in the govt. of India is following up some institutions for urban development such as; municipalities, revenue department and sometimes some urban development need to control dispute among the landowner with tenant or landowner with authority, so in such case, individual and independent court deals the issues.

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4.3.2 Municipal Functions

Meanwhile, in the 7th Amendment of the constitution in 1992 targeted to democratic decentralization and accorded a constitutional status to municipal governments in the different state (Banashree; 2002). Urban planning, regulation of land use, economic and social development planning, provision of civic infrastructure, slum improvement and urban poverty alleviation are the part of this amendment, and these are the functional areas of the states are legislatures devolve powers to municipalities. These actions or policies are specially done for the state development, and Municipal Corporation of the state usually handles this development without any requirement and not having any financial support. In Indian cities, state government concentrates their assistance into the departments of town planning, public health, engineering and public works. Sometimes state government also assists in some parastatal organizations such as water and sewerage hoards, housing boards and urban development authorities, and so on (Singh; 1996).

4.3.2.1 The Revenue Department

There revenue department of the state government mainly focuses on the tenure ship of urban and rural lands within the peripheral boundary of state in different cities in India. The state government is the guardian of all land, and in short, the state is the owner of all land exist in the territory within the state they are the charge to develop and demolish any development within the state. Banashree (2002) said in her book "Holding their Ground) that the state government in Indian cities precedes all the activities related with land and development depends on act, ordinance, and code (Banashree: 2002). She also mentioned that the revenue department in the state is the primary and only authority support the function of land expropriation with land titling and registration of transaction however they do not deal the issues related land uses for master planning or any short are planning. Because the revenue department is the body of the local government and the department is not allowed to handle any city planning action. The department executes the matter that related to practical assistance following the state government. In all state government office, there is some employee is working for the issues of land use planning and its regulation, sometimes these officers also involved in tenure regularization and development as well as land assembling and land allocation. (Banashree: 2002).

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4.3.2.2 The Courts

The judiciary system in India is entirely independent. The Indian Judiciary administers the regular law systems of legal jurisdiction and they serve customs, legislation and sometimes law related to land or property dispute (M. Rama; 2015). The land-related courts are very often approached to deal with land-related disputes. These disputes often relate to the following: first, they consider the dispute between the state government and civilian and their land-related right where the state suggested developing the land for development for the public. (Supreme Court, 1996a and h); Second, they deal with those disputes which are challenging the order from higher authority for seizing the land and individual public ownership. Meanwhile, stay order from state government is generally consider the development program for more than a year. Interestingly court stay order often prevents suddenly forced eviction and the court always win as a favor for the impoverished slum or illegal dwellers (Banashree; 2002).

4.4 Chronologically Implemented Policies for Tenure Security at Mumbai:

Mumbai, previously known as Bombay, seventh largest multinational cities in the world population estimated 15 million, and among these massive population at least 55-60% population reside in slums and informal settlements (Pimple: 2002). Some research said that approximately 40% population of slum and squatter settlements in big Indian cities are living under the poverty line. As mentions past that the city composed of several islands of 603 square kilometers. Mumbai is one of the prime destinations in where millions of migrations from rural areas and small towns (Pimple: 2002). Mumbai has been the financial capital and largest urban agglomeration of India because of a different kind of industrial development especially cotton mill. The city has attracted a large population from different parts of the country in both informal and formal sectors. During the 1960s the industrialization attracts vast immigration of low skilled labor force into the city because these population does not have the proper educational background and experience as well as companies are also not bound to pay them during holidays or extra work (Ronita, Sayantani, Arnab, Nagendra; 2015).

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Table 4.1: Classification of Slums in Mumbai

No	Classified Name	Definition to Recognition
01	Notified slums	All notified areas in a town or city notified as 'Slum' by State, Union Territory (UT) Administration or Local Government under any Act including a 'Slum Act'.
02	Recognized slums	All areas recognized as 'Slum' by State, UT. Administration or Local Government, Housing and Slum Boards, which may have not been formally notified as slum under any act
03	Identified slums	A compact area of at least 300 populations or about 60e70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities.

(Source: Ronita Bardhan, Sayantani Sarkar, Arnab Jana, Nagendra R. Velaga; 2015)

In Mumbai, slums are further classified into three heads as per Census of India, such as notified slums, recognized slums, and identified slums. According to the Indian census of India, Table-4.1 below shows the classification of slums in Mumbai.

Informal tenement in Mumbai represents a direct relationship between affordability and subsequent access to adequate land and to secure the informal housing tenure relationship. In India, housing tenure has a historical background about its tenancy, such as regular tenancy and leasehold because a large part of the population cannot afford a piece of land (Ronita, Sayantani, Arnab, Nagendra; 2015).

In the early 1900s many rural poor people migrating to Mumbai because of its several industrial revolutions including cotton mills (Pacione, 2006) and then many urban poor people in Mumbai, seeking the place to live thus they try to find any places in Chawl or sometimes illegally is slums and even they started to live on the pavement. The word Chawl is a common word for poor accommodation like slums in other developing cities in Indian cities. It is a kind of row houses with the high dense condition; people use to share their essential services such as toilet, kitchen and other shared facilities with each other. Generally, a Chawl is a name for a type of building found in India; these dense buildings are often four to five (4 - 5) stories with about ten to twenty (10 – 20) tenements and it a version of slums (Priyanka; 2010). As Chawl is always more than one story, therefore, some people disagree to call a slum,

Though the living conditions of both the "Chawl" and slums are same, sometime, their living condition could be compared with pavement dwellers. However, the definition of these informal settlements cannot be considered as same. Unlike other developing countries in the world, the government of India also focused on developing the urban area that they do not

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consider as the poor housing condition in slum and Chawl dwellers instead they always focused to public development through evicting the poor and freeing the area. For example, when an issue has come to consider about the city planning, the first work is done but the authority is to exclude the slums and squatter areas and let the poor urban homeless (Watson, 2009). These activities are the witnessed in most of the initial planning policies of Mumbai.

4.4.1 Planning Implementation Authority in Mumbai City

In Mumbai, master plan and any planning activity and its implementation within land distributions and housing policies are divided in several city institutions of local government as mentions in previous section such as: The Municipal Corporation of Greater Mumbai (MCGM), the Maharashtra Housing and Area Development Authority (MAGDA), the Mumbai Metropolitan Region Development Authority (MMRDA) (Pimple, John; 2002)
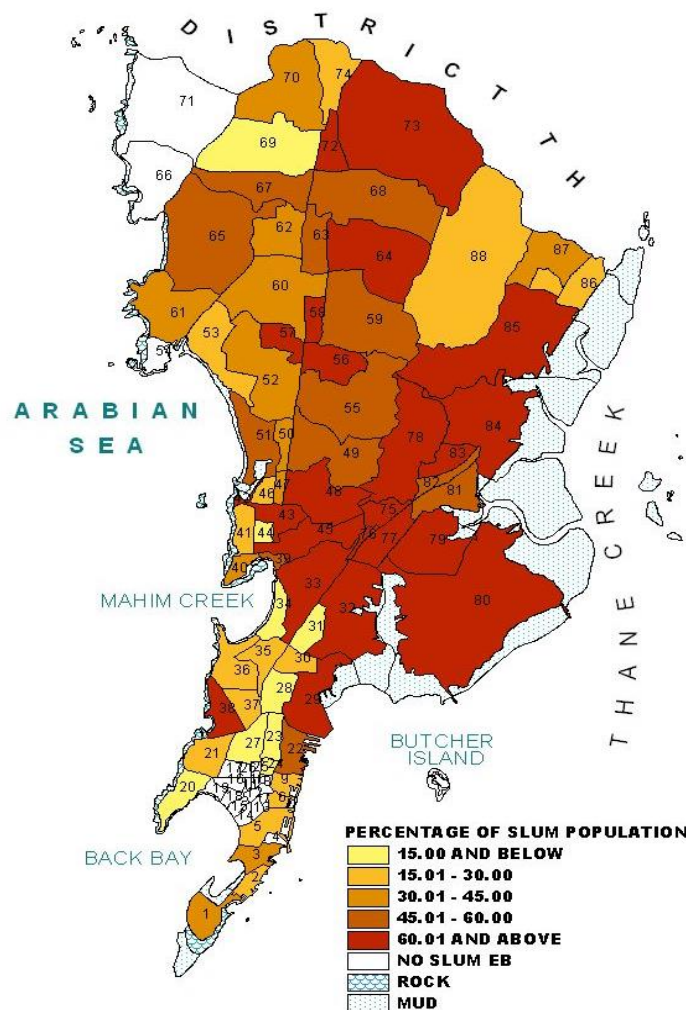
Figure 4.3: Slum Population of Grater Mumbai; 2001, Represented by Mumbai Municipal Corporation
Source: http://censusindia.gov.in

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4.4.2 Act, Policies and Scheme to Provide Tenure Security in Mumbai, India:

In Mumbai, form 1947 to till to the date, there are many acts, policies, program, and schemes had been applied to solve the housing dispute especially for the illegal urban settlements. Figure-4.3 shows the density of the slum population in different areas. In the figure, it also noticed that all areas in Mumbai contain some slums. Moreover, areas in Mumbai contain Asia's highest slums such as slum areas in Dharavi (Patel & Arputham: 2007).
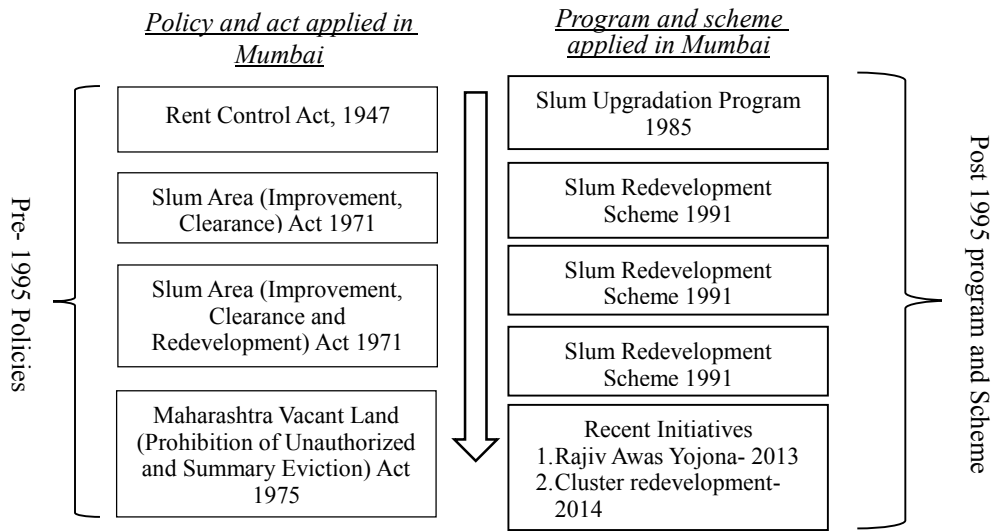
Figure- 4.4: Chronologically implemented actions (act, policy, program and scheme) by the government of India for tenure security.
(Source: Ronita, Sayantani, Arnab, Nagendra; 2015)

Previously, the authority only focused on the acts, to secure illegal tenement as the city was facing informal settlements at prime locations. From 1947 to 1975 there were 4 (four) acts were proposed by the authority which doesn't go well. Then from 1985, the authority applied some projects, programs to overcome the problems by application some schemes and policies. In fact, the authority realized that only application of some schemes and policies is not enough to meet the housing challenge for the urban poor because it is a matter of enormous finance. The government does not have enough money to supply formal housing to all urban slum dwellers, and slum dwellers are not able to construct hose by their own. Then the government started targeting the private sector to handover some charge mainly for construction of the projects. They tried to attract local housing business to minimize the housing demand. Slum Redevelopment Scheme; 1991 and Slum Rehabilitation Scheme; 1995 are the concepts where government involves private construction companies for construction slum dweller's house. The figure below shows the action that had been taken by the government in a different time in Mumbai.

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4.5 Pre- 1995 Policies and Act Applied in Mumbai for Securing Tenure:

After independence, Indian government adopted several act and policies to ensure tenure security of the urban homeless. The provided acts and policies are written below:

4.5.1 The Bombay Rent Control Act of 1947

The earliest and the most influential policies related to housing in Mumbai was the Rent Control Act of 1947 (Government of Maharashtra, 1947). About the increasing demand for housing and infrastructure by the military during the Second World War, Government introduced the law ensuring the interests of the tenants and fixed the rent at the 1940 levels. Though this was initially a temporary enactment, in due course of time, it became permanent. The Act proved helpful for the residents, but it went against the landlord's profit. This act forced the owners to discontinue further constructions as well as further maintaining the past or existing housing because they will not increase the rent. Thus, the quality of the tenements became low slandered due to lack of maintenance and improvements (Banerjee; 2002). The rental stocks became limited at the same time housing became unaffordable, especially for the urban poor. Since development reduced supply, so housing demand increased simultaneously slum formation enlarged by filling up low land and water body (Pugh, 1989). Realization of the necessity for the maintenance of these buildings government started to consider maintaining. They provide a separate body that established and entrusted with the task of maintenance by imposing a tax on those buildings. The government put the process of taxation in the housing sector to control the mushroom growth of the informal settlements like slums and squatters in the city. Moreover, the Rent Control Act also affected the property tax collection by the state. Though, in 1997, the Supreme Court directed to change the Rent Control Act and mended only 5% hike for housing rent from 1998 that continue till to the date (Godbole, 1999).

4.5.2 The Slum Area Improvement and Clearance Act, 1956

The Slum Area Improvement and Clearance Act established in 1956 by the government of Maharashtra. Authority, identified the urban slum areas are some places where the buildings consist -
  ①   The areas those are unfit for human habitation;
  ② The areas by reasons of collapse for overcrowding, faulty arrangement and design of the buildings, entire infrastructure, unhealthy environment and lack of water and

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sanitation facilities, or any combination of these factors, are harmful to social, health, environmental and morals unsafety.

If the slum areas have some possibilities to improve and demolish the buildings at the same time clearance and redevelopment of the slum areas, then the act could be executed. The act did not mention the resettlement plans for the evicted households. Therefore, a significant gap created in the planning process as without any resettlement plan, the evicted households resettle into other slum area or create new slums. Hence, on the one hand, the Act ensured clearance of urban land; on the other hand, it triggered the slum growth further.

4.5.3 The Slum Areas (Improvement, Clearance and Redevelopment) Act, 1971

The "Slum Area Improvement and Clearance Act- 1956" influences the evicted dwellers create other slums in the city. Then the authority realizes the aftermath conditions of the act launched on 1956 and modified the past act that took a more humanitarian approach for slum are an improvement by the resettling the evicted households instead of building demolition or slum clearance. It recommended the improvement of drainage, sanitation and water supply, internal infrastructure, street lighting, public amenities, health, education and social work (Government of Maharashtra, 1971). However, most of these resettlement projects were informal; it meant without tenure right and located in the peripheral areas of the cities. It resulted, some new formation of slums in the city center. Furthermore, the improvement was only focused on the slums on government land, and the private landowners continued to evict the slum areas without any plans for resettlement. At the same time, some private landowners also approached for a new law against the notification of private land as slums because of redevelopment. The Act was further amended in 2001 and included if the slum and pavement dwellers enrolled in the election on 1st January 1995, then they would not be evicted without rehabilitation (Burra, 2005).

4.5.4 The Maharashtra Vacant Land (Prohibition of Unauthorized Structure and Summary Eviction) Act, 1975

The Maharashtra Vacant Land Act, 1975 commandment- "No person shall, on or after the appointment date, occupy any vacant land or continue to in occupation of any vacant land in urban area or erect any shelter or enclose or other structure on such land for the purpose of residence or otherwise without the express permission in writing of the Municipal Commissioner in a corporation area, of the Chief in a Municipal area and elsewhere, of the

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Collector, or except in accordance with any law for the time being in force in such urban area"(Government of Maharashtra, 1975). Unlike past two acts for slum clearances and improvement on 1956 and 1971, this act also led to wide scale eviction of slums and squatters. The Act does not mention anything about the relocation of the evicted households and create some gap between implementation and planning process. After application this act many slum dwellers became homeless and it also formulated several slums at the city centers. The actual intention was not rewarding after application of the act as some dwellers renovated their houses in the vacant areas. P. K. Das (2003) claims that these dwellers spend at least 30-50 thousand rupees for renovation their past house. The Maharashtra vacant land act let the authority realize that the only solution of stop formulation of new slums is providing some policies in the slum dwellers current locations it means, in-situ development (Ronita, Sayantani, Arnab and Nagendra; 2015)

4.6 Post 1995 Policies, Projects and Schemes Applied in Mumbai for Securing Tenure:

The upper sections are discussing chronologically application of act to provide tenure security to the urban slum dwellers; however, it seems that government of India is more focused about slum evictions from the city center. Some act provides them to provide some housing to the peripheral or boundary of the city and some costed them high, but all most all act considered evicted the dwellers from current locations and resulted more slums and squatter's growth in the city center. The lesson from this longstanding application of act, authority learned to provide in-situ rehabilitation to free the city from slum.

After the realization of the necessity to provide in-situ rehabilitation, government adopted some programs and policies and scheme and separate some budget for slum redevelopment. Mukhija (2001) compare the cost of subsidy launched time to time for slum rehabilitation and it proves that government increases the budget of subsidy amount gradually to ensure more urban slum dweller's formal habitation. The table 4.2 represents the government intervention to provide formal tenure to the urban slum dwellers at the same time try to meet the demand through modification of the past proposal and increases the amount of budget.

From the project "The prime Minister's Grand Project, 1985" later which was modified and increase the percentage of lone to "Slum Rehabilitation Scheme (SRS)" which a gradual modification version of several rehabilitation schemes applied in the city. The table 4.2 explains the budget incensement (Mukhija; 2003, Jagdale; 2014) and modification (Ronita et

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al.; 2015) of the policies for including more slum dwellers in the policy by the government time to time.

Table 4.2: Increasing the budget and modification of the policies applied time to time by the authority in Mumbai:

No	Project/Policy	Throwing Year	Initial Application/ Modification	Subsidy Budget	Remark
1	The Prime Minister Grand Project (PMGP)	1985	Initial Application	10%	Government subsidy 10% subsidy to the slum dwellers. Dwellers also got 20% interest free loan from their total cost of house renovation in slums
2	The Prime Minister Grand Project (PMGP)	1990	Modification of policy-1	30%	This time government increases the amount of the subsidy and close the past option of 20% interest free loan
3	Slum Redevelopment Scheme (SRD)	1991	Initial Application	61%	Slum dwellers needed to contribute 25,000 rupees from the estimated total cost of 65,000 rupees
4	Slum Redevelopment Scheme (SRD)	1992	Modification of policy-3	77%	Government reduced the contribution amount by slum dwellers from 25,000 to 15,000 rupees
5	Slum Redevelopment Scheme (SRD)	1994	Modification of policy-4	87.5%	Total cost for rehabilitation revised it increases from 65,000 to 120,000 rupees but the contribution amount from the slum dwellers does not increased
6	Slum Rehabilitation Scheme (SRS)	1995	Initial Application	113%	Slum dwellers will get free formal housing as well as will each household facilitated with 10,000 rupees as maintenance subsidy
7	RAjiv Awas Yojna	2012	Initial Approach	N/A	Not applied till to the date
8	Cluster Redevelopment	2014	Initial Approach	N/A	Not applied till to the date

A. The Prime Minister's Grant Project, 1985

The Prime Minister's Grand Project (PMGP) in 1985 was mainly focused for the slum dwellers in the Dharavi area because Dharavi area contains Asia's largest slum area and its location is central to the city. PMGP proposed 600 million rupees for improvement of slum areas where government-subsidized 10% and dwellers wanted to pay some cost; however, the government offered them 20% loan without interest. The objective of the grand is to provide housing for the slum dwellers and to improve conditions of their existing infrastructure (Ronita, Sayantani, Arnab, Nagendra; 2015). PMGP was not considered all

slum dwellers in Dharavi, and it is not possible to include all slum dwellers under the projects; therefore, some dwellers were the victim. PMGP recommended 30-35 thousand families to be accommodated in-situ project whereas 20,000 families need to be relocated outside from Dharavi (Mukhija; 2001). That makes the dwellers homeless and encouragement of new slums. Some researchers argued about the projects complicated scenario or problems. For example, during construction the eligible 30-35 thousand people needed to leave their current house and for temporary housing and providing transit camp to these vast numbers of people was difficult due to unavailability. Moreover, the construction also delayed, and the new settlement was benefited to some outsider (Ronita, Sayantani, Arnab, Nagendra; 2015). Then in 1990, the authority modified the scheme under the same name PMGP. In the previous project, slum dwellers benefitted only 10% subsidy from the government, but after modification the criteria government allow 30% subsidy to improve housing.

B. Slum Redevelopment Scheme, 1991

Slum Redevelopment Scheme (SRD), 1991 was initiated by the ruling party on that year. National Congress Party of India launched the scheme since the PMGP had not achieved substantial improvement of Mumbai's slums. After having experience of the huge construction budget, Indian government starts adopting privatizing slum land for rehabilitation (Jagdale; 2014) however slum rehabilitation is not only privatizing program but it one criteria among different sector privatization. In this circumstance, in 1991, the Congress Government came to power after a lost term in 1985 and the keep the promise by the founder of "Shiv-Shena" a religious (Hindu Based) party. The founder, Mr. Thackeray promised to provide tenure security in Mumbai slum and to fulfil the promise the government proposed a scheme named as Slum Redevelopment Scheme (SRD) in 1991 to provide free houses to the slum dwellers in the city (Jagdale; 2014). This scheme represents the first policy to involve private developers for construction slum dwellers rehabilitating illegal housing. Private developers got some benefits that included an extra floor space index (FSI) and the "Transfer of Developing Rights" (TDR). These two attractive benefits attract the private developers because they could develop more space than regular as well as they could sell development right and use the right in their other projects. However, The Municipal Corporation of Grater Mumbai (MCGM) was not supporting all facilities for plan approval related with SRD under one roof therefore the process become lengthy and

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expensive. With long procedures for approval, in 1995, only 86 out of the 185 proposed projects through the SRD had been approved (Mukhija, 2001). Moreover, SRD projects provided rooms to the illegal slum dwellers that costed 65,000 rupees where slum dwellers need to give 25,000 rupees and remain will subsidize by government. Some slum dwellers were failed to give these money, then, in 1992, authority reduced the amount from 25,000 to 15,00 rupees. After two years later, authority increased the quality of housing and the total cost became 120,000 per room but dwellers don't need to pay any cost. Administration issues required enough times and the process was complex, so the number of project not meet the demand that was criticized by many researched (Mukhija, 2001, Ronita, Sayantani, Arnab, Nagendra; 2015).

C. Slum Rehabilitation Scheme, 1995

After many complain, government decides to propose a new separate body to execute all administrative work under one roof. Following the recommendations and to satisfy the demand, the Afzalpurkar Committee introduced a separate body called Slum Rehabilitation Authority (SRA) in 1995 that exclusively considers only the matters related to slum resettlement. The authority started to work on three types of rehabilitations for informal settlements dwellers those are; (1) in-situ, Project Affected People (PAP) and Permanent Transit Tenement (PTT). Initially, the slum dwellers get single room/unit with zero cost and get an amount for long-term maintenance subsidy from the builders. The size of the unit/ room increased from 225 feet^2 (20.9 m^2) to 269 feet^2 (24.99 m^2). The private developers were provided incentives of FSI and TDR and ratio varied from 1:0.75 in the inner city or CBD and 1:1 in the suburban areas. This scheme also reduces the eligibility of the dwellers for more dwellers to include in the legal housing.

D. Recent Initiatives for Urban Poor Housing in Mumbai

Since, Mumbai contains huge slums and the increasing phenomena cannot be controlled therefore government again proposed some new proposal for slum rehabilitations. After SRS launched by the authority, private developer market forces the construction process within its own demand. New proposal for government was proposed by another political party however the proposal was only planned not execute yet.

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1. Rajiv Awas Yojana, 2013: (RAY):

RAY is one of the recent initiatives by the authority to deal with urban poor or homeless people housing. Till January 2015, 162 projects have been approved in India covering 11towns and cities (Ronita, Sayantani, Arnab, Nagendra; 2015). The action decides to the application not yet been complete however the actions for poor get quite famous. RAY also provides for another scheme called the Rajiv Rinn Yojna (RRY) to provide enhanced credit support to the EIGs and LIGs (Ronita, Sayantani, Arnab, Nagendra; 2015).

2. Cluster Redevelopment, 2014:

Another, the most recent schemes introduced in Mumbai is that of cluster redevelopment where the buildings are more than 40 years old and having a minimum area of 4000 sq. m. As well as slum areas would be redeveloped (Ronita, Sayantani, Arnab, Nagendra; 2015).

4.7 Conclusion

It seems that the government of India considers slums and it is dwellers before independents, and therefore, they provide several activities, policies, and schemes to mitigate the dispute over illegal slum dwellers living. All of the applied actions were not proved the success. However, these actions gave a sense of mistake and also provided possibilities to deliver a new act, policies, and scheme with modifications. The chapter discussed different strategies and schemes that were considered for illegal slum dwellers tenure security and their demand. The chapter also found that government tried to modify the providing actions according to the slum dwellers requirements. It means, to know the ultimate result of policies and schemes, it's necessary to provide activities, and to run the act, some policy and scheme need to be considered.

Chapter 5
Target Research Area and Interviewer for the Study

5.1 Introduction:

Mumbai, previously known as Bombay is the capital of the state of Maharashtra among the 29 states in India. This city is considering as the most populous city in India. Among all metropolitan regions, it is the second most populous metropolitan region in India, with a population of 21.3 million as of 2016 (UN World Cities in 2016; 2017). Seven islands city Mumbai is the financial, commercial and entertainment capital of India. It is also one of the world's top ten centers of commerce in terms of global financial flow, generating 6.16% of India's GDP and accounting for 25% of industrial output, 70% of maritime trade in India (Mumbai Port Trust and JNPT), and 70% of capital transactions to India's economy (Lakshmi Rama; 2011, The Times of India; 2011, July, Mahajan; 2014). It means, there are several informal work opportunities are available in Mumbai, however, the due to high living cost poor people cannot effort formal housing. There are six million slum dwellers are residing in 2500 settlements in city which is occupied 2500 hectares that consists 6% land coverage from the total land areas (Jagdale; 2014). Slum area in Mumbai, covers 50% private land, 25% government land and 25% municipal land (Jagdale; 2014). Then many act, policies and scheme have applied which already have discussed in the dissertation previously. And, government realizes that Slum Rehabilitation Scheme (SRS) would be one of the policies that could benefit both slum dwellers secure tenure as well as local land business market. As mentioned previously that SRS is the modified version of Slum Redevelopment Scheme, 1991. Many research have published that SRS proves the success policies one that proved improvement then earlier policies (Nijman; 2008, 2010, Jagdale; 2014, P. Restrepo; 2010). For the consideration of its success in the slum area, the study is interested to consider this policy.

The study need to select some areas at Mumbai which have some projects of Slum Rehabilitation Scheme (SRS) and have the experience dwellers who can judge the SRS. The study targeted to evaluate whether the dwellers are satisfied with living at SRS apartments or not. The target SRS dwellers are the original slum dwellers. It means, in this research, the study considers only those dwellers that live in this apartment before construction.

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5.2 Mumbai; The Possibilities of SRS Application:

The study conducted several discussions with different Indian researchers and professors to identify the reason of Slum Rehabilitation Scheme (SRS) application only in Mumbai. The table 5.1 represents the list of researchers and professors, the study discussed. Dr. Geeta mentioned the main success of SRS is its open market force. As SRS is basically run by slum community and local land market business. Mumbai is the city where private local market is one of the key reasons to make the city as the main industrial hub of the country. Meanwhile, Ar. P. K. Das notified the serials of changes respecting the demand and gradual modifications of the policy regulations one of the best reasons to take the policy on upper stream. Furthermore, modification accepting tendency by the government is another issue for getting gradual success. According to Dr. Amita, land sharing approaches in Thailand succeed because the government has a strong democratizing context within the civilization.

TABLE 5.1: LIST OF INDIAN RESEARCHERS AND PROFESSORS

NO	Name	Description	Institution
1	Dr. Geeta Mehta	Researcher Founder of NGO URBZ	URBZ (Local NGO)
2	Dr. Amita Bidhe	Professor	Tata Institute of Social Science, Mumbai
3	Ar. P. K. Das	Architect and Founder of NGO Nivara Hakk	Nivara Hakk
4	Dr. Ronita Bardhan	Assistant Professor	Indian Institute of Technology (IIT) Bombay
5	Sayantani Sarkar	Lecturer	Indian Institute of Technology (IIT) Bombay

The population of Thailand is respecting the policies from both by the government and the community (Amita; 2016, Mehta; 2015). In case of the characteristics of the general people in the countries like India, Bangladesh has a strong voice to protest the government policies that has some contradictory context in approach. For this reason, formation of SRA was quite necessary in these cities. The final part of the study identified to identify whether Dhaka city would be the possible place for SRS application or not. Mumbai's SRS to apply at Dhaka for the same reasons tracing at Mumbai city. Dhaka also faces land scarcity since several areas.

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TABLE 5.1: SIMILARITIES BETWEEN TWO CITIES (DHAKA AND MUMBAI) FOR SRS APPLICATION

NO	Characteristics	Mumbai	Dhaka
1	Land Scarcity	Mumbai has land scarcity (Jagdale; 2014, Amita; 2016, Nijman; 2008)	Dhaka has also land scarcity (Dewan & Yamaguchi 2007, 2008, Taleb; 2012)
2	Land Price	Mumbai land price is very high (P. Restrepo; 2010)	Dhaka's land price is also very high (S. A. Sinthia; 2013)
3	City Expansion	Mumbai already expanded huge and more extension is not possible (P. K. Das; 2003)	Dhaka should not have extended which will be affected in food (Dewan & Yamaguchi; 2007)

The growth of the city is initiated after independence due to its socio-economic and political importance and another important reason is rural to urban migration (Islam 1996). Therefore, SRS policy could be applying at Dhaka's slum. Furthermore, Dhaka's land price is very high as it has serious land scarcity and high density of population (Dewan & Yamaguchi; 2007). The research considers the policy at Dhaka's slum for another reason of success SRS at Mumbai and that is city extension. Dhaka expanded rapidly between 1960 and 2005, the amount of urban land increased from 11% in 1960 to 34% in 2005 (MD. Abu Taleb; 2012). Since 1960s Dhaka starts expanding and these results the agricultural land shortage which would be a thread for food in future (Dewan and Yamaguchi; 2007). For this reason, the research selects Mumbai's SRS policy to apply at Dhaka's slum. The table 5.1 represents the similarities between two cities (Mumbai and Dhaka) respecting literatures.

5.3 Research Area Selection in Mumbai, India:

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.
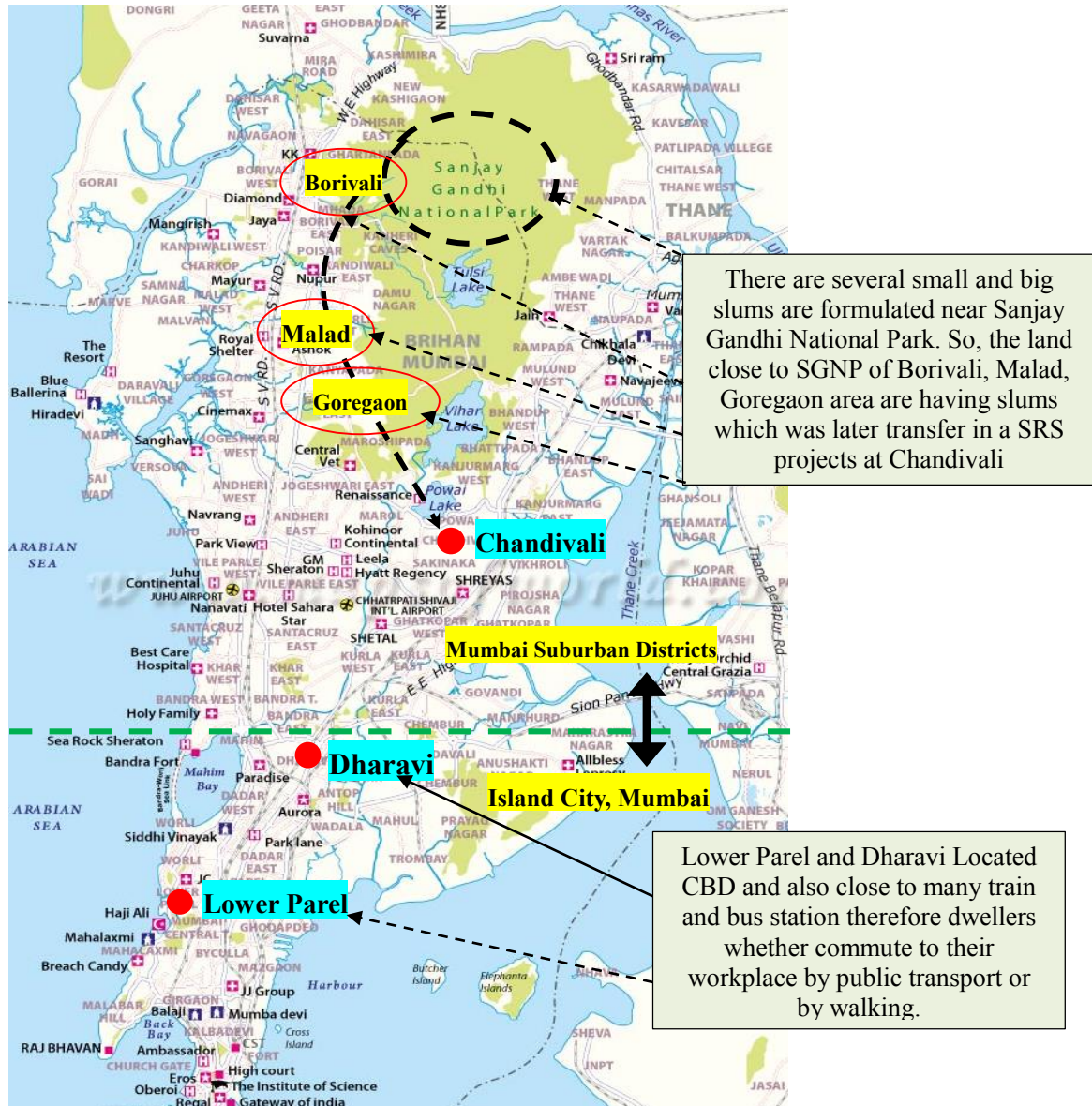
Figure 5.1: Location of the survey areas
Source of Map: www.mapsofworld.com

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. There are 1,513 officially registered Slum Rehabilitation Scheme (SRS) projects are developed scattered in different areas in Mumbai (SRA; 2018). SRS projects are developing either a single standalone multistoried apartment or the combination of more than one

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building. The size and height of SRS apartments are depending on the number of slum population. However, according to Slum Rehabilitation Authority's (SRA) regulation, SRS project only could develop when the slum areas contain at least 500 dwellers (SRA; 2018). Chapter 2 of this dissertation already have discussed that all areas in Mumbai contain some slums, some area has high density of slum population and some area has low. The initial survey of the study on March 2016, found all most all areas in Mumbai has some SRS projects. Some SRS are developed almost 18 year ago, it means the initial development of SRS projects and some are new and some are now under construction. The study selected the SRS projects which have experience dwellers and have long experience in living at this apartment. Because there are several SRS apartments are still vacant and some are under construction and so many rented dwellers. This study selected three areas from different location in Mumbai. These three areas are: Dharavi, Lower Parel and Chandivali. Dharavi was chosen for the following reasons: (1) the area contains the Asia's largest slum area (Patel, S., & Arputham, J; 2007), (2) it is in the central business district in Island City. (3) The area spreads approximately 535 acres with a population density of an incredible 869,565 people per square mile (Mumbai Population; 2018), it means, the area has a very dense population, and (4) it has in-situ SRS developments. Lower Parel was selected for the following reasons: (1) the land price of Lower Parel is 32,467 Rs (487.35 $) per square feet, which is very, high (Property-Rate-Trend, 2018). (2) It is in Island City and surrounded by wealthy neighborhoods, and (3) it has in-situ SRS developments. Finally, we chose Chandivali for the following reasons: (1) it is in Mumbai's suburban districts, and (2) the relocation SRS development was situated here.

Those who now live in Chandivali SRS apartments were moved from several areas near Sanjay Gandhi National Park. For example; Borivali, Malad or Goregaon and so on (See the locations shows in figure 5.1). The brief explanation of these three areas is written in the sections below.

5.3.1 Case Study Area-1, Dharavi, Mumbai:

Dharavi located at one of the central locations of Mumbai. The rural-urban migration escalated, and this area continued to be a major destination for overflow migration from the island city (Nijman; 2000). The area is highly dense, and from the independents, growing trend of small and big industrial revolution increases the availability of formal and informal work opportunities for the inexperienced and uneducated population. Gruber; 2005 claimed

Dadar and Bandra are most famous commercial place. During questionnaire survey, the study found many dwellers commute for work to these two areas and they also commute these areas for their daily

The area is surrounded by many train stations and located near CBD therefore dwellers are easily commute their workplace and find works near their home
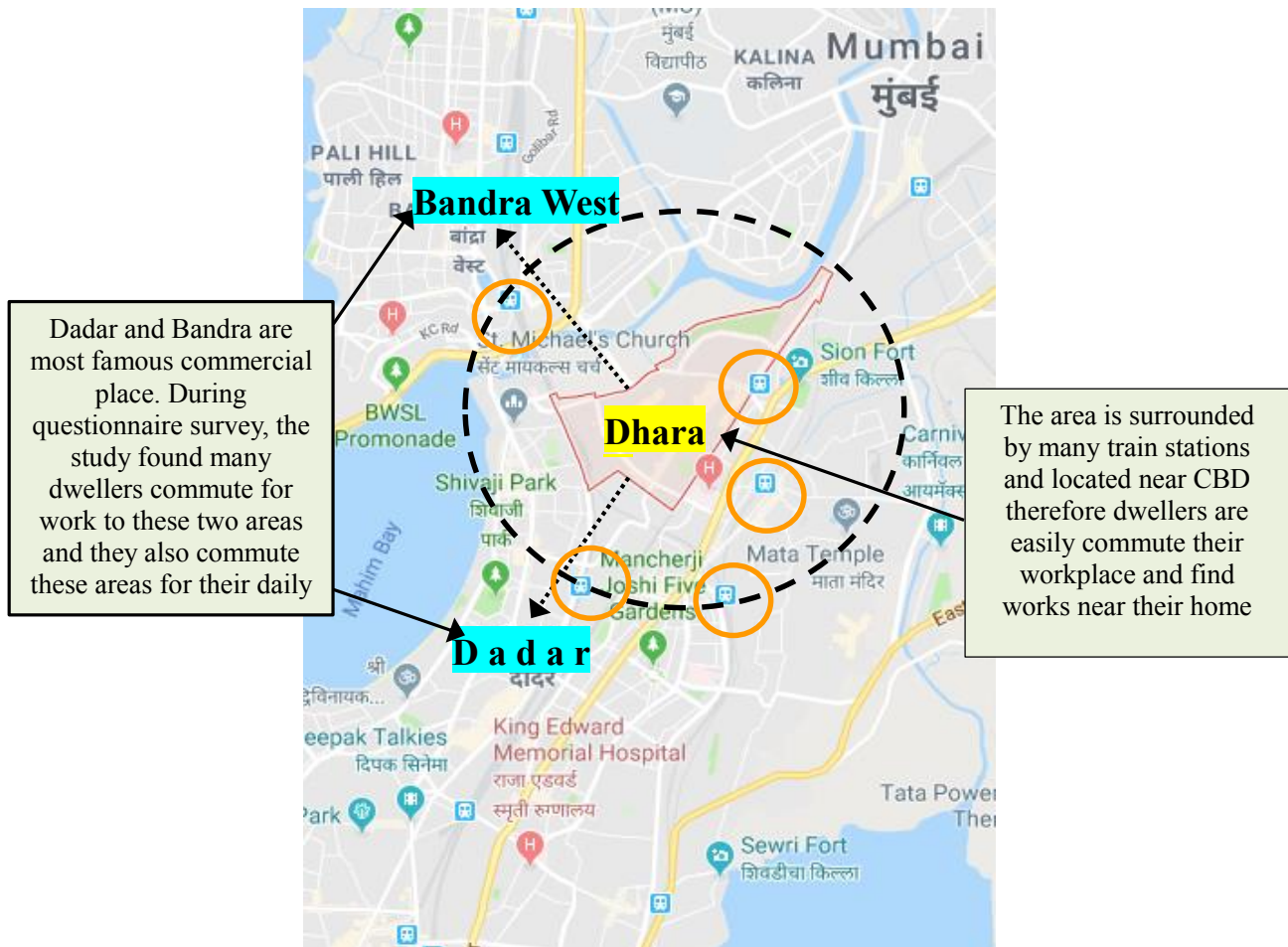
Figure 5.2: Location of Dharavi in Mumbai Map
Source of Map: www.mapsofworld.com

there are 67 slums can be found within Dharavi however much of these depends on the definition (Gruber; 2005). Areas in Dharavi combines a whole range of functions like wholesaling, manufacturing, consumer products as well as public services such as school, hospital, market and bank and so on (Nijman; 2009). These factions make the area convenient. Moreover, figure 5.2 show that there is several rail stations surrounded Dharavi which makes slum dwellers easy accessibility. The area is also very close to a posh residential area Bandra and a commercial area Dadar which provide informal job opportunities for uneducated people. Therefore, several pocket slums can be seen. As Gruber

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said, it does not contain a significant slum instead it a combination of many small and big slums, for this reason, there are many pocket type SRS apartments have been envisaging. In Dharavi, still many lower ground and waterbodies are filling, and new slums are formulated (Nijman; 2009). More slums attract many developers to develop SRS apartments though SRS projects have many beneficial contexts and the area itself is quite convenient for sell property.

5.3.2 Case Study Area-2, Lower Parel, Mumbai:

Lower Parel is the habitation of rich people and also many public private organizations are located here furthermore some shopping village are also located therefore the authority wanted to this area slum free

The study found that some SRS dwellers are commute to Dadar for work during the questionnaire survey
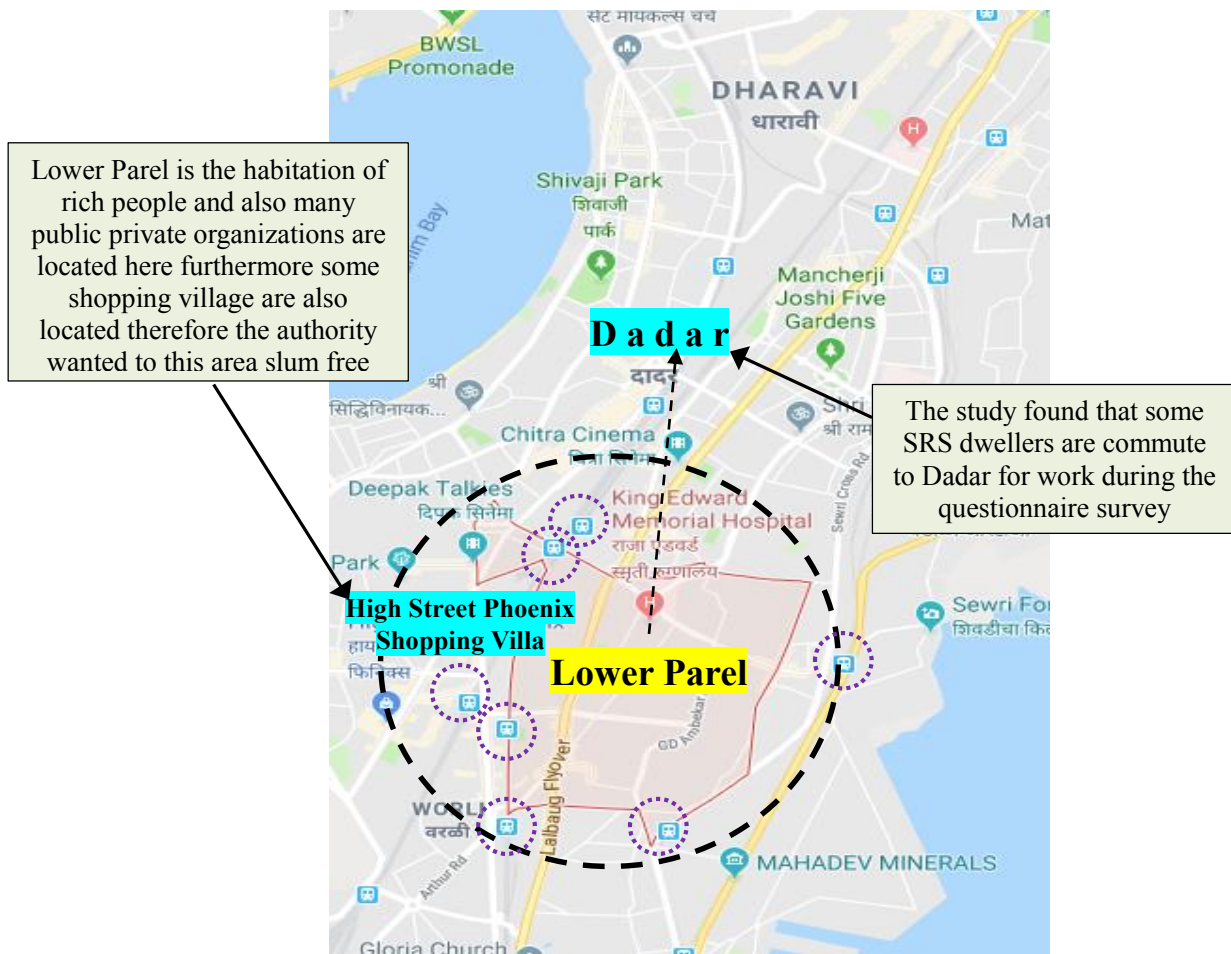
Figure 5.3: Location of Lower-Parel in Mumbai Map

Second case study area is Lower Parel where the target SRS building was located at "Gomata Nagar. It located north old Native Town which was formed on colonial time and dominated by textile industries on 20th century (Nijman; 2008). The area itself is very close to the Lower Parel rail station, and many posh commercial and industrial developments including shopping village are situated nearby. It means that the accessibility to the informal

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work is convenient. Figure 5.3 represents the scenario and the characteristics of the area Lower-Parel. Furthermore, there are many stations are situated near the location and slum dwellers are easily communicate to their working place. Therefore, it encourages creating pocket type slum for easy accessibility to the informal work. Unlike many other slums in the city, maximum pocket slums are not visualized on the slum map of the census (Nijman; 2008). Moreover, the government doesn't declare slum in those areas where land price is high like other cities in developing country, especially where the slum size is not big. The study targeted this area not for having slum, the area is a posh residential area itself now, it should evaluate that whether the SRS dwellers are satisfied in living are SRS apartments or not because they are surrounded by wealthy neighborhoods.

5.3.3 Case Study Area-3, Chandivali, Mumbai:
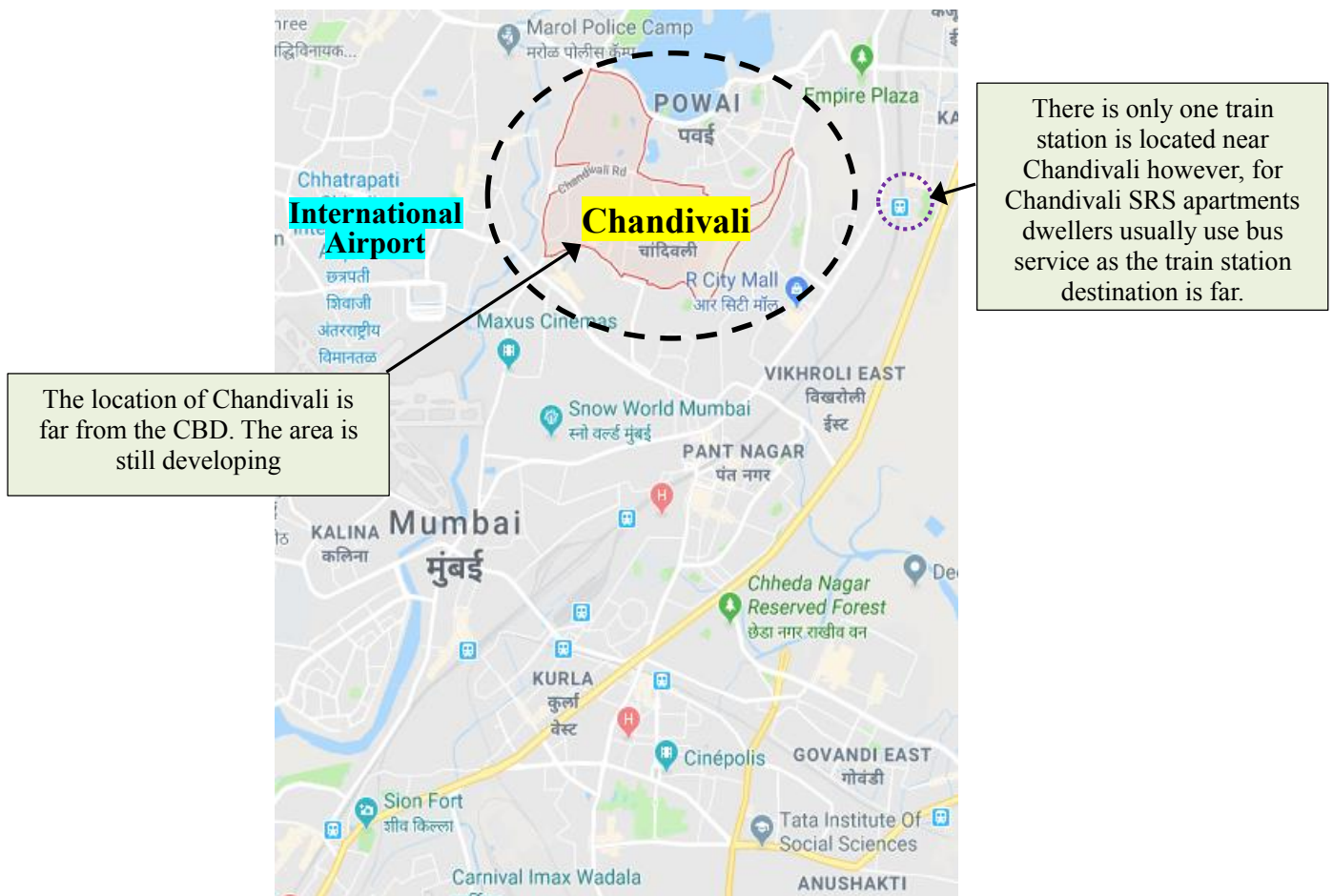
Figure 5.4: Location of Chandivali in Mumbai Map
Source of Map: www.mapsofworld.com

The third case study area of the research is Chandivali. It located near "Powai Lake" and south of the Sanjay Gandhi National Park as well as very close to historical center of the city

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(D. Vaquier; 2010). This area is far from city center and assumes as a suburban area. The SRS project in Chandivali is said to be the most massive relocation SRS project for project affected people who previously live main at Sanjay Gandhi National Park. SRS dwellers at Chandivali have a significant impact on the employment near the original suburbs of Malad, Kandivali, and Chandivali itself and some of them travels a little distance area such as; Dahisar, Borivali, and Mulund (D. Vaquier; 2010). This area is selected not only for the different characteristics of area rather for different SRS projects because this SRS projects one of the massive rehabilitation schemes in Asia (D. Vaquier; 2010). There is a bus service near the project which is the main transportation mode to the dwellers to commute their workplace. Figure 5.4 shows the scenario of Chandivali area. Only train station is located quite far from the area therefore the dwellers don't have sufficient transportation facilities to commute their work place.

Besides that, the Chandivali project there is a vacant SRS projects, but the study selected the projects that have dwellers. The Chandivali project is also unconventional in the sense that there is not one, but several slums to be relocated from different areas other than closer slums at Sanjay Gandhi National Park, each of them having different characteristics in terms of socio-economic, religious and geographical origin of its inhabitants. That makes it possible for us to isolate the effect these characteristics could have on integration levels, both in the initial slums and in Chandivali.

Picture 5.1: Dharavi SRS Projects
Source: Author (During field-survey)

Picture 5.1: Lower Parel SRS Projects
Source: Author (During field-survey)

Picture 5.1: Chandivali SRS Projects
Source: Author (During field-survey)

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5.4 Questionnaire Survey with SRS Dwellers:

The questionnaire design was based on the analytical framework shown in Fig. 6.1, which includes the extent of dwellers' satisfaction with living in SRS apartments, the five components. At first, on March 2016, the study visited some SRS apartments and conducted a small interview with the dwellers. There were two reasons to conduct this field survey at Mumbai, first, it's important to identify whether the dwellers would accept to conduct the questionnaire survey or not. Second, the dwellers level of understanding the issues the study intended to identify. In October 2016, a pre-questionnaire survey was conducted to evaluate the questionnaire and how SRS dwellers would respond to these questions, and to train the interviewers to avoid biased responses. During the questionnaire survey the total number of sample was 35 from two target areas, (1) Dharavi and (2) lower Parel. In fact, several unexpected issues were arising in questionnaire and the study needs to modify the questionnaire sheet again. After testing the questionnaire, the main questionnaire survey was conducted in the three areas, (1) Dharavi, (2) Lower Parel and (3) Chandivali from December 2016 to January 2017.

The questionnaire survey sheet is attached on the last sections of this dissertation. However, the main contend of conducting questionnaire survey to the SRS dwellers are representing on the table no 5.2.

The table-2 shows all five components that used in the analytical framework with indicators as well as the questionnaire pattern used in questionnaire sheet.

In the questionnaire sheet, we used liker scale that indicated from lower to the higher grade of dwellers expression. For example; (1) satisfaction about maintenance (1 = disappointed, 2 = unsatisfied, 3 = moderate, 4 = satisfied, 5 = fully satisfied), (2) does the room size 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). The respondents also answer some questions directly such as (1) total number of family member, (2) total length of living.

It was conducted in six in-situ SRS apartments in Dharavi, five in-situ SRS apartments in Lower Parel, and four SRS apartments in Chandivali. The total number of the household of these apartments is 896 households in Dharavi, 320 households in Lower Parel and 195 households in Chandivali, totally 1,411 households and we completed 245 families whose tenement status is the original owner.   We should admit that there are many rented dwellers

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at Dharavi and Lower Parel SRS apartments, and the questionnaire survey of the study targeted to avoid tented dwellers.

No	Components	Indicator	Questionnaire Patterns for Respondents
Table 5.2: Five Components with indicators and the questionnaire pattern of response:			
1	Physical Features	Evaluation of unit size for all family member	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
		Evaluation of unit size for furniture use	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
		Hours of electrical light use/ day (hours)	Total time (hours) count of light use/ day
		Evaluation of corridor wide	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
2	Socioeconomic Characteristics and Development Type	Type of SRS Development	0= Relocation, 1= In-situ
		Total family Income (rupees)	Total count of income (rupees)
		Total number of family member	Total count of family members in one household
		Length of Tenancy	Total duration of living
3	Employment Status	Need to change their job for SRS apartment	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	Social Features	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
		Volunteering events with cooperative society	0=No, 1=Yes
5	Maintenance by co-operative society	Evaluation of corridor cleanliness	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough
		Participation at the events arranges by neighbor	0=No, 1=Yes
		Maintenance fee/ month (in rupees)	Total count of money/ month (rupees)
		Satisfaction with management	1=too much small, 2=small, 3= moderate, 4= size is perfect, 5= size is good enough

Meanwhile, Chatterji; 2005 claims that the land ownership of Dharavi is complex; therefore, it is difficult to survey the whole area. Moreover, the area contains many pocket slums because of several landowners (R. Chatterji; 2005). For this reason, we selected two in-situ

developments of SRS projects at Dharavi, Muslim Nagar, where one project is a combination of five apartments (self-count) and another project has only one apartment within 34 (thirty-four) officially registered (SRA; 2018) SRS projects. To maintain the situation of SRS apartments of Dharavi, we targeted an in-situ development type of SRS project combination of five apartments (self-count) at Gomata Nagar, Lower Parel among 20 (twenty) officially registered (SRA; 2018) for our questionnaire survey. In case of Chandivali, there are four officially registered (SRA; 2018) SRS projects, and the study chose one relocation type of SRS project of the combination of 112 (twelve) (Vaquier D.; 2010) apartments at Sangrash Nagar, Chandivali.

Households were selected randomly, after which the face-to-face questionnaire survey was conducted. The targeted households were those that were the original owners of a unit, that is, households how lived at slum before the construction of SRS apartment and become an owner of a unit. . The survey targeted household heads or their spouse.

5.5 Interview with the Co-operative Housing Society of SRS Apartments:

The study also conducted interview with cooperative housing society to acquire the construction information and other issues related with SRS apartments.

Table 5.3 The characteristics of the SRS apartment where conducted Questionnaire Survey

No	Location of SRS building	Name of the society	Date of Inauguration	Date of construction	Project status	Building face
01	Dharavi	Uday cooperative housing society	29th Oct, 2008	2003	In-situ	North
02	Dharavi	Mukund Nagar SRA society	2001	1998	In-situ	East
03	Dharavi (Anna Nagar)	Tagore SRA cooperative society	2013	2009	In-situ	South
04	Dharavi (Nabi Nagar)	Muslim Nagar Nabi Nagar CHS	2004	1997	In-situ	West
05	Chandivali (Sangrash Nagar)	Vanrai Society	2012	2009	Relocated N. Park	South
06	Chandivali (Sangrash Nagar)	Ganash Darshan Society	2007	2003	Relocated N. Park	North
07	Chandivali (Sangrash Nagar)	Narbada Society	May, 2007	2003	Relocated N. Park	North
08	Chandivali (Sangrash Nagar)	Sivneri Society	2008	2006	Relocated from Different slums	South
09	Lower Parel (Gomata Nagar)	Gomata Nagar SRA society 1	2006	2008	In-situ	East
10	Lower Parel (Gomata Nagar)	Gomata Nagar SRA society 2	2008	2012	Relocated Kamgar Nagar (Provadevi)	South

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The table 5.3 is presenting the overall scenario of the SRS apartments where the study conducted questionnaire survey. Table 5.3 shows the accurate locations of SRS apartments, date of inauguration and date of construction with building facing. Facing of the building was considered as to identify the quality of ventilation.

Table 5.4 is presenting the physical features of SRS apartments where conducted questionnaire survey. As mentioned at the previous sections that the survey selected SRS apartments which are the combination of several building and some are standalone single apartments. SRA has some regulation to deal the SRS projects. The construction rule of 33(10) means the regular consideration of the SRS projects. Which means the developer needs to have 70% acceptation as well as provide transit shelter. Developer also need pay an amount to the dwellers as maintenance after allotment of the room. As well as slum dwellers also needs to formulate a cooperative housing society before apply for SRS projects. The table 5.4 shows that except Chandivali, Sangrash Nagar SRS apartment all other selected SRS apartments are following 33 (10). On the other hand, table 5.4 shows Chandivali SRS project is following 3.11 rules. In fact, 3.11 are considering on the private land and the construction benefit is only TDR options. The concept of the regulation 3.11 is providing house to the population who faced the tenure insecurity for development a national project. In case of Chandivali, the dwellers use to reside at Sanjay Gandhi National Park and the government wanted to rehabilitation the park.

Table 5.4: Physical Characteristics of SRS Apartments

No	Name of society	Story(level) building	Total number of unit/ room	Unit size	SRA consider rules	Total no elevator	Community space
01	Dharavi	8 (5 build.)	339	225	33(10)	6	No
02	Dharavi	7 (4 build.)	109	225	33(10)	4	No
03	Dharavi (Anna Nagar)	9 (4 build.)	280	269	33(10)	4	No
04	Dharavi (Nabi Nagar)	7 (single story)	168	225	33(10)	2	No
05	Chandivali (Sangrash Nagar)	8 (112 build)	48	269	3.11	1	Yes
06	Chandivali (Sangrash Nagar)	8 (112 build)	55	225	3.11	1	No
07	Chandivali (Sangrash Nagar)	8 (112 build)	44	225	3.11	1	Yes
08	Chandivali (Sangrash Nagar)	8 (112 build)	48	225	3.11	1	Yes
09	Lower Parel (Gomata Nagar)	8 (5 build)	320	225	33(10)	10	No
10	Lower Parel (Gomata Nagar)	16 (single story)	160	269	3.11	2	No

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5.6 Slum Rehabilitation Scheme Dweller's Mobility:

This study only focused on those households who stayed at SRS apartments and their land titling was the original owner, it means the dwellers that live in this slum area before construction was the only target for the questionnaire survey. The primary target to consider these dwellers is because the research intended to identify the factors that affect dwellers living satisfaction. If some dwellers already leave the apartment, then the dwellers may not have satisfied with living at SRS apartments; however, there are several possible reasons to leave SRS apartment including satisfaction for example;

    i.   Dwellers are not satisfied in living at SRS apartments, and they leave

   ii.   Dwellers upgraded their financial and social life and not interested in staying at SRS apartment.

  iii.   Dwellers have faced with a financial crisis and needed to sell their unit/room for the money.

  iv.   Dwellers family members are getting quite large, and they no longer accommodate in the given size of the room, and they leave.

   v.   Daily communication to the work-place is far, and this reason forced them to rent their unit/room at SRS apartment, and they started to live near their workplace.

Meanwhile, Payne (2001) argued that land titling increases the value of land and forces the vulnerable group to move out of the apartment by the slum rehabilitation scheme. It means the slum dwellers need to pay tax, and it makes an additional burden for poor slum dwellers, and they no longer afford their living at formal housing. He evaluated the relocation of 50,000 slum families in Delhi, and the result showed that approximately 25% of the family had sold their plots and returned to their original locations (Payne; 2001). Unlike Payne, some researchers expected that the entry to the formal style of living might increase some unexpected cost for slum dwellers such as taxes, maintenance payment per month and legal electricity bill (Restrepo; 2010). Jacobsen (2003) found that 25-30% Marconi Beam slum dwellers had sold their properties from Cape Town municipality houses because relocation created some unaffordable conditions. He mentioned, purchased owners of the relocation houses were businessman, foreigners and migrated from another area included in this gentrification process (Jacobsen; 2003). Another research conducted by an Indian author in 2008 about the aftermath condition of slum dwellers'. Sharma et al. (2008) claim that after applying a policy named Mumbai Urban Transport Project (MUTP), slum dwellers were not

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in a position to pay user charges for essential services and, for such vulnerable families, the policy of resettlement proved unwell. Finally, Restrepo (2010) mentioned another evaluation about moving out conducted by Bhide et al. in 2003 where the sample selected from slums had provided pucca (burned brick wall with RCC frame and roof with corrugated still sheet) houses and due to changes some dwellers were moved out. Restrepo (2010) claimed that the past researches were not estimates properly, only based on approximations made by leaders or stakeholders and no real measurement of residential mobility was done. He also evaluated the number of dwellers how to leave SRS apartments. The table 5.5 represents the number of slum dwellers are moved out after rehabilitation and relocated or provide some better treatment of the vulnerable slum houses. According to Restrepo (2009), moving out phenomena of SRS dwellers are quite lower than past rehabilitation, and he mentioned that it is imperative to have a bright idea of the effects on residential mobility of the SRS policy, it is necessary to look at residential mobility before slum rehabilitation took place.

No	Survey	Sample size (HHs)	Evaluate	Project Surveyed	% Moved Out
Table 5.5: Dweller's Moving out after rehabilitation in Mumbai					
1	Bhide et al. (2003)	2138	Provide pucca houses	151	13.5%
2	Sharma et al. (2008)	1505	Relocated	3	15.2%
3	Restrepo (2009)	510	Rehabilitated	9	9.2%

Source: Restrepo, P. (2010). "Moving in-selling out: The outcomes of slum rehabilitation in Mumbai"-In International conference on applied economics–ICOAE (pp. 641-648).
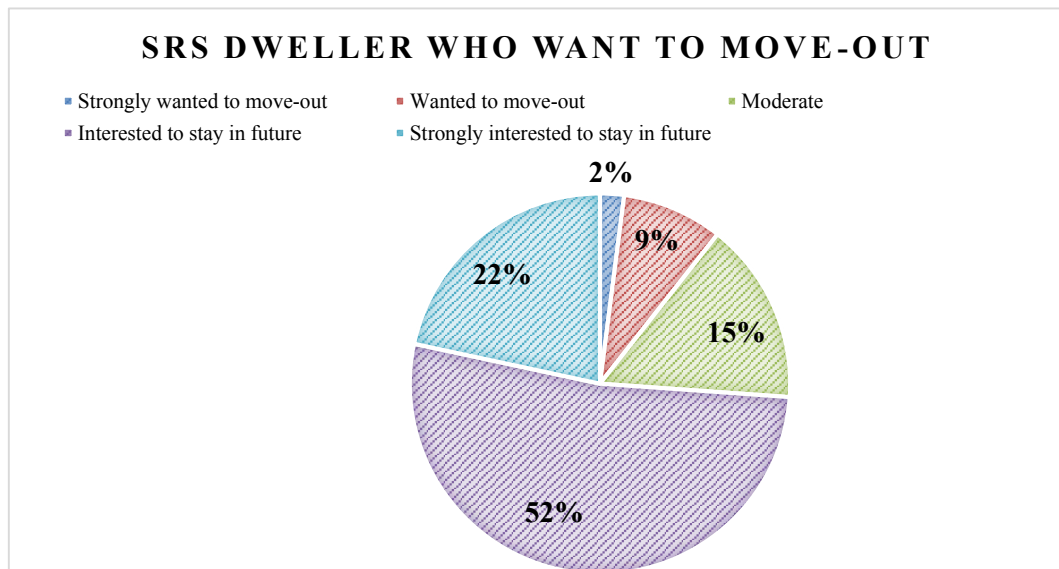
Figure 5.5: SRS Dwellers Who Want to Move-out
Source: Questionnaire Survey December 2016 and January 2017

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The shallow levels of residential mobility found in Mumbai slums confirm a similar pattern found in other Indian cities and developing countries 'cities (Restrepo; 2009). The questionnaire survey has one question to identify whether the dwellers wanted to stay in the SRS apartment in future or not. It means dwellers who do not want to stay in the future at SRS apartment has an intention to move out.

Figure 5.5 shows that only 2% dwellers from 245 respondents want to strongly move-out and 9% SRS dwellers wanted to move-out from the SRS apartment in future. Respecting the literature reviews and the evaluation conducted by some researchers already proved that the number of SRS dwellers who moved-out is deficient. At the same time, the questionnaire survey also found that a minimal number of SRS dwellers wanted to move-out from SRS apartment. However, the reason for moving out has several criteria including dissatisfaction that has already discussed, and the dwellers who are now staying at SRS apartments are somehow facilitated and continuing staying. Therefore, the research surveyed those who are satisfied and now staying in the apartment. Even though the number of SRS dwellers how moved-out is decidedly less in accordance by several researchers and this dissertation is not considering the dwellers who already have move-out but in future, the study could be extended to identify the reason of move-out by the SRS dwellers.

Conclusion:

The study realized the selection of the area is essential because all over Mumbai city has SRS apartment, but some areas contain the highest number of SRS apartment such as Dharavi, Kurla and so on. The study, therefore, considers three areas considering the features or characteristics of the areas that could represent similar features. The whole chapter is discussing the selected site and reason of selection as well as type of SRS projects. Furthermore, the chapter also discussed the type of interviewer of the SRS apartments. The main reason of selecting the variations in areas, projects and the behavior of SRS dwellers was considering to voiding monotonous or bias answers for the study's questionnaire survey with SRS apartment dwellers about their satisfaction with living.

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Chapter 6

Evaluation of Dwellers Satisfaction with Living at SRS Apartments and the Most Affected factors

6.1 Introduction:

As discussed in the previous section, some positive and negative observations have been made about Slum Rehabilitation Scheme (SRS) apartments by academia and practitioners (Nijman, 2008; Mukhija, 2001; Patel & Arputham, 2007; Roy, 2009). This chapter tries to justify those arguments by developing an analytical framework (Figure 6.1) and verifying it. This chapter also discusses some evaluation respecting coefficient correlation; t-test and structural equation modeling for justify the analytical framework.

6.2 Analytical Framework to Evaluate Dwellers Satisfaction with Living at SRS Apartments:

McCrea, Stimson, and Western (2005) develop a model that explains the factors that affect overall life satisfaction. These are: community satisfaction, neighborhood satisfaction, and housing satisfaction (McCrea, Stimson, & Western, 2005). Community satisfaction is predicted by some characteristics that are related to local governance such as education provisions and the cost of local taxes. Neighborhood satisfaction is affected by two neighborhood attributes, namely physical features and social features. Examples of the physical features are how well homes and yards are maintained, and whether there is adequate street lightning. Examples of social features include neighbors' interactions with one another, and the strength of community networks. Important predictors for housing satisfaction are the home's features, such as age, size, and tenure, and these three sources of satisfaction are linked together (McCrea, Stimson, & Western, 2005).

As this model focuses on a broader perspective of living satisfaction in general, and our study targets only satisfaction with living in SRS apartments, the model requires some modifications. We first divided the three sources of satisfaction into four components: (1) socioeconomic characteristics and development type, (2) social relationships, (3) physical features, and (4) management by corporative societies. A fifth component is (5) employment features. SRS projects force some residents to change their jobs, for example, some dwellers

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lost the space they had used for their small shops and others who cannot commute to their workplaces due to the relocation. Especially in the case of relocation, SRS projects increase some dwellers' commuting times and costs. Therefore, employment aspects are expected to affect dwellers' levels of satisfaction with living in SRS apartments. "Socioeconomic characteristics and development type" is composed of three indicators: (i) length of tenancy (ii) number of family members, and (iii) type of SRS development (in-situ/relocation). The type of SRS development identifies its effects on changes to dwellers' lifestyles.
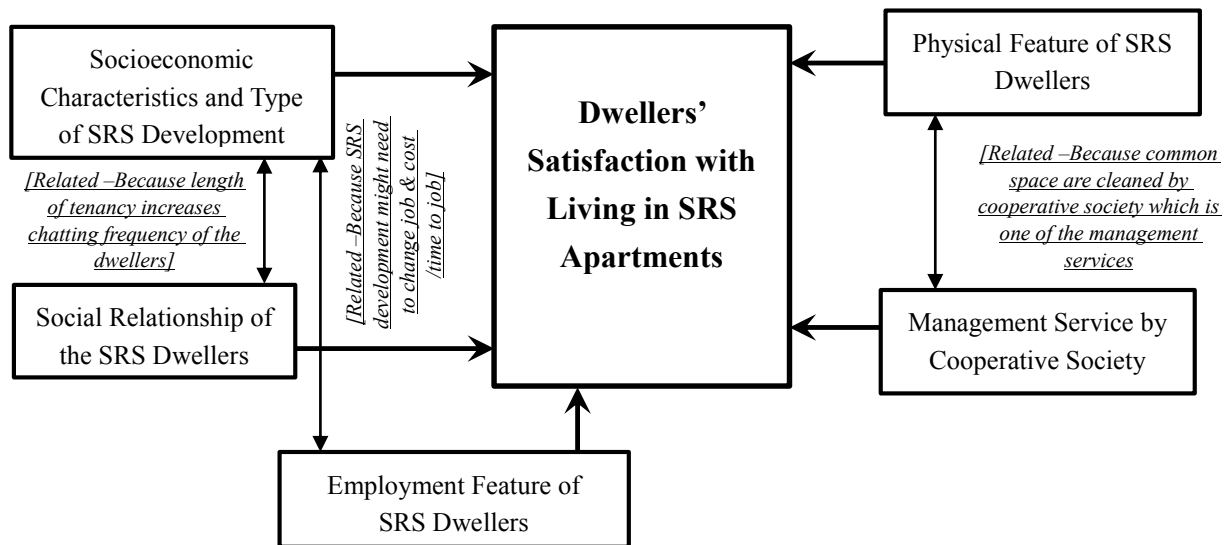
Figure 6.1: Analytical Framework of the Study
Source: Author

"Social relationship" is composed of two indicators: (i) How often dwellers chat with neighbors, and (ii) how often dwellers volunteer to participate in events at SRS. These two indicators are measures of "social features" in "neighborhood satisfaction" in the McCrea et al. model, that is, relationships with one's neighbors. "Physical features" are related to "housing satisfaction" in the McCrea et al. Model. They are composed of four indicators: (i) an evaluation of unit size for family use, (ii) an evaluation of unit size for furniture, (iii) hours of sunlight, and (iv) satisfaction with the width of corridors. Though the McCrea et al. (2015) model argues that unit size affects satisfaction with living, in the case of SRS projects, the same size (25-m2) of unit is provided for each family, and therefore we use (i) the evaluation of unit size for family use, and (ii) the evaluation of unit size for furniture. Hours of sunlight are considered, because one of the criticisms of SRS apartments is that the hours of natural light are too short. The width of corridors is considered, because we observed

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during our pre-survey that dwellers use the corridors in front of their doors for furniture, dumping garbage, drying clothes, and chatting with their neighbors (See: Pictures 1, 2, and 3)."Management by corporative societies" is equivalent to "social features" in "neighborhood satisfaction" in the McCrea et al. Model. It is composed of three indicators: (i) satisfaction with SRS management, (ii) an evaluation of corridor cleanliness, and (iii) the monthly management fee. As noted above, corridors are important shared places for those living in SRS apartments and corridor cleanliness is considered a measure of SRS management.

  "Employment' is composed of three indicators: (i) commuting time to one's job, (ii) the cost of commuting, and (iii) the necessity of having to change jobs for the SRS development.

These five components are thought to relate to each other as shown in Figure 6.1. For example, it is expected that the longer dwellers have lived in the SRS apartment, the closer the relationship they will develop with their neighbors, so it is expected that "socioeconomic characteristics" are related to "social relationships." The study also expected that the dwellers that changed their previous living location need to either change their job or pay

Picture 6.1: Corridor of an SRS building at Dharavi, Mumbai	Picture 6.2: Corridor of an SRS building at Lower Parel, Mumbai	Picture 6.3: Corridor of an SRS building at Chandivali, Mumbai
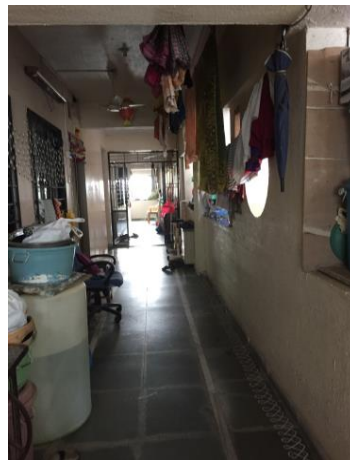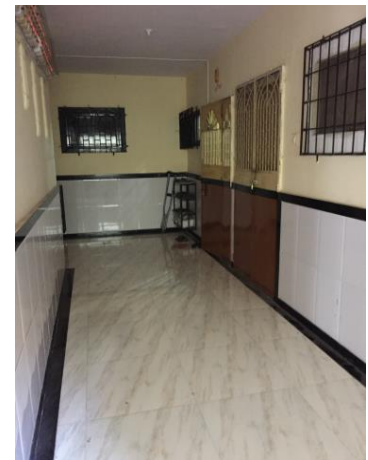
higher cost and take longer time for commuting to their original work place than previous. Therefore, it is also expected that the factor "Socioeconomic Characteristics and Development Type", especially types of SRS development (in-situ/relocation) make impact on 'Employment Feature'. The factor "Physical Feature' and "Management by Cooperative Society" are also likely to have a relationship because the common space of the apartment such as corridor, staircase, lobby and so on are cleaned by the cooperative society of the apartment. The study finds the necessity to check whether the relationships of the factors

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exist in the analytical framework or no. The table-6.1 represents the explanation of the relationship between two factors and the general characteristics of the analytical framework of the study (see figure 6.1)

No	Factor	Characteristics
Table 6.1: Characteristics of Factors Used in Analytical Framework:		
1	Socioeconomic Characteristics and Type of SRS Development	1. Length of tenancy in SRS 2. Number of Family Members 3. Type of SRS Development (in-situ /relocation) 4. Total Family Income
2	Social Relationship of the SRS Dwellers	1. Chatting frequency/week 2. Chatting Places (Corridor, own room, street) 2. Volunteer work at SRS
3	Employment Feature of SRS Dwellers	1. Commuting time to job 2. Cost for commuting 3. Walking is the access mode of commuting 4. Public transport is the only access of commuting 5. Necessity to change job for the SRS development
4	Management Service by Cooperative Society	1. Satisfaction with management 2. Evaluation of corridor cleanliness 3. Management fee/ month 4. Participation in events
5	Physical Feature of SRS Dwellers	1. Evaluation of unit size for family 2. Evaluation of unit size for furniture 3. Hours of sunlight (Hours of electric light use) 4. Evaluation of corridor wide

6.3 General Characteristics of the Respondents:

Table 6.2 shows the overall characteristics of respondents. The questionnaire survey was targeted to the household head or his/ her spouse. Moreover, the study considers the original owners; it means the dwellers that live here before SRS construction in the slum. It important to say that there are many rented habitant and parched owners are available in SRS apartments. In the case of the spouse, they respond in state of their husband/wife about some questions those were prepared for household head. For example, several answers were considering household head such as the distance of the workplace, family income and so on and spouse answered these questions on respect their husband/wife's action.

Table 6.2: Respondent General Characteristics				
	Dharavi	**Lower Parel**	**Chandivali**	**Total**
Sample Number	107	64	74	245
Socio Economic Characteristics				
Status in a Household (%)				
Household Head	62.6	73.4	48.6	61.2
Spouse	37.4	26.5	51.3	38.7
Gender (%)				
Male	54.2	64.1	39.1	52.2
Female	45.8	35.9	60.8	47.7
Average Age (years)	44.2	52.7	47.8	47.5
Range (years)	(21-80)	(27-85)	(24-79)	(21-85)
Average living duration (years)	13.6	8.0	8.4	10.5
Average Number of Family Members (people)	5.6	5.2	5.2	5.3
Household income /Month (%)				
0-5,000 Rs	2.8	12.5	12.1	8.1
5,000-10,000 Rs	16.8	15.6	29.7	20.4
10,000-15,000 Rs	33.6	23.4	27.0	28.9
15,000-20,000 Rs	24.2	21.8	16.2	21.2
+ 20,000 Rs	22.4	26.5	14.8	21.2
Household Heads' Employment Characteristics				
Employment status (%)				
Employee	94.3	67.1	90.5	85.3
Unemployed	5.6	35.9	12.1	15.5
Average time to work (two ways) (in min.)	45.8	30.6	83.4	52.6
Average cost to get to work (two ways) (Rupees)	31.0	12.2	34.6	29.6
Job change ratio for the SRS Project (%)	5.6	0.0	21.6	9.3
SRS Physical Feature				
Electric light use in room/day (hours)	11.5	9.4	9.0	10.2
Average corridor width (meter)	1.71	1.75	1.90	1.78
Evaluation of Unit Size for Family (%)				
Too small	4.6	10.9	6.7	6.9
Small	17.7	10.9	35.1	21.2
Moderate	41.0	14.0	9.4	24.4
Size is good enough	31.0	51.5	40.5	39.5
Size is perfect	4.6	12.5	8.1	7.7
Evaluation of Unit Size for Furniture (%)				
Too small	3.7	12.5	8.1	7.3
Small	21.5	20.3	45.9	28.5
Moderate	41.1	14	14.8	26.1
Size is good enough	31.7	45.3	27	33.8
Size is perfect	1.8	7.8	4.0	4.0
Relationship with Neighbors				
Chatting frequency with neighbors/week (times)	4.9	4.9	5.8	5.2
Ratio of Chatting with neighbors at corridor (%)	58.8	89.0	77.0	71.4

Management and Maintenance by Cooperative Housing Society of SRS Apartments				
Evaluation of Management of SRS Apartment by the Society (%)				
Disappointed	3.7	0.0	0.0	1.6
Unsatisfied	26.1	3.1	2.7	12.6
Moderate	32.7	20.3	18.9	25.3
Satisfied	37.3	71.8	54.0	51.4
Fully satisfied	0.0	4.6	25.6	8.9
Evaluation of Cleanness of Corridor (%)				
Too dirty	2.8	0.0	0.0	1.2
Dirty	15.8	1.5	1.3	7.7
Moderate	29.9	6.2	2.7	15.5
Clean	40.1	71.8	81.0	60.8
Very clean	11.2	20.3	14.8	14.6
Average management fee/ month (Rs.)	493	575	378	480
Range (Rs.)	400-700	500-700	300-500	300-700
Ratio of participating in events by societies (%)	79.4	87.5	93.2	86.5

In the table 6.3 the respondents' ages ranged from 45 to 53 years, and the average age was 47.5 years. On average, 5.3 people lived in a 25-m2 unit. On average, the respondents had lived in the SRS apartments in Dharavi for more than 13 years, and in Lower Parel and Chandivali for about eight years. Dharavi is a much older SRS project than the other two projects.

Under the scheme; Interest Subsidy for Housing the Urban Poor(ISHUP) of 2009, Lower Income Group (LIG) classified lower-income people's monthly income from 5001-10,000Rs on 14th November 2012 (EWS; 2018). Considering the classification by LIG, table 6.3 reflects the comparison of income distributions for the three areas where Chandivali has the highest number of lower-income households group (See table 6.3) Concerning employment, in Chandivali, which is the relocation type SRS, about 22% of the dwellers had to change their previous employment due to SRS projects, whereas in Dharavi, only 6%, and in Lower Parel almost no residents, had to change their jobs. Dwellers' commuting times and costs in Chandivali are much longer and higher than in the other two in-situ SRS projects. Standard 25-m2 units are constructed in all SRS projects, though the widths of the corridors and the sizes of common areas differ from building to building. The Chandivali SRS has the widest corridors of the three areas.

Extensive published literature has predicted that relationships between neighbors in SRS apartments are not positive (Banerjee, 2002; Das, 2003; Praja, 2014), which means that they do not chat and connect with their neighbors as they did in their previous slum lives. Therefore, we also asked respondents how often they chatted with their neighbors on a weekly basis, and the results show that in Dharavi and Lower Parel, SRS dwellers chat with

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their neighbors about five days a week, and in Chandivali, about six days per week. Chandivali is the relocation type of SRS, and dwellers came from different parts of Sanjay Gandhi National Park. Therefore, we expected their connections with their neighbors would be less than those in other in-situ SRS projects. However, the study found the opposite result. In fact, when the authority provided units for former slum-dwellers in Chandivali, they tried to accommodate former slum-dwellers from the same site on the same floor in the same building. Therefore, their bonds with their neighbors seem strong. Table 3 shows that in Lower Parel 89%, in Chandivali 77%, and in Dharavi about 59%, of the residents talk with their neighbors in the corridor, so the corridor is their main place for communicating with their neighbors.

Chandivali dwellers have the highest satisfaction with SRS management, and this is thought to be because many dwellers in Chandivali work for corporative societies. The Chandivali SRS apartment-dwellers had to change their jobs because of their location, and, moreover, it was hard to find work near the SRS apartments because of the long distance to the city center, and for this reason, many dwellers are involved in working at a society. Slum cooperative societies are responsible for the management of SRS apartments. Therefore, in Chandivali, SRS dwellers are expected to be relatively more satisfied with living in SRS apartments. This result corresponds with the finding that Chandivali residents' evaluation of corridor cleanliness—one of the society's management responsibilities is the highest, and has the highest participation rate for volunteering for events organized by the society.

6.4 Satisfaction with Living in SRS Apartments and Willingness to Stay in the Future
Figures 6.2 and 6.3 illustrate apartment-dwellers' levels of satisfaction with living in SRS apartments, and their desire to stay in the future. As Figure 4 shows, 12% of SRS dwellers are strongly satisfied, and 59% are satisfied, though only 9% answered unsatisfied and disappointed. In the case of willingness to stay in the future, 22% are very much interested in doing so, and 52% are interested in staying in the future, though 11% of SRS dwellers are uninterested and not at all interested. From these results we can say that overall, SRS dwellers in the three areas are satisfied with life in SRS apartments. Next, we examine the results evaluating their willingness to stay in SRS apartments in the future by area.

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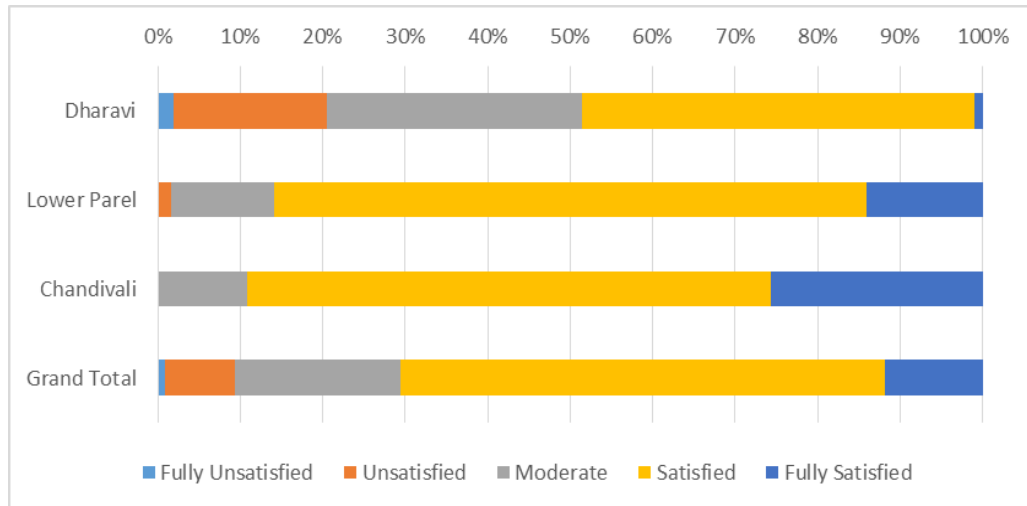
Conducted: December-2016, January-2017
Figure 6.2: Dwellers' Satisfaction with Living in SRS Apartments
Source: Author's Questionnaire Survey
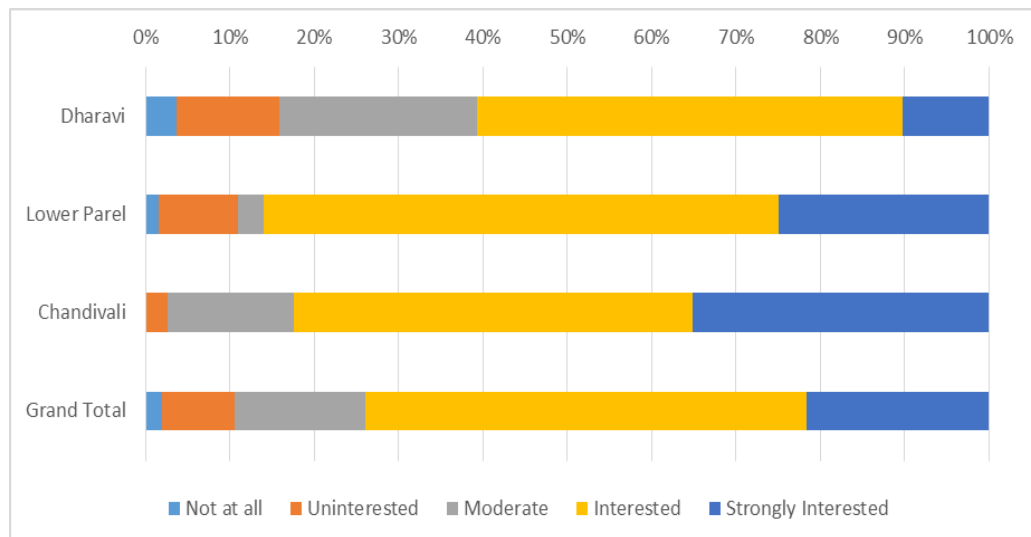
Figure 6.3: Dwellers' Willingness to Stay in SRA Apartments in the Future
Source: Author's Questionnaire Survey
Conducted: December-2016, January-2017

Here, Chandivali dwellers show the highest willingness, and then Lower Parel, and Dharavi shows the lowest willingness to stay in SRS apartments in the future. As Chandivali is the relocation type of SRS, in which some dwellers had to change their jobs due to the relocation, therefore, the study expected that their satisfaction would be the lowest, but the results do not support the expectation.

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6.5 General Analysis of Five Factors of Analytical Framework of the Study:

This section of the dissertation will discuss the results of each indicator used in factors of the analytical framework.

6.5.1 Socioeconomic Characteristics and Development Type of SRS Apartments:

Table 6.3 already has discussed some factors that the study selects to identify the level of satisfaction in living at SRS apartments. However, the study targeted to evaluate the response of SRS dwellers with structural equation modeling (SEM). Therefore, to identify the most affecting factor, the study also considers some unique factors other than socioeconomic characteristics which can also consider as socioeconomic characteristics such as; SRS dwellers' self-security.

SRS Dwellers' Living Satisfaction Respecting Security

■ Dissapointed   ■ Unsatisfaid   ■ Moderate   ■ Satisfied   ■ Fully Satisfied

Figure 6.4: Security Expression with Satisfaction in Living
Source: Author's Questionnaire Survey

SRS Dwellers' Expression about Security Area Wise

■ Feel Insecure   ■ Moderate Feeling   ■ Feel Secure
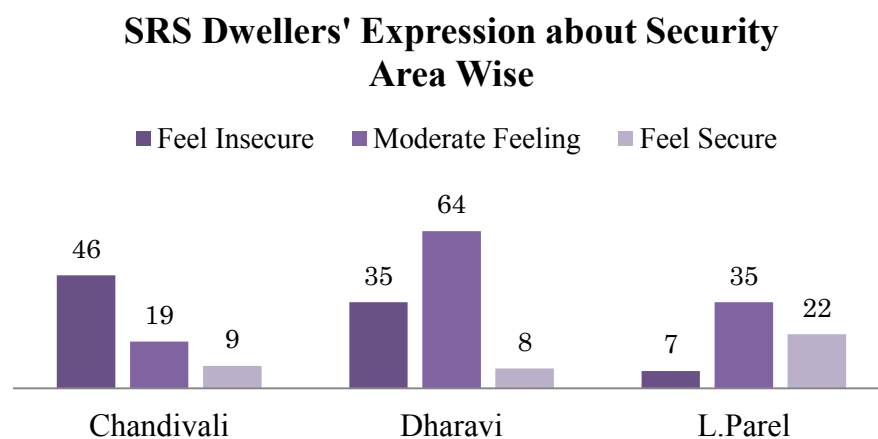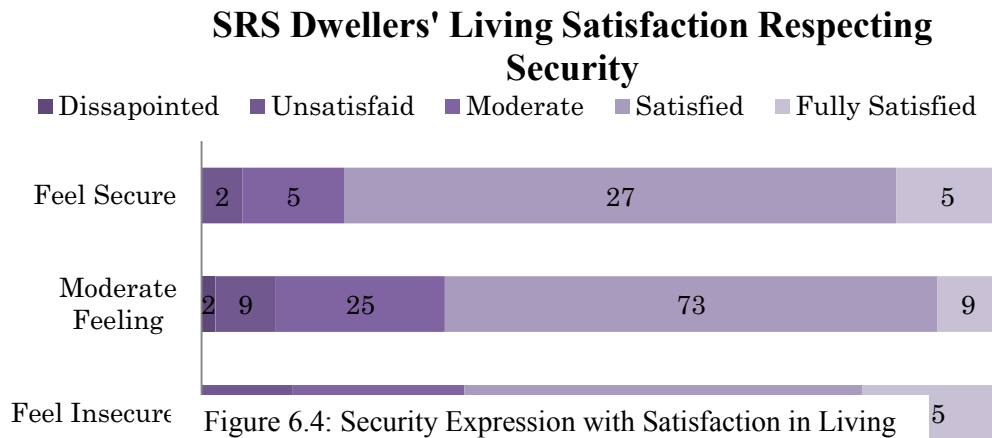
Figure 6.5: Dweller's Security Expression Area Wise
Source: Author's Questionnaire Survey

In the questionnaire survey the study asked about their security feeling in likers scale, for example; how do you lock your room's door? Answer: 1= I always lock my room's door, 2=

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only when go outside of my room, and 3= I always keep my door open unless at night. In the study, the answer reflects as 1= feel insecure; 2= moderate feeling about security and 3= is feeling insecure. Figure 6.4 shows 16% of dwellers feel secure whereas only 3% of them are unsatisfied in living at SRS. On the other hand, 36% of dwellers are feeling insecure, and among them only 12% of people are unsatisfied. The expectation of the result shows the opposite. It means the expression varies in area wise. In Dharavi, SRS dwellers are not feeling secure only 7% dwellers are feeling secure.

6.5.2 Social Relationship:

The factor social relationship has selected to know the dweller's relationship with each other's. As mentioned in table 6.3, it is essential to identify whether the SRS dwellers are in a right relationship with their neighbor or not. Figure 6.6 (a) shows that 41% of dwellers use
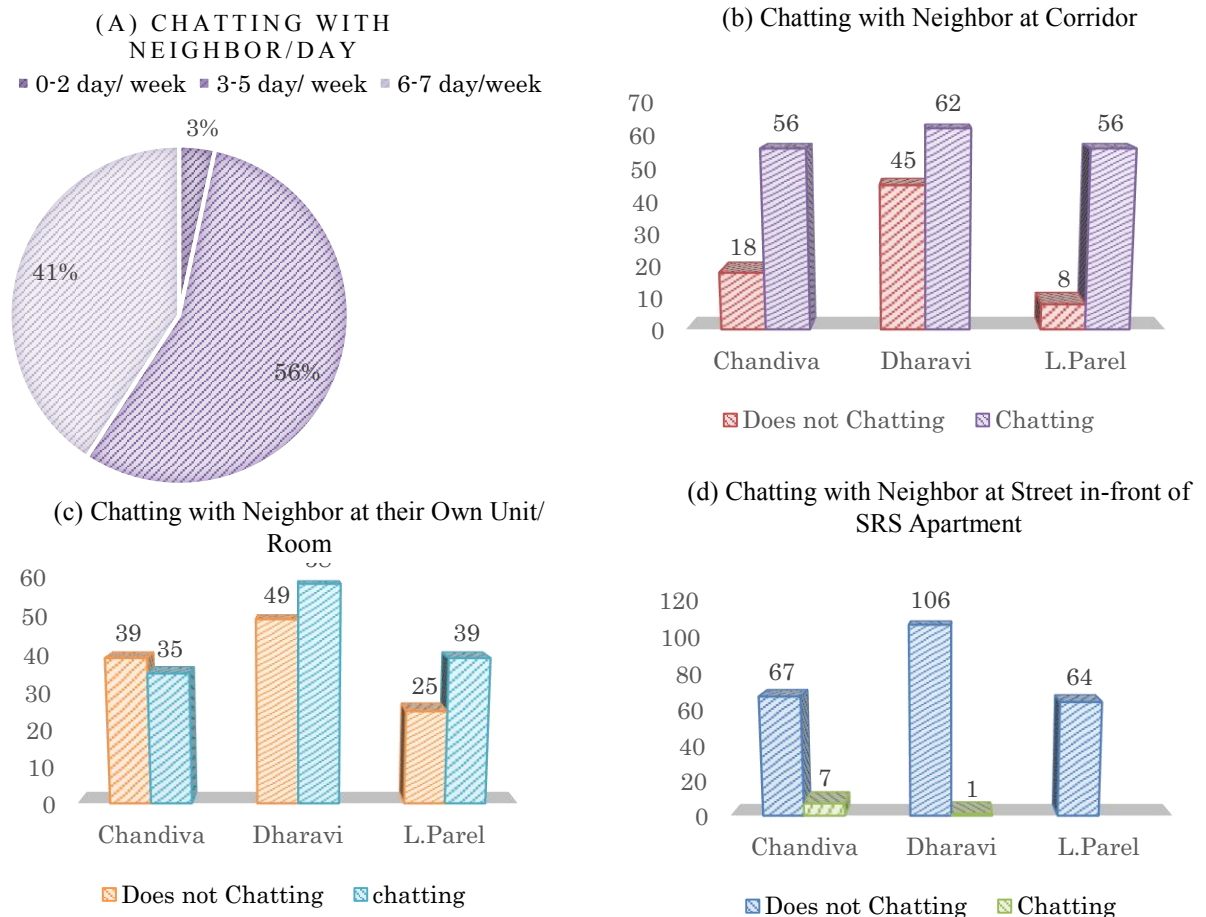
Figure 6.6: Chatting Frequency with Neighbor and Their Chatting Places
Source: Author's Questionnaire Survey

to chat with their neighbor 6-7 days per week it means every day they use to talk with each other. Chandivali SRS Dwellers use to chat with their neighbor at mainly at Corridor. 76% of

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dwellers use chat at the corridor, and 47% uses to talk in their room at Chandivali SRS apartments. Meanwhile, 58% use to chat at the corridor and 54% are talking in their room at Dharavi SRS apartments. In Lower Parel SRS apartment, 87.5% at corridor and 61% dwellers are usually talking with their neighbor at their room. Some dwellers responded that they are chatting with their neighbor everywhere not the only corridor but also their room and open space. Moreover, it occurs in the entire SRS apartment in Mumbai.

6.5.3 Employment Feature:

(a) Required to change work

(b) Walking is the Access to the Workplace

(c) Public Transport is the Access to the Workplace
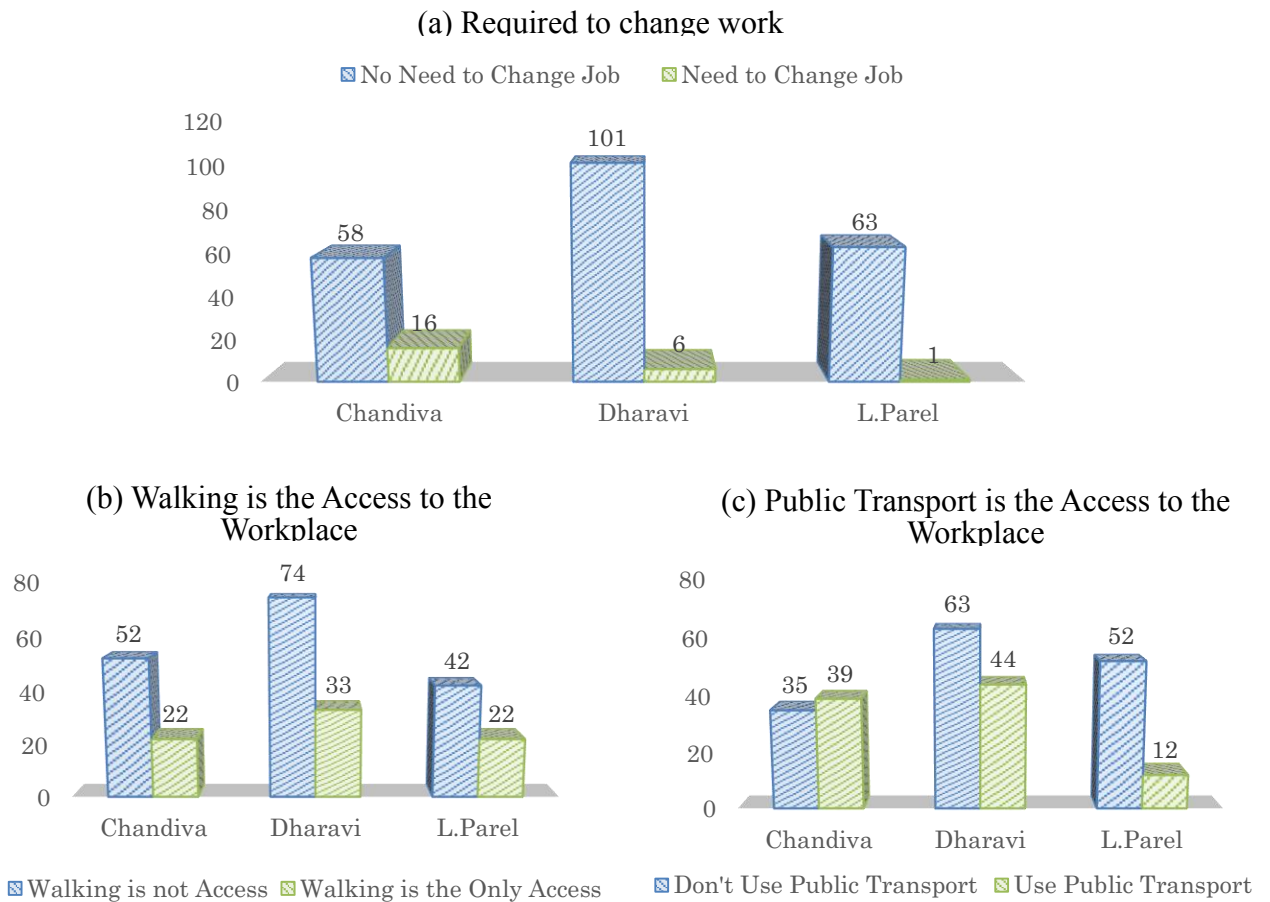
Figure 6.7: Access Mode to the Dwellers Working Place in Area-Wise
Source: Author's Questionnaire Survey

Employment feature explained in table 6.3, but, the study wanted to find whether the dweller's satisfaction varied in area wise or not because the location of selected SRS apartment for questionnaire survey is not same, Dharavi and Lower Parel located near Central Business Districts; CBD and Chandivali locate far from CBD. At the same time, how does the employment features such as; total time and cost to their workplace and whether

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they change their occupation to live at SRS apartments or not.   In earlier sections, the study discussed that the total time and cost of dwellers are much higher at Chandivali SRS apartments than other two case-study areas. Now, figure 6.7 represents the access mode to the dwellers working place in area wise. The study expected that the dwellers in Dharavi use to walk to their workplace as its closer to CBD and only 31% of dwellers are walking to their workplace whereas 41% of dwellers use public transport. Since Dharavi surrounded with many stations, therefore, the dwellers use public transport for commuting. On the other hand, most of the Chandivali dwellers are depends on public transport. 53% of dwellers commute public transport to them, however; the facility of public transport is not so much.

6.5.4 Management and Maintenance Service by Cooperative Housing Society

Meanwhile, figure 6.8 represents the relationship between the SRS dweller's living satisfaction and the maintenance satisfaction done by the cooperative society. It shows that no dwellers in Dharavi SRS apartment are satisfied with their apartment maintenance service where almost 30% of dwellers disappointed or unsatisfied with the service. Besides, 62% of SRS dwellers, who are satisfied with their management service are also satisfied or fully satisfied with living at SRS apartments.
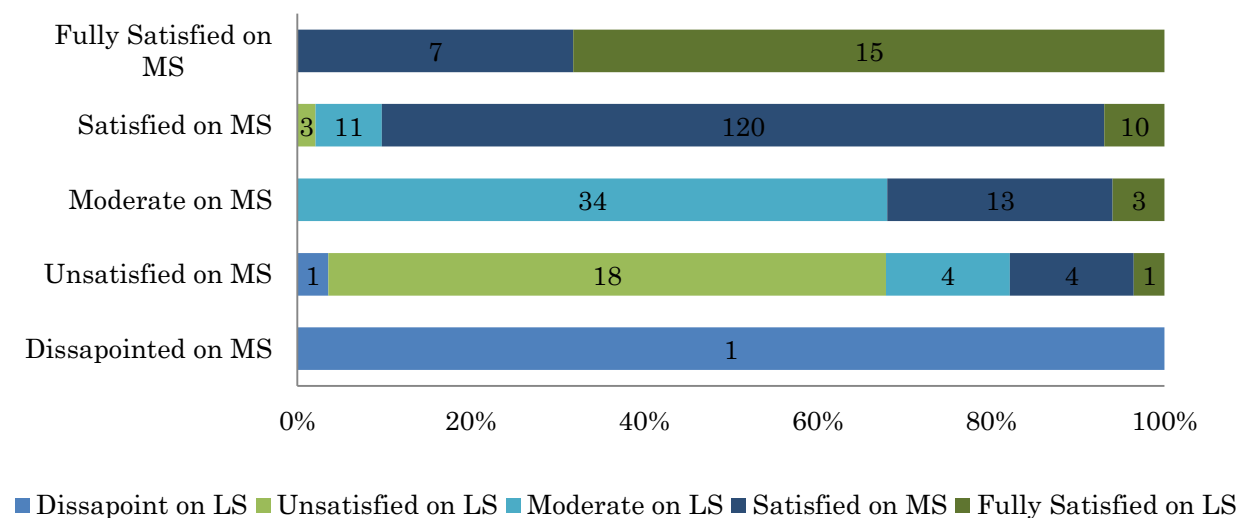
Figure 6.8: Comparison of Satisfaction with Living at SRS apartment and
Satisfaction about the Maintenance Service by Coop Society
Source: Author's Questionnaire Survey

Note:
1. MS means Dwellers Satisfaction about the Management and maintenance Service by the Cooperative Housing Society of that apartment.
2. LS means Dwellers Living Satisfaction at SRS apartments

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6.5.5 Physical Feature of SRS Apartment:

Unlike other factors, the physical feature is also discussed in table and section no 6.3 and found some difference and similarities results while evaluation dwellers satisfaction with living at SRS.

Table 6.9 represents the comparison between SRS dweller's living satisfaction and the given room or unit by the developer. As mentioned at chapter 4, that there some research criticized SRS policy because of the physical appearance such as room size or building environment
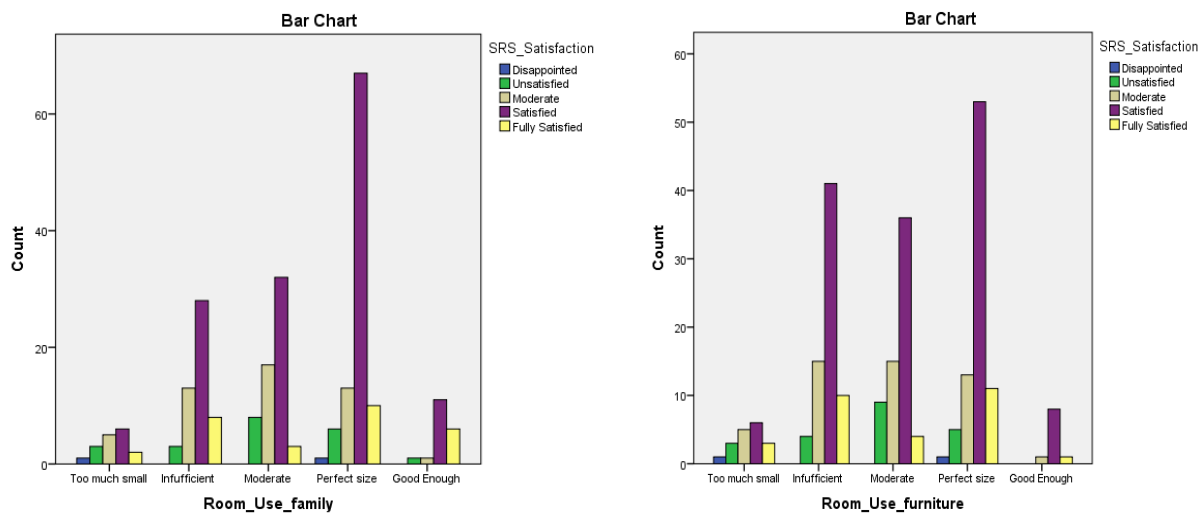
Figure 6.9: SRS Dwellers Expression about Room Size [for family member use (left picture) and furniture use (right picture)

(Banashree; 2002, Das; 2003, Ranita, Sayantoni, Arnab, 2015) therefore the study intended to evaluate whether the room size affects dweller's satisfaction or not. 38% of dwellers are satisfied or fully satisfied when their expression about room size is a perfect size or good enough.

6.6 The SRS Dwellers' Dissatisfaction:

The earlier sections already discussed the SRS apartment's dwellers' level of satisfaction and the factors that affect most with living at SRS apartments. The study here intended to discuss the dwellers who are not satisfied with their living at SRS apartments. In the questionnaire survey, the study conducted with the original owner of a room in SRS apartments. Original owners here mean the dwellers that live before the apartment construction, in the slum. Naturally, these dwellers are satisfied with living at SRS apartments otherwise they leave. However, in the questionnaire survey, the study found, some dwellers are not satisfied with

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living at SRS apartments. Among 245 respondents 72 respondents judged their expression about living satisfaction is moderate to disappoint. Figure 6.10 represents the percentage of dissatisfaction in three case study areas.

Dissatisfaction in Three Areas

	Chandiva	Dharavi	L.Parel
■ Dissapointed		2	
■ Unsatisfied		20	1
■ Moderate	8	33	8
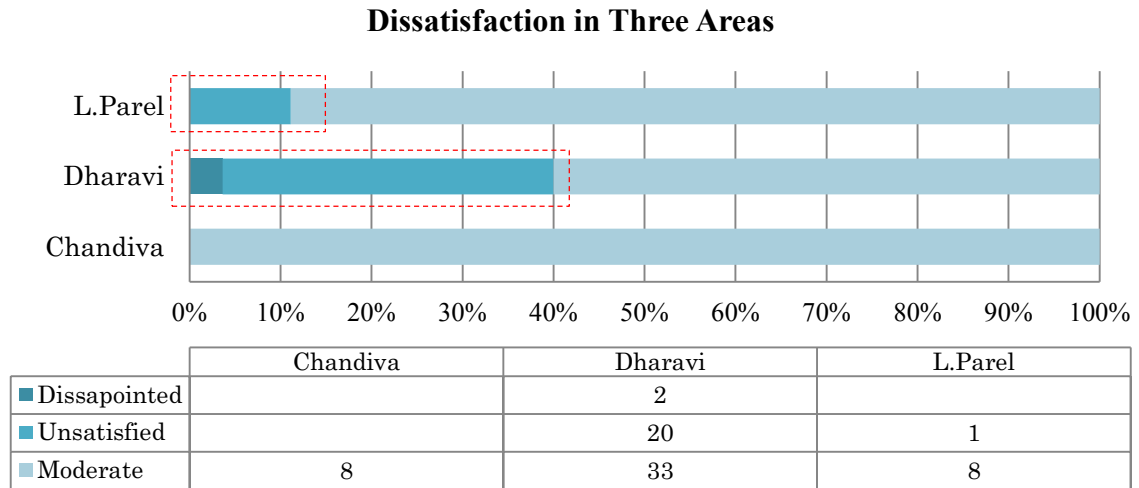
Figure 6.10 shows 12.5% dwellers expressed their judgment about overall living satisfaction moderate to unsatisfied in SRS apartment at Lower Parel whereas almost 45% dwellers in Dharavi SRS apartments are disappointed to moderate about their living satisfaction. In Chandivali SRS apartment, 12.5% dwellers are moderate about their living satisfaction. It means they do not decide whether they are satisfied or not. Meanwhile in chapter 7 discussed that the dwellers level of satisfaction in management and maintenance service varies in project wise. It means dwellers' percentage of disappointed in management and maintenance service is not equal in all SRS projects. For example, in Dharavi SRS apartments maximum dwellers responded disappointed about management service than other two areas. Meanwhile, it already discussed that SRS dwellers are satisfied when they are satisfied with their management service.

The analytical framework of the study has several factors to identify the factor that affects most on dwellers' satisfaction with living at SRS apartments. The study intended to identify the dweller's living satisfaction and conducted a questionnaire survey. In the survey, the list of questions asked about their expression on some features of SRS apartments and its service. For example, some researchers claimed about the poor validation and small natural light in SRS apartments; therefore, the study asked dwellers about their total duration of electrical light use in the room. The figure 6.11 shows cross tabulation results of the dwellers' judgment on their living satisfaction and the duration of electrical light use in their room.

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Here, the study only considers the dweller's judgment who does not satisfied or expresses their expression about the living satisfaction moderate.

Figure 6.11 shows that the dwellers use electrical light around 20 hours per day are unsatisfied with living satisfaction. The evaluation only considers the status from moderate to disappointed, and it shows the only one dwellers use the electric light 24 hours and he/she is unsatisfied with living as well. Meanwhile, two dwellers among 245 responses are disappointed and their hours of electrical light use not so long. Therefore, it can say that the hours of electrical light use do not affect dwellers' living satisfaction.

Dwellers' Judgment on Electrical Light Use

■ Moderate ■ Unsatisfied ■ Disappointed

20 hours/day	0 — 1 — 0
18 hours/day	4 — 7 — 0
14-16 hours/day	12 — 3 — 0
8-12 hours/day	23 — 5 — 0
4-7 hours/ day	13 — 5 — 2
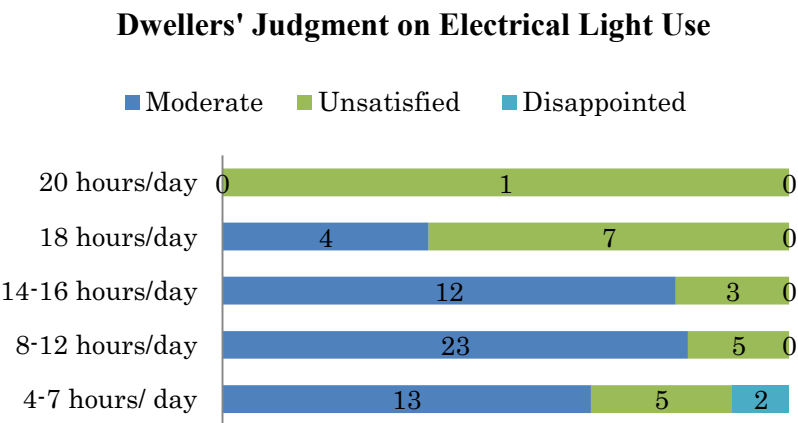
Figure 6.11: Dwellers' Judgment on Electrical Light Use & Living Satisfaction

The study already has discussed the relationship between dweller's living satisfaction and their judgment on providing room size. The figure 6.12 shows the room size expression by the dwellers that are not satisfied and fully satisfied. It means, the figure only represents the

Room size satisfaction and living dissatisfaction

■ Dissapointed ■ Unsatisfied ■ Moderate

Very big	1 — 1
Big	1 — 6 — 13
Moderate	8 — 17
Small	3 — 13
Too small	1 — 3 — 5

Figure 6.12: Room Size Satisfaction & Living Satisfaction

dweller's expression of their living satisfaction moderate to disappoint. Here, the study found, among the dwellers how fully unsatisfied with living at SRS apartments, only 1% dwellers' express their room size is "too much small." 4% of dwellers are unsatisfied with

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living, and 7% dwellers expressed their judgment moderate.

Some dwellers of SRS Chandivali project need to change their job for living at SRS apartments as they are living near Sanjay Gandhi National Park before (see chapter 5). In Chandivali, the maximum number of dwellers needs to change their job if comparing with other two case-study areas because these dwellers relocated from different areas but no dwellers in Chandivali SRS apartment are unsatisfied with living art SRS apartments. Only

Dwellers' who Change Their Job

■ Not Change Work ■ Change Work

Area	Not Change Work	Change Work
L.Parel	63	1
Dharavi	101	6
Chandivali	58	16
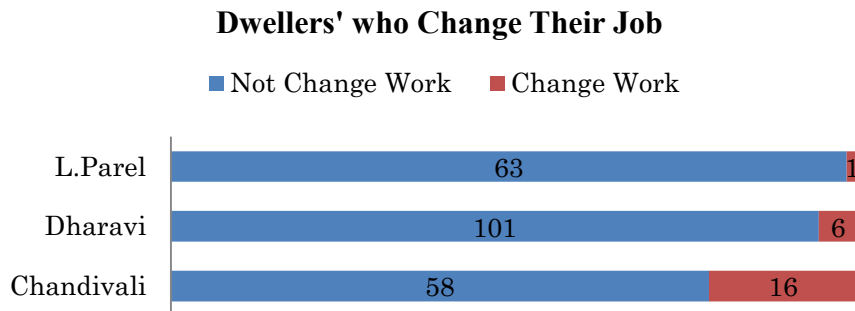
Figure 6.13: Area Wise Changing Job for SRS Apartment

Dweller's Satisfaction and Changing Work

■ Not Change Work ■ Change Work

Satisfaction	Not Change Work	Change Work
Fully Satisfied	28	1
Satisfied	127	17
Moderate	44	5
Unsatisfied	21	
Dissapointed	2	
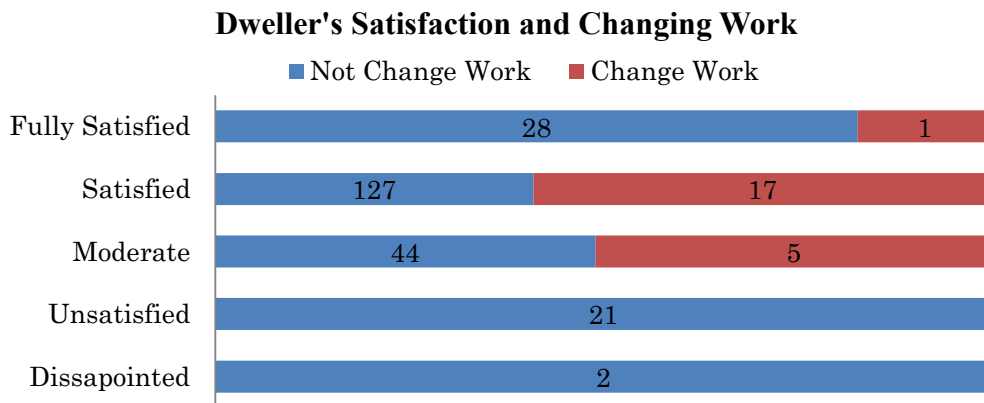
Figure 6.14: Dwellers' Satisfaction and Their Changing Job

2% of dwellers expressed their judgment "moderate" on the living satisfaction with SRS apartment. The result shows that the reason for dissatisfaction affects with dweller's changing job or not. The result shows, the dwellers who change their job for living at SRS apartments are express their judgment moderate about living at SRS apartments.

This section only considered the results of the responses that showed moderate to disappoint with living at satisfaction at SRS apartments in three case study areas. From the questionnaire survey, the study intended to verify the reason "why dwellers are unsatisfied or disappointed with living at SRS apartments." However, this dissertation already shows its result that 71% dwellers from 245 respondents are satisfied and fully satisfied with living at

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SRS apartments. And the dweller's living satisfaction is related with the maintenance service satisfaction done by the cooperative housing societies in SRS apartments.

6.7 Correlation Analysis, Nonparametric tests (Mann-Whitney U test: MW test) and Structural Equation Modeling (SEM) Analysis

In this chapter, the relationship between the five variables or factors used in analytical framework and the objective variables is examined using correlation analysis. After that the study analysis summary of correlation coefficient evaluation and then nonparametric tests (Mann-Whitney U test: MW test) for some dummy variables used in questionnaire survey.

6.7.1 Correlation Analysis for the Five Factors Used in Analytical Framework:
At first, the study was analyzing correlation analysis with these five variables (1) Socioeconomic Characteristics and Type of SRS Development, (2) Social Relationship of the SRS Dwellers, (3) Employment Feature of SRS Dwellers, (4) Management Service by Cooperative Society and (5) Physical Feature of SRS Dwellers 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.

6.7.2 Socioeconomic Characteristics and Type of SRS Development and Satisfaction in Living at SRS Apartments:
The study got some fundamental characteristics of social context such as the type of SRS development (in-situ or relocation), family income, length of tenancy in the SRS apartments and the total family member. Table 6.3 shows that two variables are significantly related with satisfaction in living at SRS apartment in negative means. They are; (1) type of SRS development of SRS, it means whether the dwellers are relocated of in-situ and another one is length of tenancy at SRS apartments. However, both variables are significant at negative means. The study was expected that the dwellers who have long living duration and type of SRS development would have positive significant, but the results shows opposite.

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Table 6.3: Correlation analysis of socioeconomic characteristics and satisfaction about SRS Apartments			
No	Indicator (Social Characteristics)	Correlation Coefficient *	P-value
1	Type of SRS Development (In-situ/ Relocation)	r = -0.346	0.000
2	Family Income	r = 0.104	0.103
3	Length of Tenancy in SRS apartments	r = -0.261	0.000
4	Number of Family Member	r = 0.020	0.752

6.7.3 Social Relationship of the SRS Dwellers with Satisfaction with living at SRS Apartments:

In this factor, the study considers few variables which may affected on the social relationship of the SRS dwellers. Table 6.4 shows the relationship of the correlation coefficient of the social relationship of the dwellers and the satisfaction in living at SRS. The study selects five variables such as (1) chatting frequency / week, (2) chatting place is the corridor, (3) chatting place is the dweller's own room/unit, (4) chatting place is the street and (5) volunteering at the events arranges cooperative housing society. Two variables have the statistical significance at the level of {p =0.003}, (1) chatting place at the corridor and (2) chatting frequency/ week {p =0.023}. 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. From this factor, the study will not consider any variables.

Table 6.4: Correlation analysis of social relationship and satisfaction about SRS Apartments			
No	Indicator (Social Relationship)	Correlation Coefficient *	P-value
1	Chatting frequency/ week	r = 0.146	0.023
2	Chatting place is at the corridor	r = 0.192	0.003
3	Chatting place at their own room	r = 0.006	0.920
4	Chatting place at the street of the SRS building	r = 0.091	0.155
5	Volunteering at the events arranges by neighbor	r = -0.050	0.435

6.7.4 Employment Feature of the SRS Dwellers with Satisfaction with living at SRS Apartments:

To know the dwellers satisfaction, it's also important to identify, whether the employment feature of the dwellers affects or not. Employment feature of SRS dwellers are asking that the distance of the workplace of the current job is affecting or not, the study asked about their necessity to change the job because of the SRS development and the total time and cost

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for commuting. Then the study also asked that whether the dwellers use to walk to their workplace and they need to use public transport. Table 6.5 shows that all variable in this factor has not statistically significant at the level of {p = 0.01}. Therefore, the study will not consider any variables from this factor for further evaluation.

No	Indicator (Employment Feature)	Correlation Coefficient *	P-value
1	Total time to work place / day	r = 0.118	0.065
2	Total cost of the workplace /day	r = 0.026	0.683
3	Walking is the access mode of commuting	r = -0.104	0.103
4	Public transport is the only access of commuting	r = 0.055	0.388
5	Necessity to Change Job for SRS Development	r = 0.041	0.522

Table 6.5: Correlation analysis of employment feature and satisfaction about SRS Apartments

6.7.5 Management and Maintenance Service by Cooperative Society of SRS Apartments with Satisfaction with living at SRS Apartments:

This factor depends on the management and maintenance service by the cooperative housing society and satisfaction in living at SRS apartments. Table 6.6 shows the relationship between the management and maintenance service by coop and the satisfaction of living at SRS and the selected variables are (1) satisfaction about management service, (2) evaluation of corridor and common space cleanliness, (3) management fee/ month and (4) participation in events arranges by the cooperative housing society. There are two variables; those have strong relationship with satisfaction in overall living at SRS apartment in this coefficient evaluation, such as (1) evaluation of corridor or common space cleanliness {p = 0.000} and (2) satisfaction about the management and maintenance service by the cooperative housing society {p = 0.000}. However, the maintenance fee/ month and participation in events haven't any significant correlation with satisfaction in living at SRS in this evaluation. Therefore, the study will consider the variables that have significant value as well.

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Table 6.6: Correlation analysis Management and Maintenance Services by coop society and satisfaction about SRS Apartments

No	Indicator (management service by coop)	Correlation Coefficient *	P-value
1	Satisfaction about management	r = 0.623	0.000
2	Evaluation of Corridor or common space cleanliness	r = 0.352	0.000
3	Maintenance fee/ month	r = -0.020	0.753
4	Participation in events arranges by Coop society	r = 0.201	0.002

6.7.6 Physical Feature of SRS Apartments with Satisfaction with living at SRS Apartments:

Correlation coefficient analysis of physical feature is showing at table 6.7. There are four indications determine to evaluate this factor they are; (1) evaluation of unit size for family members, (2) evaluation of the unit size for furniture use, (3) electrical light use in room/ day and (4) evaluation of the wideness of the corridor. 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) evaluation of the wideness of the corridor {p = 0.000} and evaluation of unit size for the family member {p = 0.007}.

Table 6.7: Correlation Coefficients of Physical Feature with Satisfaction in living at SRS Apartments

No	Indicator (Physical Feature)	Correlation Coefficient *	P-value
1	Evaluation of unit size for family member	r = 0.171	0.007
2	Evaluation of unit size for furniture use	r = 0.093	0.148
3	Electric light use in room/ day (in hours)	r = -0.162	0.011
4	Evaluation of the wideness of the corridor	r = 0.286	0.000

6.8 Summary of Correlation Analysis:

The summary of correlation of all factors represents all the relationship between the five components that used in the analytical framework of the study, the are (1) socioeconomic characteristics and development type, (2) social relationships with neighbor, (3) employment features, (4) physical features, (4) management and maintenance service by corporative societies, and   (5) satisfaction with living in SRS apartments is examined using correlation

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analysis and nonparametric tests (Mann-Whitney U test: MW test) for dummy variables. Table 6.8 summarizes the results of the correlation analysis.

No	Main Components	Indicators	Correlation Coefficient*	P-value
		Table 6.8: Summary of the Correlation Analysis of SRS Satisfaction and Each Indicator		
1	Socio-economic Characteristics	Length of tenancy	**- 0.261**	0.000
		Number of family members	0.020	0.752
		Total family income	-0.104	0.103
		Habitation status (in-situ/ relocation)	**-0.346**	0.000
2	Social Relationships	Chatting frequency/week	0.146	0.023
		Volunteering at events	- 0.050	0.435
		Chatting space –corridor	0.192	0.003
		Chatting space –own room	0.006	0.920
		Chatting space –street	0.091	0.155
3	Physical Features	Unit size is suitable for family	0.171	0.007
		Unit size is suitable for furniture	- 0.093	0.148
		Width of corridor	**0.286**	0.000
		Electric light use in room/day	- 0.162	0.011
4	Management & Maintenance Service by Corporative Societies	Evaluation of management	**0.623**	0.000
		Corridor cleanliness	**0.352**	0.000
		Management fee	-0.020	0.753
		Event participation arrange by coop society	**0.201**	0.002
5	Employment Features	Commuting time to work	0.118	0.065
		Total cost to work/day	0.026	0.683
		Walking is accessibility	-0.104	0.103
		Public Transport accessibility	0.055	0.388

*Bold figure means the absolute figure of correlation coefficient is more than 0.2.

Table 6.10 represents all indicators selected for evaluate analytical framework of the study. The correlation analysis shows in the table that length of tenancy or living duration and satisfaction in living at SRS apartments have negative relation. It means, longer living duration makes the dwellers unsatisfied. However, the present study only focuses the factor that effect satisfaction therefore the study considers this relationship illogical. Another illogical relationship shows in the table, SRS development type or habitation status (in-situ-relocation) and satisfaction in living at SRS apartments. However, the study expected to have a logical relationship between these two variables because, the SRS dwellers that need

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to change their past living place will be unsatisfied but, here the correlation analysis presents that the negative relation which is not expected for the current study. As the study intended to find the factor mostly affected dwellers satisfaction with living at SRS apartments therefore, the study considers this relationship illogical.

6.8.1 Socioeconomic Characteristics and SRS Development Type:

Socioeconomic Characteristics and Development Type, and Satisfaction with living in SRS apartments: Based on the analytical framework developed for this study, the study expected that length of tenancy or living duration, the number of family members, total family income, the project type (in-situ development or relocation) would affect dwellers' satisfaction with SRS apartments. At first, the study expected the longer their length of tenancy, the more satisfied dwellers would be with an SRS apartment, because the length of tenancy is expected to increase dwellers' attachment to the area as noted on upper section. However, the correlation analysis found the opposite result ($r = -0.261$). This result corresponds with the results in Dharavi where the dwellers' average tenancy was longer than 13 years and has a lower satisfaction than dwellers' in the other two areas where the average length of tenancy was about eight years.

Another expectation of the result was that the number of family members would affect dwellers' satisfaction, because the equal sized units were provided to each household in the SRS projects, without considering family size. The result showed there was no relationship ($r = 0.020$), and perhaps the reason for this was not only the number of family members, but also other factors such as age and lifestyle affect their satisfaction.

The development type of SRS projects (in-situ or relocation) is expected to affect dwellers' satisfaction, and the study expected in-situ development would result a higher level of satisfaction of the dwellers than those living in a relocation-SRS apartment. However, the results of the MW test show (see table 7.7) that dwellers in a relocation type development have significantly better satisfaction than those in in-situ developments as mentioned on upper sections. This result is also similar to previous results that showed dwellers in Chandivali, the relocation-type SRS, have the highest satisfaction.

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6.8.2 Social Relationship:

Social Relationships and Satisfaction with Living in SRS Apartments: Next, social relationships, that is, relationships with one's neighbors and satisfaction with living in SRS apartments are examined. In this case, the study expected that the closer their relationship in term of relation between neighbors, the more satisfied they would be with living in SRS apartments. Initially the research measured relationships with neighbors by their chatting frequency and how often they volunteered to participate in events arranged by a cooperative society. Correlation analysis reveals a very slight positive relationship between chatting frequency and satisfaction with living in SRS apartments (r = 0.146), but almost no relationship between the frequency of volunteering and satisfaction with living at SRS (r = -0.050).

6.8.3 Physical Feature:

Physical Features and Satisfaction with Living in SRS Apartments: As noted, academics and practitioners have criticized the physical features of SRS apartments. As apartments of the same size are provided to all dwellers, some questions asked to the respondents to evaluate the unit size for family and furniture use on a scale of one to five as discussed in table (see table 6.5). A correlation analysis shows a relatively higher relationship between the evaluation of unit size for the family and satisfaction with living in SRS apartments (r = 0.171), but almost no relationship between dwellers' evaluations of unit size for furniture use (r = -0.093). Though the number of family members does not have a significant relationship with SRS satisfaction, the evaluation of apartment size for the family indicates a relatively higher satisfaction with living in SRS apartments.

The correlation analysis also shows a significantly higher relationship between their evaluation of corridor width (on a scale of one to five) and satisfaction with living in SRS apartments (r = 0.286). This indicates the importance of the corridor, because many dwellers put their furniture in the corridor, as shown in Picture 2, and the corridor is the main place for communicating with one's neighbors, as mentioned previously.

As a lack of natural lightning in SRS apartments has been criticized, the study has some questions that asked respondents how many hours they used electric lights in the apartment in one day, to assess the natural lightning conditions: the longer they used electric lights, the less natural lighting they had. The result of this questions found that there was a slight

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negative relationship between electric light use and SRS satisfaction levels (r = -0.162), which indicates a slight positive relationship between natural lighting and SRS satisfaction.

6.8.4 Management and Maintenance of Cooperative Society of SRS Apartments:

Management by Corporative Societies and Satisfaction with Living in SRS: SRS is managed by cooperative societies composed of apartment-dwellers, and they must pay a fixed monthly management fee. Management activities include cleaning common areas, maintaining the elevators, completing other maintenance work, and arranging some events. The correlation analysis shows the strongest relationship between satisfaction with management provided by corporative societies (on a scale of one to five) and satisfaction with living in the SRS (r = 0.632).

One of the most important services provided by SRS management is cleaning the common areas, including corridors. The correlation analysis of corridor cleanliness and satisfaction with living in SRS apartments shows a strong relationship (r = 0.352). Additionally, the correlation analysis shows that there is no significant relationship between management fees and satisfaction with living in SRS apartments (r = -0.020). From the results of the MW test, dwellers that participated in the events arranged by the societies have a significantly higher level of satisfaction than those that do not participate.

6.8.5 Employment Feature:

Employment Feature and Satisfaction with Living in SRS apartments: The employment feature is assessed based on the time needed to reach the workplace, the costs of doing so, and whether they had to change their jobs for the SRS projects. We expected that the longer the commute times and the higher costs of getting to their workplaces the lower their satisfaction with living in the SRS apartment would be. Besides, we also expected that if they did not have to change their jobs for the SRS projects, they would have a higher satisfaction level. From our correlation analysis, we found that commuting time and cost do not have a significant relationship with dwellers' satisfaction with living in SRS apartments (r = 0.118, r = 0.026). This result is consistent with the finding in Chandivali where dwellers have the longest commuting times and highest costs, but also the highest level of satisfaction with living in SRS apartments.

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6.9 Analysis of Mann-Whitney U test: MW test for Dummy Variables:

Additionally, the MW test showed that average satisfaction levels are not significantly different between those who have changed their jobs and those who have not changed their jobs for the SRS project. From this analysis, the necessity of making a job change seems not to affect satisfaction levels related to living in SRS apartments.

When we conducted the same analysis by area, however, a different result was found. The results of the MW test showed that in Chandivali, those who did not change their jobs had significantly higher levels of satisfaction with living in SRS apartments than those who changed their jobs. As noted above, Chandivali is a relocation-type SRS development, and many more people here had to change their jobs than in the other two in-situ SRS developments. It can therefore be assumed that in the case of a relocation SRS development, having to change one's job relates to satisfaction levels associated with living in SRS apartments.

The table 6.9 represents nonparametric tests (Mann-Whitney U test: MW test) for dummy variables. In the questionnaire survey, the study conducted some questions that have only yes or no answer. For example: "are you relocated form another places or area?" answer: yes = 1 / no = 0.   Therefore, the study conducts MW test table 6.11 summarizes the results of the MW test.

No	Main Components	Indicators		Average of Satisfaction level with SRS	MW-test (Z-statistic) 2-tailed Sig.
Table 6.9: Results of the Correlation Analysis of SRS satisfaction and each indicator					
1	Development Type	Development type	Relocation	4.149	0.000
			In-situ	3.538	
2	Management by Corporative Societies	Event participation	Participated	3.792	0.016
			Did not participate	3.342	
3	Employment Feature	Job change	Change	3.826	0.731
			Did not change	3.711	
		Job Change (Chandivali)	Change	3.875	0.034
			Did not change	4.224	

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6.10 Structural Equation Modeling (SEM) Analysis:

The hypothesis or factor that affected the overall satisfaction in living at SRS, the study is analyzing structure equation modeling; SEM. Latent variable is expressed as ellipses; casual relations are shown by single headed arrows and the covariance is expressed as two headed arrows for the SEM model. The Study conducted path analysis using SEM in three areas in Mumbai, (1) Dharavi, (2) Lower Parel and (3) Chandivali, differently to identify the key factor that effect in living at SRS in area wise. Simultaneously, the study also conducted SEM model for the three areas altogether. Next sections of this article will discuss the SEM models in three different areas as well as overall Mumbai.

The path analysis of SEM model of overall Mumbai shows that the moderate and positive relationship between the degree of satisfaction in living at SRS apartments and the Social Environment.

According to many research, Physical Feature and Social Relationship especially with the neighbor is an important issue to improve the degree of satisfaction in living at SRS. Interestingly, the points have been discussed in some research such as; the size of the room and chatting space is also important issues to achieve the higher degree of satisfaction in living at SRS apartments by its dwellers. However, the most important factor that affects the level of Satisfaction in living at SRS apartments is satisfaction about management. Generally, SRS apartments in Mumbai manage by the slum society. In maximum case, the management of SRS formed with the members from dweller of the buildings. Management is depending on cleaning the corridor or common space or fixing the electric sapience and elevators if requires and arranges the general meetings and events in occasions. At a glance, the management of SRS is the social bondage with the dwellers and SRS buildings. For this reason, management in SRS is one of the important issues for Mumbai's SRS dweller's satisfaction in living.

6.10.1 SEM Analysis for SRS Dwellers Satisfaction at Mumbai:

The established model's GFI (goodness of fit index; more than 0.90 indicates a good fit) is 0.984, and the AGFI (a goodness of fit index greater than 0.90 indicates a good fit) is 0.943. The RMSEA (root mean square error of approximation in which values less than 0.1 indicate a good fit) is 0.065. Therefore, the SEM model proved a good integral fit model.

The model here expresses the standardized estimation where, the latent variable "management by the cooperative societies" has the highest standardized path coefficient ($r =$

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0.76), and is the dominant variable affecting "satisfaction with living at SRS." This latent variable is composed of three observed variables: "evaluation of management," "corridor cleanliness,"' and "event participation." "Evaluation of management" is more dominant than the other two variables from its standardized path coefficient (r = 0.82). Another latent variable is "physical features," and it is consistent with "evaluation of unit size for the family members," and "evaluation of width of corridor." From the standardized path coefficient, "evaluation of width of corridor" is stronger than "evaluation of unit size for the family members" (r = 0.67).
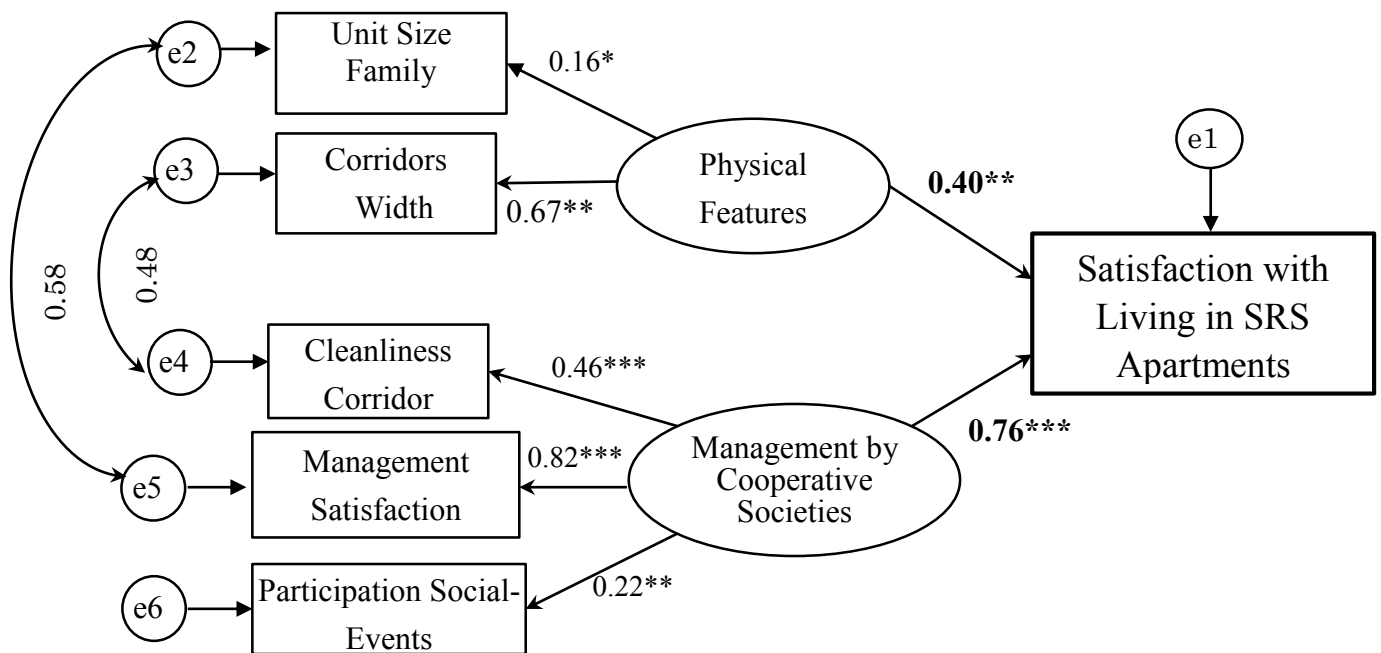
Figure 6.15-**The Moderate Slandered Solution for SRS Dwellers at Mumbai**
RMSEA= 0.065
GIF= 0.984, AGFI=0.943
***= 1%; **= 5%; *= 10%

6.11 Verifying the Analytical Framework of the Study:

This study verifies the analytical model shown in the Figure 6.16. In this figure, statistically significant relationships are shown in two components that were verified using correlation analysis, the MW test, and SEM, as illustrated. Regarding the correlation analysis, we accept the results when the absolute value of the correlation coefficient is more than 0.2. In the case

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of the MW test and SEM, "statistically significant" means significant at a 10% level. The width of the arrows indicates the strength of the relationship.

In the analytical framework, we expected that the five components affected dwellers' satisfaction with living in the SRS apartment. However, we find that only two components influence it. The dominant component is "management by cooperative societies." Though many academics and practitioners criticized SRS's physical features—such as unit size—, the results show that indicators such as "satisfaction with management" and "evaluation of corridor cleanliness" in "management by cooperative societies" have a greater effect.

Meanwhile, "physical features" also affect their satisfaction with SRS, and this finding is consistent with some criticisms by academics and practitioners. They mainly criticized the unit size, but interestingly, this study reveals that unit size per capita does not affect their satisfaction, but their evaluation of the unit size for their family does affect it. That is, not only the number of family members, but also other factors—such as their ages and lifestyles—affect their satisfaction levels. In previous research, the common space in SRS apartments has not been given careful consideration. However, this study reveals that an evaluation of the size of the corridor in front of their units also affects their satisfaction. This is to be expected, because the corridor is an alternative place for using furniture, drying clothes, and communicating with neighbors.
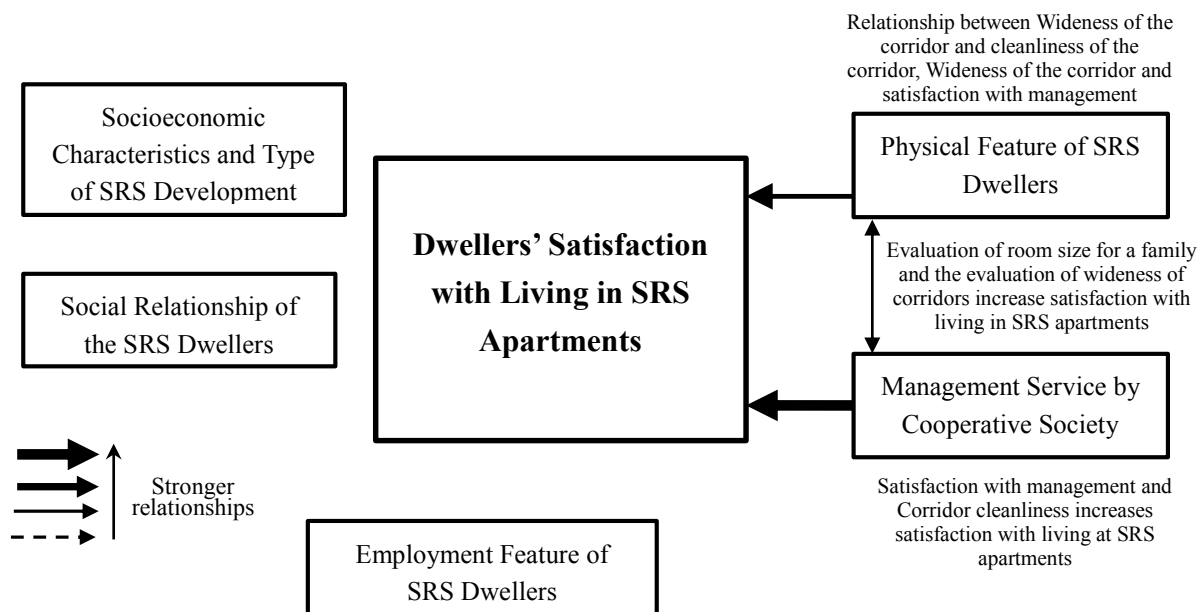
Figure 6.16: Verified SEM Model by Different Factors to Measure Satisfaction
with Living in SRS Apartments by its Dwellers'

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In the analytical framework, we expected that socioeconomic characteristics, development type, social relationships, and employment features would affect their satisfaction with living in SRS apartments, but the analysis shows that these components do not affect dwellers' satisfaction with SRS apartments. Using correlation analysis, we found a significant negative relationship between living duration and satisfaction with living in the SRS apartments, but it is supposed that as for the Chandivali residents, who have been there for a shorter period of time comparing with other two areas and the SRS is of a relocation type, it has the highest satisfaction with management, so length of tenancy seems to have a negative relationship with dwellers' levels of satisfaction with SRS apartments, and dwellers in the relocation-type have higher satisfaction. Therefore, we do not draw arrows between socioeconomic characteristics, development type, and satisfaction with SRS apartments.

When we analyzed employment features by area, we found that only dwellers that did not have to change their jobs had a higher average satisfaction level with SRS than those who had to change their jobs in the case of the relocation project.

6.12 Conclusion:

The study aimed to evaluate Mumbai SRS dweller's levels of satisfaction with living in SRS apartments and the factors that affected their levels of satisfaction. We developed an analytical framework based on relevant discussion and previous research to explain factors affecting the degree of satisfaction with living in SRS at three areas in Mumbai. From the questionnaire survey, we found that the dwellers are highly satisfied with living in SRS apartments. Then, correlation analyses, MW tests, and SEM analyses were conducted to verify the analytical framework.

These analyses show that SRS management and the apartments' physical features affect dwellers' satisfaction with SRS apartments. Since management influences more than an apartment's physical features, it is essential to develop a cooperative society that might ensure sound management. In this study, we have not examined how a good cooperative society could be formed to enhance overall SRS management. Therefore, a further study is needed to develop guidelines on stronger management practices. The study also found that the width and cleanliness of corridors in SRS buildings greatly affect dwellers' satisfaction. This study reveals that the development of wider corridors and SRS management are also important issues in the development of SRS apartments. In this study, we found that on

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average, families of more than five people live in 25-m2 sized units. To ensure the satisfaction, SRS apartments should have some options of unit size that respecting the number of dwellers' family. Therefore, if families were given units sized appropriately for the size of their family, their ages, and their lifestyles, their satisfaction would be expected to increase.

Some researchers argue against the relocation of slum dwellers to suburban areas (Viratkapan & Perera, 2004; Patel, d'Cruz, & Burra, 2002), but this study reveals that dwellers in the Chandivali SRS apartment, a relocation-type SRS, have the highest satisfaction. In Chandivali more than 20% of the dwellers changed their jobs, and now they commute for longer periods of time and incur greater costs getting to their jobs than dwellers in the other two areas. From the analysis, however, we found that commuting time and cost did not affect dwellers' satisfaction with the SRS, but changing jobs to live at an SRS has some effects only in the relocation-type of development. This means, in the case of a relocation-type of SRS development, it is essential that the area selected for relocation should have good transportation access to dwellers' original workplaces, so they do not have to change their jobs.

The Slum Rehabilitation Scheme has been criticized, but it has also provided secure tenure to many slum dwellers in Mumbai. This study proved that most of the dwellers are satisfied with living in the SRS apartments. A very large number of people across the globe live in slum areas without tenure security, and the SRS can be one of the measures used to provide tenure security, not only in India, but also in other developing countries such as Bangladesh. At the same time, SRS proved a successful step towards in the modern urban and regional planning that ensures the improvement of housing where the basic definition of the housing was ignored. Further studies about the conditions involved in applying SRS to other cities/countries are needed.

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Chapter 7

Evaluation of Management and Maintenance Service of SRS Apartments and its Affecting Actions need to take

7.1 Background:

UN-Habitat, published a report named "Slum Almanac 2015-2016" said one person of eight lives in slums in our world and 881 million at developing countries. This huge number is not only a matter to be focused but the swelling phenomenon need to be considers notified by the United Nations (UN-Habitat 2015-2016). However, because of taking quite a lot of actions to stop the growing anecdote of slum areas, the percentage of urban slum dwellers in developing countries decreases from 39-30 within the year from 2000-2014 (UN-Habitat 2015-2016). Unlike other developing countries, India also has taken several measures to minimize the number of urban slum dwellers. About 55 million people lives on public land without tenure right, (Banerjee; 2002), even though, initiation of several policy-based efforts reduces the number of slums and its dwellers, but formation of slums still need to have attention. According to some researchers, indeed Indian government adopted many acts, policies and action to control the growing rate of slums through providing tenure security, the dilemma still exists (Banerjee; 2002, Neelima Risbud; 2003, Ronita, Sayantani, Arnab, and Nagendra; 2015, Jagdale; 2015).

Mumbai, the capital of Maharashtra, one of the busiest cities, has the population of 16.4 million (Neelima Risbud; 2003). Mumbai is famous for industrial development especially in cotton mills and these industries offers jobs that does not necessitates of formal education and experience, so, anyone could have these jobs without formal contract (Ronita, Sayantani, Arnab, and Nagendra; 2015). Therefore, the city is attracting those migrants who look for informal jobs. Unsurprisingly, these migrates search of a home with cheap rate and easy accessibility to the work, so, slum becomes their first choice. To reduce uncontrolled growth of slums in the city even in the prime locations, government launched the act called "Slum area clearance act" which was a partial statute of "Maharashtra Regional and Town Planning Act- 1966". Through some changes that respected the demand of tenure right of urban slum dwellers, the state government of Maharashtra offered an unorthodox strategy of housing improvement in slum area as well as ensuring tenure right by launching a policy named; Slum Rehabilitation Scheme (SRS) in the year of 1995 (Nijman; 2008, Restrepo; 2010,

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Jagdale; 2015). SRS, noticed several researchers because of its independent governmental body, Slum Rehabilitation Authority (SRA) and its concept of free-market ideology.

Mukhija (2001) claims, Mumbai is the second essential cities in India for economic revolution since independence, and it highly depends on the free-market economy, so, if the market does not exist then market need to be created (Grant; 2002, Nijman; 2008). Since the scheme derives through market and local builders are executor of the projects, so the builders only quintessence on their own profit rather to slum dwellers predicted by several researchers (Das; 2003, Ronita, Sayantani, Arnab, and Nagendra; 2015). Several papers have published and argued about the modifications of requirement and the physical conditions of the SRS apartments (Banerjee; 2002, Das; 2003, Mukhija; 2001) however, there are no publications of slum dweller's judgment. Therefore, the past research evaluated the SRS dweller's judgment about their satisfaction with living at SRS apartments and result showed the dweller's satisfaction is increasing when the maintenance service is increasing as well. The judgment was evaluated using questionnaire survey with 245 SRS dwellers at Dharavi, Lower Parel and Chandivali, Mumbai to identify weather the dwellers are satisfied living at SRS apartments and its affected factor for satisfaction. The results show 71% of SRS dwellers (see figure 1) are satisfied or fully satisfied and the affected factor for satisfaction is satisfaction about the maintenance service in the SRS apartments. Even though all SRS dwellers follows the same regulation for management and maintenance service but the dwellers are not equally satisfied with the maintenance service by the in three areas where the questionnaire conducted.

Thus, the question arises "why the dwellers of SRS are not equally satisfied on their maintenance service?" To recognize the answer the study intended to identify the reason of the different of level of maintenance satisfaction of SRS dwellers in their apartments. The present article based on the responses of the key responsible person for maintenance service in SRS apartments and the recent conditions. The research conducted an inclusive interview with the secretary of Cooperative Housing Society (CHS) in three SRS projects where the past questionnaire survey was conducted. The study also involves a small questionnaire survey with the SRS dwellers 10 dwellers each under the interviewed cooperative society about the maintenance service in the apartment.

The article designed to introduce the features of recent contributions of maintenance of CHS through a framework and compare with dwellers judgment of maintenance satisfaction in

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three case-study areas.

7.2 Dweller's Judgment about Maintenance Satisfaction:

Upper results show the level of SRS dweller's living satisfaction is not same within the case-study areas, Dharavi, Lower Parel and Chandivali. Unlike living satisfaction, dwellers maintenance service satisfaction is not equal as well. Figure 7.1 represents the maintenance service satisfactions where no dwellers in Dharavi SRS apartments are fully satisfied and 45% of them satisfied about maintenance service. Meanwhile, in Lower Parel 80% dwellers are satisfied where 14% are fully satisfied about maintenance service. In case of Chandivali, 88% dwellers are satisfied among them 26% are fully satisfied.

SRS Dwellers' Satisfaction on Managemet Service in Three Areas
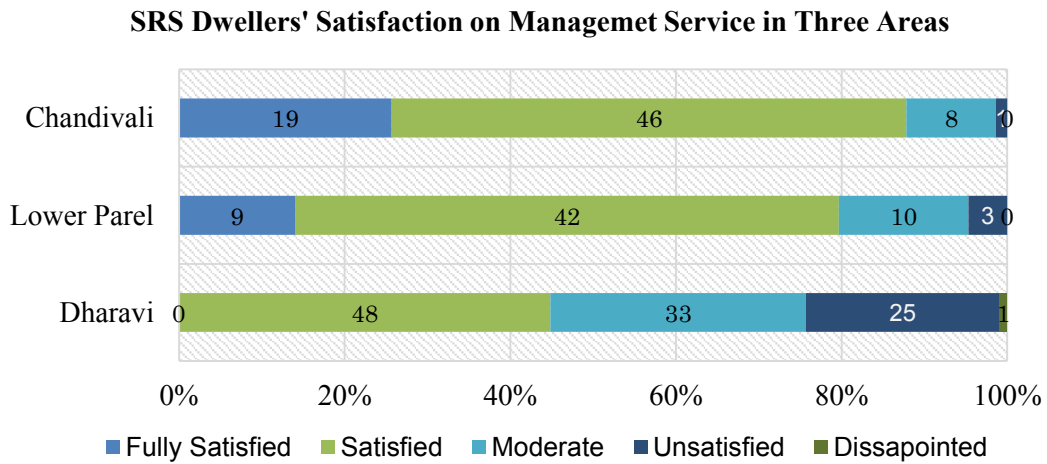
Figure 7.1: SRS Dweller's Satisfaction on Management Service in Three Areas

7.3 Co-operative Housing Society; CHS of SRS Apartments:

SRS project application in Mumbai should undergo with a regulation where slum dwellers needs to form a cooperative society and the leaders of the society hires a developing company and the architect as per the necessity before applying (SRA; 2018). Accountable leader or promoter [1] of the society signed as a cooperative society and other official formalities at the registrar cell in SRA. He/ she later decides and distributes the responsibility of maintenance of the allotted apartment for slum dwellers.

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[1] Promoter: Bye-law, promoter is a person, who has signed the application for registration of the society. He the only authorized person how constructs apartments/flats and sell rooms/ units respecting the regulations of SRS construction. The regulations have the flexibility to sell a room/ unit after ten years of allotment (SRA; 2018).

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It means, slum society in the key responsible to execute the projects therefore, researchers claim, active participation of local community is the basic requirement to develop as well as success a SRS projects (Nijman; 2008, Jagdale; 2015). Another essential requirement is slum declaration; under the regulation, if a slum area occupies any vacant public or private land need to declared as a slum by the government as par "Slum Area Clearance and Improvement Act 1971" and then the cooperative slum society could apply for SRS project and most importantly, the area should have at least 500 residents (SRS; 2018).

Table 7. 1: Characteristics of CHS in three case-study areas at Mumbai

Location	Name of CHS	SRS Apartment information	Total member of CHS	Interviewer (Key person for CHS)
Muslim Nagar, Dharavi, Mumbai	Muslim Nagar Nabi Nagar Cooperative Housing Society, Dharavi, Mumbai	1. Project allotted year: 1997 2. CHS involves: 1997 3. Story: Ground + 7 4. Unit size: 225 sq. feet 5. No of elevator: 2 no.	171 HH	Secretary of CHS
Gomata Nagar, Lower Parel, Mumbai	Gomata Janata SRA Cooperative Housing Society, Lower Parel, Mumbai	1. Project allotted year: 2008 2. CHS involves: 2008 3. Story: Ground + 7 4. Unit size: 225 sq. feet 5. No of elevator: 2	254 HH	Secretary of CHS
Sangrash Nagar, Chandivali, Mumbai	Sivneri Society of SRA, Chandivali, Mumbai	1. Project allotted year: 2008 2. CHS involves: 2008 3. Story: Ground + 7 4. Unit size: 225 square feet 5. No of elevator: 1	48 HH	Secretary of CHS

In 1961, State government of Maharashtra developed a gadget of "The Maharashtra Co-operative Societies Act 1961" for all cooperative activity including housing societies around the state. The gadget was amendment twice and it follows by all housing societies including SRS apartments (Registrar cell; SRA). Recently SRA distributes a hand-out to all slum cooperative society which is assembling as per "97th Constitutional Amendment and Maharashtra Co-op. Society (Amendment) Ordinance 2013" for all housing societies within Maharashtra state. According to this regulation, the cooperative housing society means- "a society, the object, of which is, to provide its members with open plots for housing, dwelling houses or fiats; or if open plots, the dwelling houses or flats are already acquired, to provide its members common amenities and services". In accordance with regulations every SRS apartments has a number of responsible officers such as; president, secretary, treasurer, committee members that elected once in five years by dwellers vote in Annual General Meeting (AGM).

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To identify the recent scenario of the CHS in three case study areas, conducted an in-depth interview with the secretary as they are the key responsible for society amendment and maintenance service of common areas. Table 7.1 represents the characteristics of the CHS in Dharavi, Lower Parel and Chandivali area at Mumbai.

7. 4. Factors for Better Management and Maintenance of SRS Apartments:

The level of satisfaction of the maintenance varies projects wise thus, it's necessary to identify the major actions for maintenance service in three targeted SRS apartments. Housing societies of SRS apartments are following the common regulations for housing sectors in Maharashtra state. Furthermore, one government report named "Management and Maintenance of Tenements: Final Detail Report" by All India Institute of Local Self-Government (ALIILSG), Mumbai published on 2012 also considers for identifying the features of maintenance and management service. The report mentions that effective society maintenance service depends on some fundamental tenets or factors and the concern key issues are; (a) Institutional Mechanism, (b) Clarity of Modus Operandi, (c) Productive Community Participation, (d) Women Participation, (e) Financial Management, (f) Society General Meeting and AGM, (g) Training and guidance and (h) Self-Assessment by the dwellers.

The article designs three frameworks respecting the response of three key responsible officers in SRS apartments to identify the resent condition of the cooperative society's operating systems. The maintenance actions need to be identified respected the fundamental features from the report ALIILSG (2012). Later section is the discussion of the fundamental features from ALIILSG (2012).

(a) Monitoring by the Authority:

Since, all CHS of SRS apartments are ordered to follow the Maharashtra Co-operative Societies Act 1961, so, natural prediction rose, CHS of SRS are following all actions for maintenance from the act 1961. It's a necessity to find out whether the authority, SRA monitors the actions ordered in Act 1961 or not. Some article focused on supervision of management services because it has an official duty to abide by the codes of ethics and qualification requirements that serve to control how individual practitioners do their work (Alfred and Daniel; 2012). Alfred and Daniel; 2012 claim on their book "Supervision in Social Work" that when some employees are performing a particular job, it should be precise

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coordination of effort if the objectives of the group are to be efficiently accomplished and without monitoring it would be difficult. Therefore, "Monitoring by the Authority," seems to be essential to find the effective management and maintenance service by CHS of SRS apartments.

(b) Clarity of Modus Operandi:

The manual distributed to CHS of SRS is an instruction guideline to the members about the process of maintenance service and also about the role and responsibility of the officers and staffs (ALIILSG; 2012). The handbook prepared with the reference of "The Maharashtra Co-operative Societies Act 1961" and the authority instructs the CHS of SRS to follow the instructions of the provided manual without failure (SRA; 2018). The research predicted, the feature is related with Monitoring by the Authority to check whether their instruction has been followed or not.

(c) Institutional Mechanism:

International Cooperative Alliance (ICA, 1996) defines cooperative is an autonomous association of members to meet common economic, social and cultural needs through a jointly-owned and democratically controlled enterprise. The CHS of the three case-study SRS apartments consist of some officers and staffs where the secretary conducts the compulsory actions such as; long-term maintenance[2] and day by day maintenance[3] with the support of other officers and staffs. Cooperative body is an autonomous and independent organization, where the members control the decision-making process however, the process should consider the regulations (G. Sukumar; 2001). Moreover, SRS apartments are following the manual handed by the authority, which also proposed certain population for certain service for managing the service and all of these staff and members should bid an election within three to a five-year interval (SRA; 2018). Therefore, the study intended to evaluate the factor to find the difference among the three-target case-study SRS projects.

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[2] Long-Term Maintenance: Private developing companies subsidize an amount as a maintenance subsidy to all eligible households (the households who have the evidence of stay in the slum area following the require years by SRA for eligibility). Eligible slum dwellers are facelifted with 20,000 rupees per household by the developing companies (SRA; 2018). These amounts usually, saved in bank for long-term emergency and the monthly interest @ 7% annual is used for common space electric bill, water and sanitation bill and taxation of the property.

[3] Day by Day Maintenance: Day by day maintenance is the daily activity of maintenance by the staffs and monitors by the secretary. The activity such as; cleaning the common space, door to door garbage collections, cleaning surroundings spaces of the building, maintains water pump and common electric meters, entrance security and so on written in the ordinance 2013 and the rule-book for the maintenance service supplied by SRA

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(d) Financial Management:

Dual financial management needs to handle by the officers of the cooperative society; (1) maintains dwellers assets; which is an amount of maintenance subsidy facelifted by the developers, 20,000 rupees/ household. The action to maintain the amount is to save in a bank in agreement order by committee and members and use the interest for common space electrical bill, water and sanitation bills and taxation the building. (2) Maintenance day by day service; dwellers need to pay an amount to the CHS as a maintenance fee per month. The amount is fixed by the members and committee of the CHS. According to the act, "Committee shall fix a rate in respect of every household in the society as a charges on the basis as maintenance fee/month under the bye-law No, 69 (a).The amount uses to pay the salary to the staffs who are engage working for day by maintenance service. Coase; 1960 argued that institutions (both external and internal) do not exist in a word of zero transaction cost. Therefore, the institutional mechanism is closely related to financial management.

(d) Community Participation:

Formation and registration of cooperative housing society is a pre-requisite consequence for SRS projects (Jagdale; 2015).This feature is about the participatory actions by the dwellers before and after construction period, attending the general meeting and another community activity arranges by a cooperative society. An obvious instruction by SRA to private developing companies is to have at least 70% dwellers agreement for SRS project construction (SRA; 2012). The participation of all dwellers in decision making is obligatory because researches claims, community participatory approach is an inclusive component for an effective cooperative housing society (Jagdale: 2014, Ronita, Shayantani, Arnab, and Nagendra; 2015).

(e) Society General Meeting with Members:

The feature "Society General Meeting with Members" is essential for communication and networking with dwellers. According to the regulation, CHS should call for a society general body meeting with the dwellers once in three months however the exception can be granted. It means that CHS also call for society meeting during emergency and more rapidly. The first society general body meeting should call by the chief promoter or the representative of the promoter under rule-59 within the third month of property allotment the essential actions taken in this meeting to resolve emergency issues faces by dwellers, announcement of some

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benefits and productions, declaration of appointment or terminated the staff of CHS and the recent condition of the dweller's assets and fixing up the monthly maintenance fee. After the first meeting, CHS will decide the discussion for next meeting date and topic.

Consistent with the law, CHS of SRS apartments should call for Annual General Meeting (AGM) and participation is mandatory by all households of the apartments. Bye-law, the annual general body meeting of the society shall be held on or before 30th September each year as provided under Section 75(1) of the Act (As there is no provision for extension to hold AGM).The key actions in AGM is to read the minutes of the last AGM, represent the recent report of CHS, auditing the financial management and so on.

(c) Women in Decision Making:

Women's empowerment, especially in the case of housing and household related improvement, can be upgraded by mindset for reorientation on housing responsibility (Asiyanbola & Filani, 2008) because women are usually following the quality of maintenance inside and outside of their house and regularly criticize the management and maintenance service. One report showed that about 66% of the female population in rural areas of India is unutilized, and it happens mainly for existing social customs (Rajeswari; 2017).Unlike women empowerment, considering the vital role, women members in the society can play as they are the worst sufferer mentioned in ALIISG (2012), the regulation orders CHS to be ensured the 50% women's position in the cooperative society.

(f) Training and Guidance to the Community:

Indeed, cooperative society requires training to maintain the apartments as they are belonged as a slum dwellers in past. Generally, developer train the members and officers how to monitor the construction procedure time to time and after allotment the way to handle the maintenance and manage the buying selling process, commercial space and parking space selling procedure, and how the society utilize the maintenance subsidy. Interestingly, CHS of SRS apartments are not having any technical training to manage the cooperative society they follows the instructions given by the developers and previous SRS society does. After allotment of the building CHS, instruct the dwellers about the necessary task the dwellers needed to maintain. Some CHS also arrange training for the participation and activity requirement of AGM that corresponding gender wise. For example, women members of the CHS train other women of the society.

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(h)Self-Assessment:

In every AGM, dwellers judge the recent activities of CHS and next AGM represents the actions that have taken by the society members respecting the judgment. Self-assessments is conducted by the women users of the apartments and the process also assist by the dwellers (ALIISG; 2012).

SRS Apartment's dwellers assessments on building maintenance Service:

The actions of slum cooperative society of SRS apartments not only to provide some building maintenance service to the dwellers rather they starts their contribution before the construction process. Cooperative society controls the dwellers' eligibility and allotment of a room/unit as well as buy and sell process of a room/unit (Nijman; 2008). Since, the article focused on the results where SRS dwellers' satisfaction improves with the improvement of maintenance service, so the study intended to know SRS dwellers assessment on building maintenance service by a process of questionnaire survey dated on January 2018 with 10 women dwellers from three interviewed cooperative society. The assessment about the maintenance service such as; (a) time control and service of elevator, (b) electric light and other service requires in common space, (c) regular cleaning of common space such as; common staircase and corridor, (d) cleaning in front of the building [front road and surrounding of the building], (e) daily water supply management [it's a regular activity of maintenance service to fill the water tank whenever the tank become vacant. Water supply is available in SRS apartments for two times a day only for an hour or half to the dwellers] (f) daily door to door garbage collection, (g) activity of security guard and (h) overall security of the building.

Table 7.2: Questions that had asked to the 10 dwellers in SRS apartments

Grass root Services for maintenance		Regular	If damage, then repair?	How long it will take to repair?	Do you happy about this management service?
NO	Management and maintenance services done by CHS				
1	Time control and service of elevator,	*Dwellers of SRS Apartment s answered as YES/NO*	*Dwellers of SRS Apartment s answered as YES/NO*	*Dwellers of SRS Apartments answered about the time of repair such as Day or Month*	*Dwellers of SRS Apartments answered as:*
2	Electric light and other service requires in common space				*Disappointed= 1*
3	Regular cleaning of common space such				*Not Happy= 2*
4	Cleaning in front of the building				*Moderate= 3*
5	Daily water supply management				*Happy= 4*
6	Daily door to door garbage collection				*Fully Happy= 5*
7	Activity of security guard				
8	Overall security of the building				

The article will present dweller's assessment about maintenance services separately for three

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areas in Dharavi, Lower Parel and Chandivali. In case of dwellers response on maintenance service the questionnaire categorizes measurement in scale, such as; (1) extreme lower assessment is "Disappointed", (2) lower assessment is "Not Happy", (3) "Moderate" assessment, (4) good assessment is "Happy" and (5) very good assessment is "Fully Happy". The table 7.2 represents the questions that had been asked to the SRS dwellers about the judgment of management and maintenance service done by cooperative housing society at SRS apartments.

7.5 Methodology of the Study:

The present chapter is conducting an inclusive interview with the key members of the Cooperative Housing Society (CHS) in three SRS projects where the past study conducted the research to identify the dweller's satisfaction with the living at SRS apartments. The study also conducted a small questionnaire survey with the SRS dwellers under the interviewed CHS in three SRS projects as they are the fundamental stakeholder of SRS policy.

7.5.1 Outline of Questionnaire Survey and the Selected SRS Apartments:

The study conducted an inclusive or detail interview with the key members of the cooperative housing society on January 2018 in SRS apartments of three different areas in Mumbai, where the previous part of the research conducted a questionnaire survey on December 2016 and January 2017 in order to identify the dwellers judgment about their level of satisfaction with living at SRS. This time the study selected the same location and same SRS projects to find dwellers assessment on maintenance service.

The study targeted to interview with a member of CHS from Dharavi, and we selected the apartment where already one questionnaire survey was conducted on last year (2016-2017). The research interviewed with the secretary of the CHS of an SRS apartment because in SRS apartments usually maintained by some staff and secretary's duty is hiring and supervising the staff. In another word secretary is the key responsible staff of cooperative housing societies. An interview conducted with the secretary of "Muslim Nagar Nabi Nagar Co-operative Housing Society Ltd" of SRS apartments in Dharavi. The answer of the interview shows in table 8.2 and 8.3. A small questionnaire survey conducted with the dwellers from the same building about the maintenance service. There is 171 household

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under the CHS, Muslim Nagar Nabi Nagar Cooperative Housing Society, and the study interviewed ten dwellers from there.

After Dharavi SRS apartment, the study has conducted an exclusive interview and a small questionnaire survey in an SRS apartment located in Lower Parel to identify the process of maintenance service by CHS. The study interviewed with the secretary of the "Gomata Janata SRA Co-operative Housing Society," and then collected dweller's response to the judgment about the maintenance service by this CHS. The questionnaire survey conducted with ten dwellers among 254 households in the same building maintained by Gomata Janata SRA cooperative housing society. The Lower Parel, SRS project was the same project where the study conducted questionnaire survey with SRS dwellers to know their living satisfaction on last year.

Next target was SRS Chandivali projects and interviewed with the secretary of "Sivneri Society of SRA" and the questionnaire survey with ten dwellers under this cooperative housing society (CHS).

Table 7.3: Questionnaire Pattern with the Cooperative Society of SRS Apartments			
(1) Institutional Mechanism			
Members		Does the society Provide?	If yes then how many? Or The process?
Management Committee	President	*The key responsible member of cooperative housing society (secretary) of SRS apartments in three areas; (1) Dharavi, (2) Lower Parel and (3) Chandivali will response these questionnaire as YES/ NO*	*The key responsible member of cooperative housing society (secretary) of SRS apartments in three areas; (1) Dharavi, (2) Lower Parel and (3) Chandivali will response these questionnaires when their answer is YES. They answered about the process of the questionnaire no (2), (3) and (4)*
	Secretary		
	Treasurer		
	Women Members		
	Another Member		
General Body	Members of cooperative housing society		
Rulebook Provided by SRA			
(2) Financial Management			
How to keep record of monthly spend of money			
How to communicate with dwellers if any emergency cost is require			
Monthly Charge to Dwellers			
(3) Involvement of Women			
Do this CHS have Women Member?			
How women can support for management service			
Does the Balwadi activity is consider here?			
(4) Regular Meeting and Training			
How to arrange general meeting with dwellers and write meeting minutes			
Do you arrange monthly meeting			
Do you provide any training?			
Do you conduct any training from SRA			
(4) Monitoring by the Authority			

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For the Chandivali SRS project, the study selected one SRS apartment with 48 households from 112 apartments. The dwellers of this apartment already answered their level of satisfaction with living at SRS. At the same time, these dwellers are under the same CHS of the last questionnaire survey because unlike two SRS projects and these dwellers are also responses that their living satisfaction will increase when their provided maintenance service also increases.

Table 7.3 represents the questionnaire pattern of the interview with the secretary of the cooperative housing societies and table 7.2 shows the questionnaire pattern of the questionnaire survey with the SRS dwellers about their judgment on management and maintenance service. In case of dwellers judgment on management service, the study considers all the possible maintenance service generally done by cooperative housing society in Mumbai. Moreover, the government report which published in 2012 and the research is following includes the apparent task of management also comprised in the questionnaire survey.

7.6 General Characteristics of Maintenance Service of SRS Apartments:

The study conducted an interview with the secretary, key members of the cooperative housing society and their response is reflecting on the table no 7.3. The table shows that there is no involvement of NGO in two CHS; (1) Muslim Nagar Nabi Nagar Cooperative Housing Society, Dharavi and (2) Gomata Janata SRA Cooperative Housing Society. The current situation of these three CHS is discussing below:

(1) Muslim Nagar Cooperative Housing Society, of Dharavi SRS apartment: the society is formed before the construction by the dwellers own interest. They are starting the maintenance service after the allotment of the units in 1997 that means the society is acting the maintenance service for around 20 years. The current secretary is Mr. Jarif Khan, and he became the secretary by-election. The procedure of selection of CHS is an election in every five years. (2) Gomata Janata SRA Cooperative Housing Society, of Lower Parel SRS apartment: This society is initiated on 2008 almost nine years of service, and the current secretary is Mr. Elsnath Gangaram Chavan elected by dwellers vote once in five years. (3) Sivneri Society of SRA, of Chandivali SRS apartment: unlike Lower Parel SRS apartment, this apartment of the Chandivali SRS project also allotted in 2008, it means, almost nine years provide maintenance service. The current secretary is Mr. Laxman Gorbore, and he has been nominated by election that proceeds in every three years.

The most crucial development procedure depends on the active participation of community

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other than the management service will fail for lack of knowledge which is a matter of efficiency (Nijman; 2008). It means that the community plays an essential role in handle the policy; SRS at a success pick of housing solution. Therefore, it is necessary to identify, how the community or cooperative housing society handle the overall maintenance and management of the building.

The study selects some factors of management and maintenance service to evaluate the driving procedure by the cooperative housing society of SRS apartments (see table 8.5) and the action of these factors in different SRS projects. Because the level of satisfaction of the management service in different SRS apartments are not the same and the study intended to identify the reason behind it.

7.6.1. Case-study-1: Muslim Nagar Nabi-Nagar Cooperative Housing Society, Dharavi, Mumbai:

Dharavi contains Asia's largest slum area where government focused at least twice to redevelop as well as to provide essential tenure to its' dwellers (S. Patel; 2007). Gruber; 2005 claimed there are 67 slums can be found within Dharavi however much of these slum land depends on the definition related with ownership which is much complex if comparing with other areas in Mumbai (Gruber; 2005). Moreover, lower grounds and waterbodies are still filling, and the process of slum formation is continuing in Dharavi areas (Nijman; 2009). The migrant people highly attract this area because of its central location and easy availability of low range housing in slums. Furthermore, the area comprises the functions like wholesaling, manufacturing, consumer products as well as public services such as school, hospital, market, and the bank that offers job opportunities to the 3rd or 4th-grade employment (Nijman; 2009). The area does not compose with a significant slum instead it is a combination of many small and big slums (Gruber; 2005). Thus, pocket type slum areas have either single SRS apartment or a combination of more than one. The interview conducted in SRS projects with two apartments of eight stories and the total number of household is 171, one of the adults from each household of these apartments are the members[4] of the Cooperative Housing Society (CHS). The CHS is formed before construction and registered as Muslim Nagar Nabi Nagar (MNNN) Cooperative Housing Society Ltd. at the registers' office of SRA on 1995. Since the key responsibilities of MNNN cooperative society is their secretary, so interview conducted with him about their recent condition of maintenance and management. Secretary's position decided by the election of

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the active members of the society and the maintenance service follows "The Maharashtra Co-operative Societies Act 1962".

Figure 7.2 represents the dweller's assessment on the recent maintenance service supplied by MNNN cooperative society. The dwellers are not fully happy in any service (services that have questioned from a-h), but they are happy about common lighting and other services in the common area [5] of the apartments. Besides, the responses reflect most of the dwellers assesses profoundly lower and lower on the services like;   elevator timing and services, common area cleaning, cleaning in front of building, garbage collection, security guard, and overall building security.

Dwellers Assessment on Maintenance Service by Muslim Nagar Nabi-Nagar Cooperative Housing Society, Dharavi
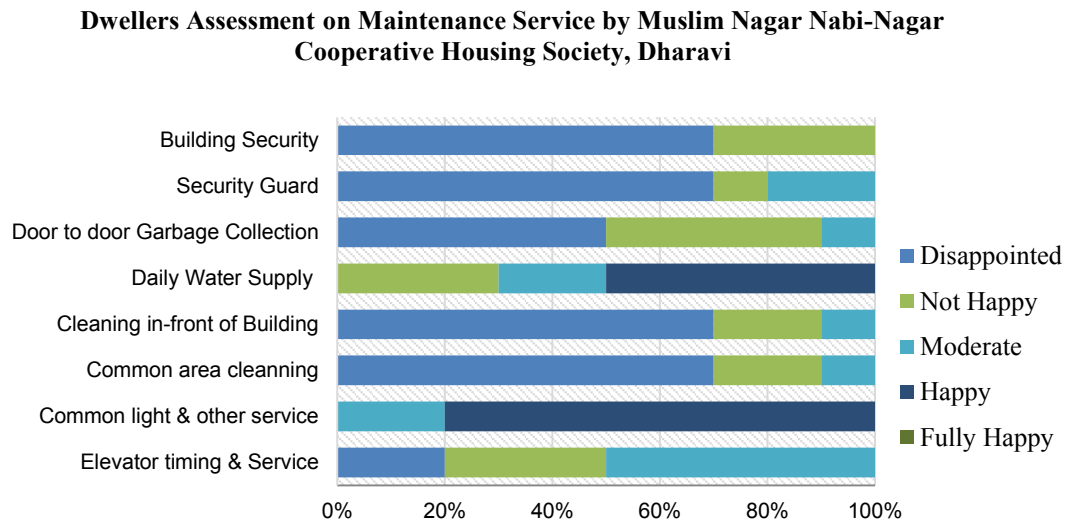
Figure 7.2: SRS Dwellers Assessment on MNNN Cooperative Housing Society

7.6.2 Recent Scenario of Muslim Nagar Nabi Nagar Cooperative-Society for Improved Maintenance and Management:

  Following the reply of some predicted questions, while interviewing the secretary of MNNN cooperative society, the figure 4 developed. Figure 4 is representing a framework of the recent maintenance service and management scenario of the society where three factors

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[4] Member: Bye-law, Members shall be called as "Active Member" if – (1) he has purchased and /or owns the room, flat/ unit in the registered society, (2) attends at least one general meeting within the consecutive period of five years and (3) pay at least the amount equivalent to three years of society maintenance and service charges, within the period of five years (Ordinance 2013; 22 (a))

[5] Common Areas: In SRS apartments all eligible households get a room/unit of 260 feet^2 (SRA; 2018). These rooms/units are designed with single and double-bay corridor for circulations. Including this corridor, lift lobby and stair-case areas are considers as a common space of the SRS apartments.

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are shown. Three factors designed with two sub-factors each because of its internal relationship. For example; "Financial Management by MNNN cooperative-society" combines with two subfeatures; (1) Maintaining dwellers' asset and (2) Management fee/month. Then the factor "Institutional Body of MNNN cooperative-society" is combined with (1) Institutional Mechanism and (2) Staff for service. The third factor of this society is "Society General Meeting with Members" which is composed of two sub-factors of (1) Regular Society Meeting and (2) Annual General Meeting (AGM).

In this society, dwellers' asses are saving in the bank, and the interest (@ 7% per annual) of the amount uses for the common electric and water supply bill and the building taxation. Since the apartment developed within the first Bach of SRS application, so the maintenance subsidy (10,000/ household) was lower than recently allotted SRS apartments. The interest amount is not enough for billing and taxation, so the monthly maintenance (700 rupees/ household) charge is relatively high for the dwellers, and some of the dwellers fail to pay regularly. In the framework, the "Yes-arrow" of dwellers asset maintaining goes to the factor "financial management" because it maintains properly or as per the act. Since dwellers are failed to pay maintenance charge per monthly regularly, so the "No-arrow" goes to the factor. Therefore, the factor "financial Management of MNNN cooperative-society" not effects to the better management and maintenance service of SRS apartment. The factor "Institutional Body of MNNN cooperative-society" is not effects well management because of the same reason of dwellers' irregular of monthly management charge. The society has an impressive number of committee and other supportive members such as; precedent, secretary, and treasurer, so, "Yes-arrow" has used but the staff such as cleaner, sweeper or guards are not regular in the work as they do not receive salary regularly. Thus, a "No-arrow" from the subfactor "staff action" goes to the factor. Another factor "general society meeting with the members" also not effects to the better management and maintenance of SRS apartments. Because the society only call a meeting with the 11 committee members when an emergency decision needed but the regulation-requirement advised for a regular meeting with dwellers. Here the dwellers mean those who are the active members and pay the maintenance charge regularly. Since society is not called a meeting with members regularly, so a "No-arrow" goes to the factor "Society general meeting with members."
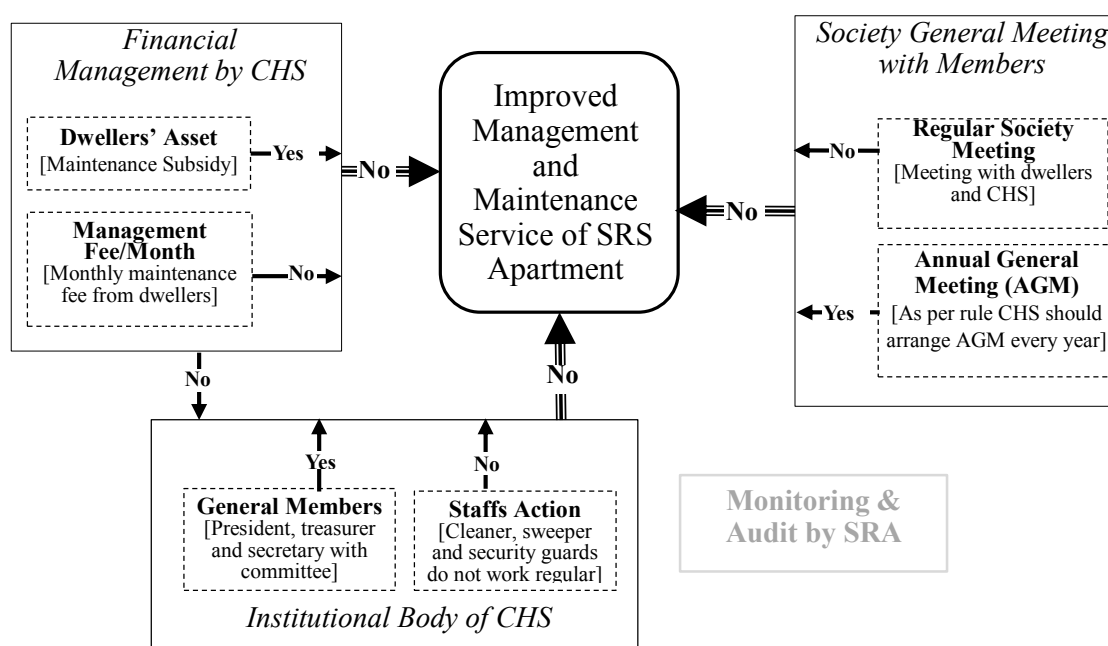
Figure 7.3: Features of Recent Condition of Muslim Nagar Nabi-Nagar CHS, Dharavi

Table 7.4: Features and Recent Condition of Muslim Nagar Nabi-Nagar CHS, Dharavi (Explanation of Figure: 7.3)

Features	Action	Recent Condition
Financial Management by CHS		
Dweller's Maintenance Subsidy	Total Household= 171 Maintenance subsidy 10,000/HH Monthly Interest= 9,975 {@ 7% yearly}	9,975 Rs is for combined electric and water bill and taxation. The amount is low to manage financial management by CHS
Monthly Cost for Management	700Rs/ month from dwellers	Monthly payment for maintenance (high) is high for dwellers, so they irregular in payment
Society General meeting with Members		
General Members	Total committee members = 11 nos. Member = 3 (President, treasurer, secretary)	Require members are available within the office hour =10:00-13:00 to 16:00-22:00/ day
Management Staff	Staff= 3 nos. (Cleaner, sweeper & caretaker)	Staffs are not regular for cleaning and day by garbage collection
Institutional Body of CHS		
Regular Society Meeting	No Society meeting with dwellers and CHS	During emergency CHS call form meeting with 11 committee members
Annual General Meeting (AGM)	AGM/year	Every year CHS members are arranges AGM with dwellers

In the case of AGM, the society maintains the regulation-requirements; they arrange AGM every year, therefore, "Yes-arrow" guided to the factors. The research predicts that the

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authority SRA monitors the cooperative society, or they provide the audit to check whether the financial management is executing properly, but the secretary claims there are no monitoring and auditing from SRA. Thus, in the framework, the factor monitoring, and auditing shaded with gray color.

7.6.3 Case-study-2: Gomata Janata SRA Cooperative Housing Society, Lower Parel:

Second case study area Lower Parel located north old Native Town which was formed on colonial time and dominated by textile industries in the 20th century (Nijman; 2008). The area surrounded by many rail stations as well as posh commercial and industrial developments including a shopping village, so many informal jobs available for slum dwellers. It also supports secure communication in the workplace. The area encourages creating pocket type slums. Unlike many other slums in the city, maximum pocket slums not visualized on the slum map of the census (Nijman; 2008). Moreover, the government doesn't declare slum in those areas where land price is high especially where the slum size is not significant. The target SRS project is situated next to a personal road from the main road where government marches another SRS project (one 16 story apartment) for project victims
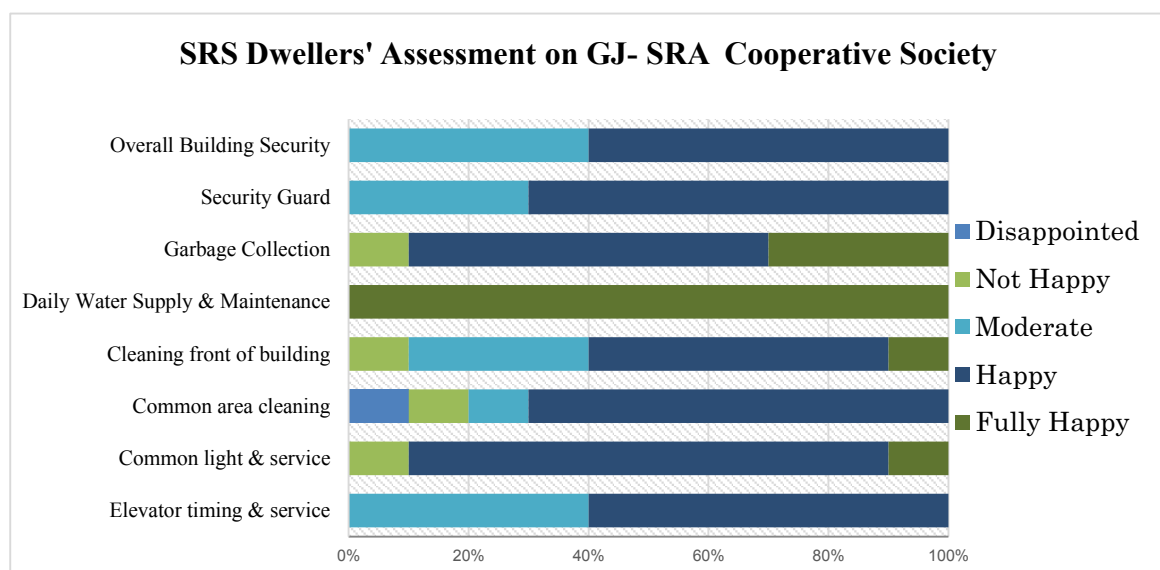
Figure 7.4: SRS Dwellers Assessment on Gomata Janata SRA Cooperative Society

[the dwellers who lost them house for governmental development]. The interview with secretary and questionnaire survey with dwellers conducted in in-situ SRS Project of five apartments. These five apartments are eight storied, and the total number of households is 254. The households are under the society called Gomata Janata (GJ) SRA cooperative-society established two years earlier the project allotment on the year of

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construction in 2006. The secretary of the society is the main responsible officers for the maintenance and management of these apartments. He claims the election of the society conducted once in five years as per the regulation because the management and maintenance service follows "the Maharashtra Cooperative Societies Act-1962".

Dwellers' assessments about the maintenance and management service by Gomata Janata SRA cooperative-society shows in figure 5. Dwellers under the society are not disappointed about maintenance service from the list a-h questions unless the service of common area cleaning. Meanwhile, all dwellers are fully happy in daily water supply maintenance, and three dwellers are fully happy about door to door garbage collection and one dweller response fully happy about cleaning in front of the building. Eight dwellers are happy about common area light and other services, and seven dwellers are happy about common area cleaning and security guard's other services. Six dwellers are happy about door to door garbage collection and overall building security. Dharavi, dwellers, are more unsatisfied on maintenance service then the dwellers of Lower Parel while comparing.

7.6.4 Recent Scenario of Gomata Janata SRA Cooperative-Society for Improved Maintenance and Management:

Figure 6 develops respecting the responses of the secretary of Gomata Janata (GJ) SRA cooperative-society with same questions that have asked the secretary of Muslim Nagar Nabi Nagar Cooperative Society, Dharavi. This society's new scenario follows four foreseen factors. Factor "financial management by GJ-SRA cooperative-society supports two sub-factors of (1) Dwellers' asset and (2) Maintenance fee/month. Since society maintains the dwellers' assets accurately and uses the interest amount for common billing and building taxation as well as the active dwellers pays their monthly charge regularly, so "Yes-arrow from these two subfactors goes to the factor of financial management. Another factor "Society General Meeting with Members" is also the mixture of two subfactors, those are; (1) Regular society meeting and (2) AGM. The society calls for regular society meeting once in three months as per the regulation. Bye-law, after allotment of the building, the cooperative society should call for a general body meeting after the first three months then the required schedule for general society meeting will be decided.
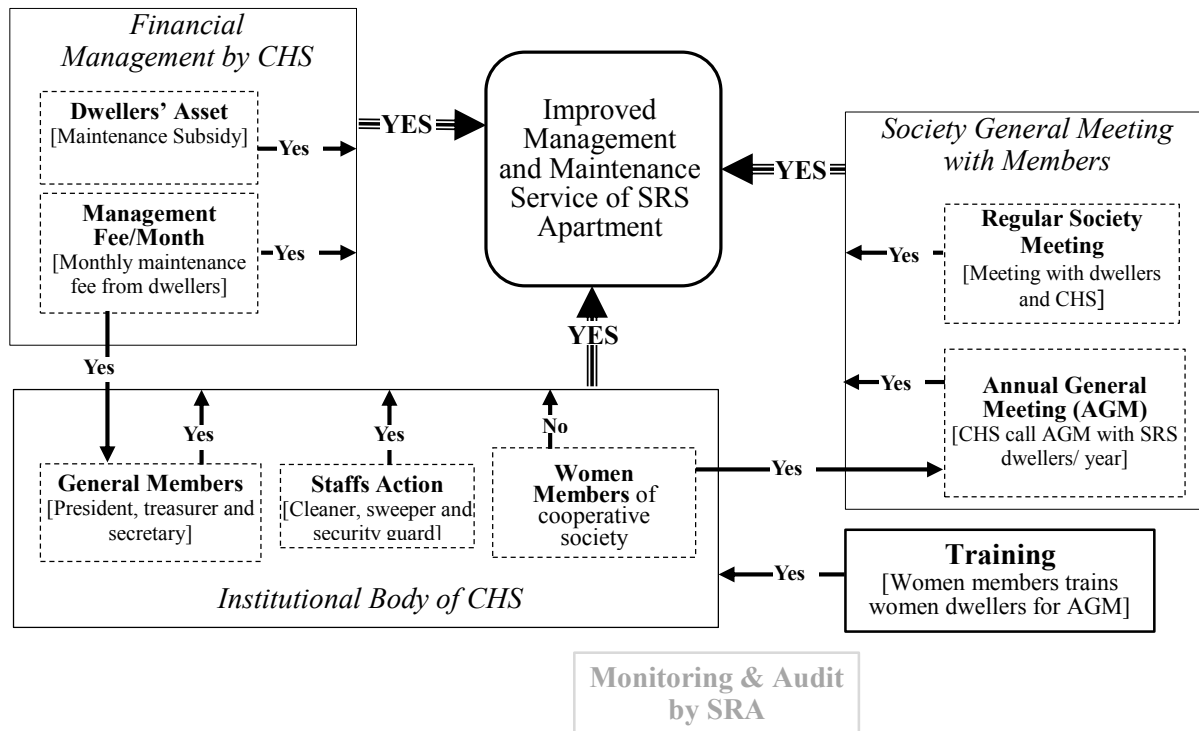
Figure 7.5: Features of Recent Condition of Gomata Janata SRA Cooperative Society, Lower Parel

The Gomata Janata SRA society follows the criteria, and they call a meeting with all active members in three months. So, a "Yes-arrow" goes to the factor. AGM is also led by the society every year, so "Yes-arrow" goes to the factor too. Meanwhile, the factor "Institutional body of GJ-SRA cooperative-society" composed of three subfactors of (1) General members, (2) Staffs' action and (3) Women members. The inclusion of women members in the institutional body is mandatory, however; society at Dharavi SRS apartments does not contain women members in their society. Gomata Janata SRS cooperative-society includes the women members to train other women in the society about the participatory activity needs to be done during AGM. In the framework, a "yes-arrow" from women members goes to the sub-factor, Annual General Meeting (AGM) for their contribution. According to the regulation, AGM is mainly concentrating on the women dwellers assessments on maintenance service by the society. So, the officers and committee members decided to include two women members and guide and train them about the participatory action needs in AGM. Since the women members' role is only for train other women members in the society for AGM and no involvement on other services for quality maintenance service, a "No-arrow" goes to the factor, "Institutional body of GJ-SRA cooperative-society." The expected factor "Monitoring and auditing by the authority, SRA is absent here as well. Therefore, it appears gray color in the framework of Gomata Janata SRA

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Cooperative Society new scenario.

Table 7.5: Features of Recent Condition of Gomata Janata SRA Cooperative Society (Explanation of Figure: 7.5)

Features	Action	Recent Condition
Financial Management by CHS		
Dweller's Maintenance Subsidy	[Total HH= 254 Maintenance subsidy 20,000/HH Monthly Interest= 29,633 {@ 7% yearly}	29,633.33 Rs for combined electric and water bill and taxation of the building
Monthly Cost for Management	500Rs/ month from dwellers	Dwellers regularly pay monthly payment
Institutional Body of CHS		
General Members	Total committee members = 4 nos. Member = 3 (President, secretary, treasurer)	Require members are available within the office hour =9:30-14:00
Management Staff	Staff= 4 nos. (Cleaner, sweeper & caretaker)	Staffs are cleaning the common areas and collecting garbage regularly
Women Members of CHS	2 Women members	Women member train women dwellers about AGM and sometime call meetings if women related issues
Society General meeting with Members		
Regular Society Meeting	1Society meeting per 3 months with dwellers and CHS	During emergency CHS call form meeting with 4 committee members sometime twice a month
Annual General Meeting (AGM)	AGM/ year	Every year CHS members are arranges AGM with dwellers
Training		
Training before construction	Train institutional body	All institutional body are train by the staff of developer before allotment about management
Women training	Train by women member	Women members train other women in the building about AGM

7.6.5 Case-study-3: Sivneri Society of SRA, Chandivali Mumbai:

The third case study of the research is Sivneri Society of SRA, Chandivali. Chandivali located near "Powai Lake" and south of the Sanjay Gandhi National Park as well as close to historical center of the city (D. Vaquier; 2010). This area is far from the city center and assumes as a suburban. The SRS project in Chandivali is said to be the most massive relocation type SRS development for project affected people who previously lived at Sanjay Gandhi National Park. SRS dwellers at Chandivali have a significant impact on the employment near the original suburbs of Malad, Kandivali, and Chandivali itself and some of them travels a little distance area such as; Dahisar, Borivali, and Mulund (D. Vaquier; 2010). There is a bus service near the project which is the main transportation way to commute workplace for the dwellers.

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Sivneri society of SRA is one of the societies that assist one apartment from of the SRS project in Chandivali. The project is a combination of 112 buildings where some not allotted to the slum dwellers, and some are now under construction. The allotments procedures have started from 2008 and the society formed before the allotment. The NGO "Nivara Hakk" formed all the cooperative societies of this project as the dwellers scattered in different locations. The Sivneri society of SRA serves 48 households of an eight-storied apartment where one adult from each 48-household act as a committee member. An interview conducted with the secretary and questionnaire survey conducted with ten dwellers of the apartment. The election led in the society once in three years and the secretary selected through voting by the committee. The society also follows the same regulation that follows other societies of SRS apartments.
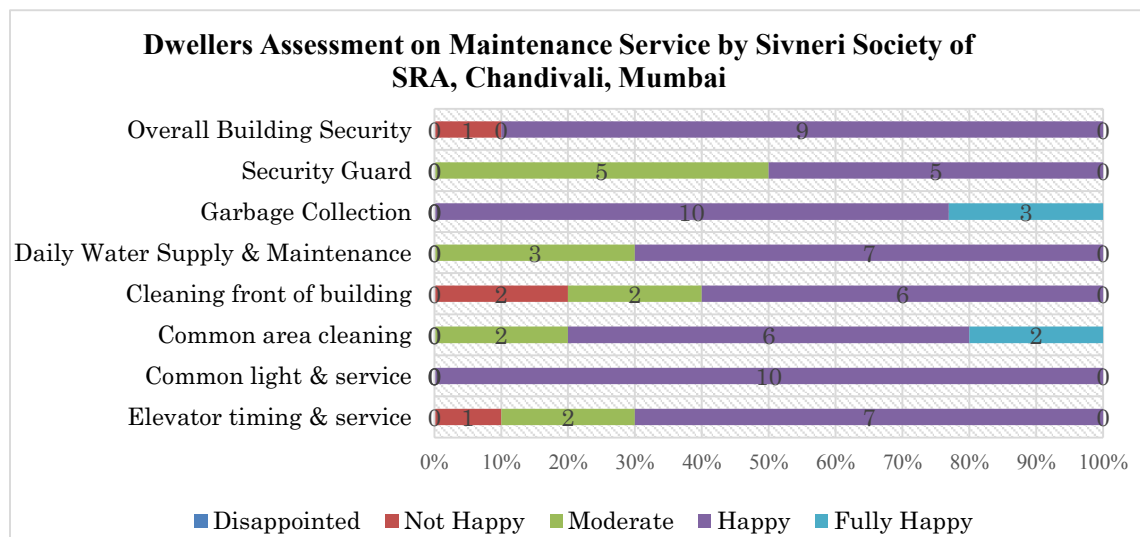
Figure 7.6: SRS Dwellers Assessment on Sivneri Society of SRA

Figure 7.6 represents the dwellers assessment about the maintenance service by Sivneri society of SRA. Dwellers questioned the same listed a-h questionnaire for predicted maintenance service that enquired other two case study SRS apartment dwellers. Dwellers are happy about the management and maintenance service by the society that shows in figure 7.6 however, few are not happy about the common area cleaning. 100% dwellers are happy about common area electric light and other service and daily door to door garbage collection. 9 dwellers responded that they are happy about the overall building security whereas there is no security guard in the building. All floors of the building are covered by Closed Circuit (CC) camera for security purposes therefore 5 dwellers are even happy for the security guard, where 5 dwellers replied moderate. Monthly maintenance fee is 300 rupees per month and

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the numbers of households are only 48, which is not sufficient to provide a security guard and other staffs for the building. Therefore, the secretary of CHS usually maintains the daily water management service and monitoring the building security with TV recorded by CC camera.

7.6.5 Recent Scenario of Sivneri Society of SRA Cooperative-Society for Improved Maintenance and Management:

Figure 7.7 represents the framework of the recent scenario of the Sivneri society of SRA at Chandivali SRS apartment. The society supports five foretold factors, where four factors such as (1) Financial Management, (2) Society General Meeting with Members, (3) Institutional Body of Sivneri Society and (4) Women Members directly contribute to improving the maintenance service and another factor; "Training" for improving the management contributes indirectly. There is another unexpected factor provided for the quality maintenance in this cooperative society, and that is NGO's action.

The factor "Financial Management by Sivneri society" considers two subfactors (1) dweller's asset maintain and (2) maintenance fee/ month, both subfactors regularly works because society pay the combined electric and water bill and building tax in time and dwellers also pay their monthly charge without failure. Therefore, "Yes-arrow" goes to the factor and the factor, "Financial Management" contributes to maintenance for improvement. The second factor, "Society General Meeting with Members" also contributes for better management as its' two subfactors also performed adequately. These two subfactors respectively (1) Regular Society Meeting that organizes every month by the society and (2) AGM, which also arranges by the society every year without fail. Thus, "Yes-arrow" from these two subfactors goes to the factor "Society General Meeting with Members." The third factor, "Institutional Body of Sivneri society" has two subfactors of (1) General Members and (2) Staffs Action. Two "yes-arrow" goes to the factor because the officers who belong to general members and the staff of the society performed well and regular.
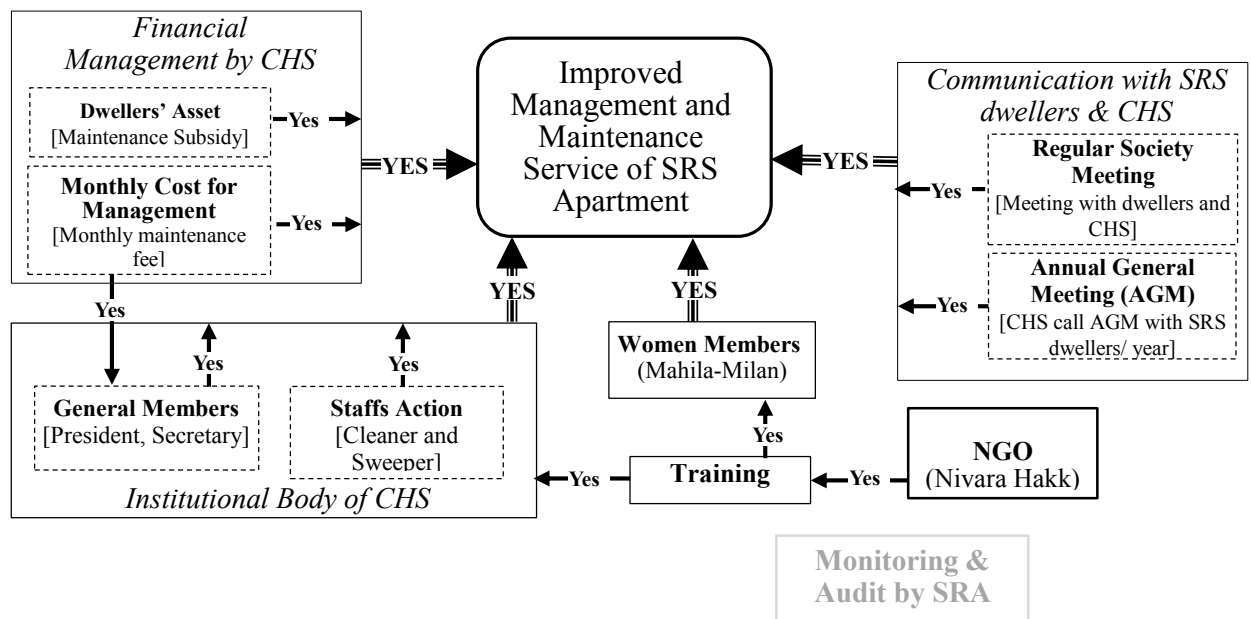
Figure 7.7: Features of Recent Condition of Sivneri Society of SRA, Chandivali

Table 7.6: Features of Recent Condition of Sivneri Society of SRA, Chandivali (Explanation of Figure: 7.7)

Features	Action	Recent Condition
Financial Management by CHS		
Dweller's Maintenance Subsidy	[Total HH= 48 Maintenance subsidy 20,000/HH Monthly Interest= 5,600 {@ 7% yearly}	5,600 Rupees for combined electric and water bill and taxation of the building
Monthly Cost for Management	300Rs/ month from dwellers	Dwellers regularly pay their monthly payment
Institutional Body of CHS		
General Members	Total committee members = 48 nos. Member = 3 (President, secretary)	Require members are available within the office hour =9:30-13:00 and 15:00-17:00
Management Staff	Staff= 1 nos. (Cleaner)	Staffs are cleaning the common areas and collecting garbage regularly
Women Members		
Mahila Milan	All women in the society is a member of Mahila Milan	Mahila Mandal is actively participating in all management process. They contribute to improve maintenance service
Communication with Dwellers and CHS		
Regular Society Meeting	One meeting per month	President and secretary calls a meeting every month
AGM	AGM/ year	AGM is also conducted
Training		
Training before construction	NGO "Nivara Hakk" trained society before allotment	The society trained by NGO about the way to maintain and the process to improve
Women training	NGO "Nivara Hakk" trained women	Women members in the society formed a committee called "Mahila Milan" by NGO for improve maintenance service.

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The fourth factor is "Women Members," inclusion women members in the institutional body is an instruction in regulation, bun in Sivneri Society there is a women community called "Mahila Milan" works independently for good maintenance service. An NGO "Nivara Hakk" formed women committee and trained them about the process to increases the quality of maintaining the apartment and some social activity that improve their life. For this reason, a "Yes-arrow" from "Women Members" goes directly to the improve maintenance and management of SRS apartment. Additionally, the factor "Training" contributes to the improve maintenance through "Institutional Body" and "Women Members." The society at first, get some training for maintenance from NGO during construction. NGO formed Sivneri Society as the dwellers evicted from the past living place. Therefore, training and motivation were required. The NGO also realized that women stay longer then a man and the action by the women committee could improve the building maintenance sincerely since the cooperative society is a welfare organization, no salary remunerated to the members that demotivated the poor male slum dwellers sometime. The expected factor "Monitoring and Auditing" by the authority, SRA is missing in the Sivneri Society of SRA as well.

7.7 Mechanism to Improve Sound Maintenance at SRS Apartments:

The study also conducted an interview with the corresponding body of the authority of SRA in handling the cooperative housing societies of SRS apartments. An inclusive discussion and interview with the Assistant Registrar, Smita Gaikwad pointed out many issues that were very important to including NGO as a stakeholder in SRS apartments. Smita said that any individual and local welfare agencies could come and support slum dwellers. However, SRA hasn't any option to involve NGO for managing cooperative housing society. After asking about the future possibilities to involving NGOs to train and guide the slum dwellers for quality management and maintenance service, she said several times SRA modified the rules for slum dwellers welfare; therefore, it would also have opportunities for including NGO in future to improve slum dwellers betterment.

All three societies of SRS apartments follow the rules provided by Maharashtra Cooperative Rules; 1961 for management and maintenance service but interestingly there is no one to monitoring the function whether management and maintenance adequately executed or not. From the discussion of the analysis of self-assessment by the dwellers in three different SRS projects, the SRS dwellers in Dharavi project are much unsatisfied then other two case study projects. In the case of Dharavi SRS project, society does not support all fundamental factors

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that need to concern for effective society management. The CHS also doesn't encourage community participation which is one of the necessary tools for bonding a good relationship with neighbors. Meanwhile, like cooperative society at Dharavi SRS, the society of Lower Parel SRS also doesn't involve women in decision making in management. But, naturally, women are staying home more than men. About 66% of the female population in rural areas of India is unutilized, and it happens mainly for existing social customs (Rajeswari; 2017). Moreover, the country like India and the city like Mumbai, general people are accepting women to discuss household issues than men, therefore in case of SRS apartments, it is more comfortable to evolve women to distribute information about management service to all dwellers. Furthermore, including women members in a cooperative society is mandatory in rule-book supplied by SRA to all SRS apartments' cooperative society. Gomata Janata SRA cooperative housing society sometimes arranges guidance during an emergency that doesn't cover all type of training that supports effective management and maintenance service. On the other hand, the Sivneri Society of SRA is supporting all factors proposed by the report "Management and Maintenance of Tenements: Final Detail Report" by ALIILSG; 2012. Dwellers judgment also shows that many dwellers are happy with all maintenance service.

Furthermore, the degree of satisfaction with management and maintenance satisfaction of SRS Chandivali dwellers are higher than the other two areas. It means that cooperative housing society should support all possible factors to provide effective management and maintenance service. On the other hand, authority claims that several times SRS modified the regulations for slum dwellers betterments such as increasing the size of the room from 250 square feet to 260 square feet and the facilities that have commonly used therefore involving NGO would have a possibility by the authority if NGOs involvement increases the dweller's overall satisfaction. In Chandivali, NGO formulated a women group to improve management and maintenance service, and all the women in the apartment met once a week and discussed how they could improve their living environment and social life. In an apartment like SRS, where the density of the population is very high as well as the dwellers don't have wide-scale room for chatting with visitors, therefore, dwellers especially women use to talk outside of the room. If the female dwellers of SRS apartments could sit together and discuss the improvement of their living environment like Chandivali SRS apartment's women community "Mahila Milan" does, then the quality of maintenance service might be improved.

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7.8 Recommendation and Conclusion:

Vinit Mukhija (2001) claims in the article "Upgrading Housing Settlement in Developing Countries," researchers and scholars can contribute the efficiency of the progress of the redevelopment approaches through analytical frameworks that would improve the original tenure statues as well as helping the policymaker for upgrading the current condition (Mukhija; 2001). He also believed the researchers need to answer two quarries; (1) what the independent variable is essential and (2) which physical approach need to be improved (Mukhija; 2001). The present article represents three analytical frameworks of current maintenance service of three SRS apartments to find the factor that needs to be included or modified in maintenance service for improvement. The SRS dwellers' degree of living satisfaction is increasing through an improved process of their building maintenance service. The study expected some factors in its frameworks, supported some kinds of literature and follows regulation and a government report on housing maintenance. Three case study cooperative housing society was interviewed and justified their answers in three frameworks where the factors' actions varied. However, all cooperative society requires regular actions to avoid worse impact in society management and effects dwellers' overall satisfaction with living at SRS apartments. The regularization of financial maintenance could improve through regular and affordable maintenance charge from dwellers. It also demands the regularity in negotiation from both cooperative society members and dwellers to mitigate the disputes related to management service in general meeting.

Moreover, regular general meeting needed to resolve the issues that lower down the maintenance service which is a mandatory option in regulation as well. Cooperative societies are more focused on AGM which is mainly requires dwellers' judgment on management and maintenance service and presents their actions that they did last year. Informing their actions to dwellers is not important rather how they manage all actions with active members or dwellers' support. Furthermore, no monitoring and auditing by the authority, SRA in all interviewed SRS apartments is unexpected, since they mended the regulations and instructed requirements need to follow without fail. Monitoring by the administrative side only considers during constructions, but after allotment, it becomes quite significant to supervise. Some arguments raised, the government should not specify rigid parameters that may explode developers (Jagdale; 2014, Ronita, Sayantani, Arnab, and Nagendra; 2015). Simultaneously, researchers advised that government's action through strict supervision of the contracts and mandatory requirements and also initiate a pilot project for future (Jagdale;

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2014).

Meanwhile, the result shows, 88% dwellers in Chandivali SRS apartments are satisfied on the providing maintenance service (see figure-2) and the framework of the recent scenario of maintenance service at Sivneri Society of SRA, Chandivali (see figure-8) represents NGOs role to improve the maintenance service. NGOs role in SRS projects already has discussed in several papers (Mukhija; 2001, Nijma; 2008, Jagdale; 2014, Ronita, Sayantani, Arnab, and Nagendra; 2015) about their intermediary contribution for increasing the recent uncontrolled circumstances in SRS apartments. Since the SRS project is a participatory effort by slum dwellers' therefore negotiation and regulatory actions might by resolve through NGOs intervention. NGO could act as a bridge between the slum community and authority to improve overall satisfaction with living at SRS apartment by its dwellers.

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Chapter 8
History and System of Planning at Mumbai & Dhaka

8.1 Planning System in Mumbai, and Dhaka:

The section here discusses the planning system applied in both cities where the policy SRS is practicing and where the policy can use. At the same time, how Mumbai's planning systems incorporate the slum rehabilitation scheme in their planning system. This part of the dissertation also discusses the similar and dissimilar issues in these both cities, Mumbai, India and Dhaka, Bangladesh.

8.2 Background History of Planning at Mumbai:

The British government initiates the Indian city planning system during the colonial period. The whole planning system of Indian cities concentrated especially on economic needs and some organization of human settlements, some infrastructure, and legislation for the legal validity of the planning. It had been said that the Colonial Planning systematically catered to the interests of colonizers rather than the servicing population (R. Nallathiga; 2009). During colonial period city planning was done through various state planning acts in different states. After that, Master Plans and gradually another laws, plan, and schemes adopted. Initially, the proposed projects were tried to fulfill the requirements of the cities such as; infrastructure, hospitals, school and organizational development and then gradually adopting a different scheme to meet the need the demand of civilian (R. Nallathiga; 2009). It means, the cities in India was formed to consider the concept of Linear City, which can be defined as the city is developing within the housing and industrial growth along the highway between existing cities and contained by the continuous open spaces of the rural countryside.

Meanwhile, in Mumbai, the city or town planning act was established by Portugal colonizer when they colonized the city. The growth of the town is focusing by sea at the south, east, and west. As a result, the availability of land for development is limited. The first town planning act formulated in the year 1915. In 1988, The Bombay (Mumbai) Municipal Corporation (BMC) established, and they framed the Town Planning Act in suburban areas. After that Bombay Development Department (BDD), built in 1920, they started massive

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housing schemes that are known as BDD Chawls till today (Chandrasekhar, 2005). Gradually the city became as dense as became much harder to find land for accommodation and the government started to extend. Then, the limits of the city were first reached in 1950 to cover the area of near suburbs and the second extension done in 1957 towards the north (R. Nallathiga; 2009). According to the urban planner Hans Blumenfeld, cities can grow into three ways (1) outward (expanding horizontally), (2) upward (expending vertically) and (3) towards greater density (expending interstitially). These three characteristics can have found in the growth of Mumbai city simultaneously. The Mumbai Town Planning Act of 1954 replaced the earlier Act of 1915 to prepare the Development Plans as well as to the preparation of the Town Planning Schemes especially to meet the housing demand. Then, in 1966 this act was further modified and named as "Maharashtra Regional & Town Planning Act, 1966".

Before Maharashtra Regional and Town Planning Act 1966, BMC with the collaboration of Bombay Development Department proposed the first master plan in the year of 1948 (Tiwari 2002) The master plan, which mainly focused on the process of development rather than a conclusive statement, provides guidelines for the physical development of the city and its population.

In Mumbai, the town planning act on 1915 has a division where the authority wanted to clear the slums, and therefore, sometimes the town planning act is also considered as Slum Clearance Act 1915. To promote the Slum Clearance Act 1915, all the modified laws recognize some schemes for slum rehabilitation or poor urban dwellers housing. Maharashtra Regional & Town Planning Act, 1966 was also concentrating on providing some housing for urban slum dwellers. Slum Rehabilitation Scheme (SRS) is also under the consideration of the Slum Clearance Act 1915

8.2.1 Regulatory application Problems Encouraging Slum Rehabilitation Policies:

After independence, the government of India proposed many policies and scheme to execute town planning act. Government includes these policies and projects to reduce the number of slums in the city. At one point, government privatizes land for slum rehabilitation because of the inability of construction formal housing to the vast amount of population. The initial action was an act named "Slum Area Improvement and Clearance Act- 1956". It causes vast eviction, and then the government modified the Act on 1971; however, the action creates

another problem of environment and communication. Another Act through on 1975 which also conduct huge eviction and resettlement was not proper.

BOX -1

Proposed Act by Government for City	*Problems after Proposed*	*Effect after Application the Act*
Slum Area Improvement and Clearance Act, 1956	1. The act caused huge eviction 2. The evicted dwellers don't get resettlements	Since no resettlements to the evicted slum dwellers, so new slums are formulated near the evicted slum
Slum Areas (Improvement, Clearance and Redevelopment) Act, 1971	1. Rehabilitation conducted at the boundary of the city which is quite far from	Slum dwellers doesn't wanted to lose their past work and created again a slum near their workplace
Maharashtra Vacant Land (Prohibition of Unauthorized Structure & Summary Eviction) Act, 1975	1. Another large scale eviction without proper resettlement of the slum dwellers	Though no rehabilitation according to the slum dwellers demand therefore, again formulation of slums in CBD

GOVERNMENT'S ACTION DOESN'T REDUCE SLUMS FROM THE CITY. THEY REALIZE IN-SITU DEVELOPMENT WOULD HELP REDUCE THE NUMBER OF SLUMS FROM THE CITY

Proposed Policies & Schemes by Government for City Planning	*Problems after Proposed Policy & Scheme*	*Effect after Application the Policies and Scheme*
Slum Upgradation Program, (SUP) 1985	1. The implementation was limited 2. Misused the benefits of the program	Since the program requires some payment so middleclass benefited and slum dwellers failed to pay, so again slum formation
Prime Minister's Grand Project (PMGP) 1985	1. Slum dwellers eligibility was tight 2. Eligible slum dwellers need to pay	Tight eligibility made many slum dwellers homeless and these homeless created again slums
Slum Redevelopment Scheme 1991	1. Tight eligibility requirements to get a room/unit 2. Administrative process was lengthy.	Many slum dwellers remain homeless and created ne slums Due to lengthy administrative process very few outcome

STATE GOVERNEMTN MODIFIED "SRD" AND LAUNCHED SLUM REHABILITATION SCHEME "SRS' THAT CONSIDER THE SLUM DWELLERS ELIGIBILITY AND SEPERATED BODY OF GOVERNEMNT STILL IMPLIMENTING THE SCHEME TO REDUCE THE NUMBER OF THE SLUM FROM THE CITY

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These all acts launched to reduce the number of slums but these actions increase the slum formation the thing only done by these actions was replacement slum areas from one place to another place. Then the government realized to provide in-situ rehabilitation instead relocates them from one location to another. So, the government started to proposed policies and scheme to the slum dwellers with legal permission. From the project "The Prime Minister's Grand Project, 1985" later which was modified and increase the percentage of lone to "Slum Rehabilitation Scheme (SRS)" which a regular modification version of several rehabilitation schemes applied in the city. The Box 8.1 is representing how the planning system in Mumbai adopted and faced the problem and then changed.

8.2.2 Indian Authorities Relating to Spatial Policies for Urban Planning:

There are eight areas are concern of policy implementation in Indian cities. The eight areas are controls by eight authorities. The table 8.1 shows the authorities area of policies for planning implementation below. The Mumbai Metropolitan Region Development Authority (MMRDA) controls all the planning implementation process.

Table 8.1: Planning Implementation Policies in India		
No	Areas of Policy Implementation	Authority
1	Socio Economic Policy Handholding	National Institution for Transforming India (NITI) Commission
2	Capital Region Plan	National Capital Region Planning Board
3	Delhi Master Plan	Delhi Development Authority (DDA)
4	Mumbai Master Plan	Mumbai Metropolitan Region Development Authority (MMRDA)
5	Chennai Master Plan and Chennai Regional Plan	Chennai Metropolitan Development Authority (CMDA)
6	City Development Plan	Kolkata Metropolitan Development Authority (CMDA)
7	Bangalore Structure Plan	Bangalore Metropolitan Region Development Authority (BMRDA)
8	Hyderabad town Planning	Hyderabad Metropolitan Development Authority (HMDA)

The government of India proposed the "Five Year Plan" policy in national level. All the plans including some specific visions respecting the broader perspectives such as inviting new highway or MRT policies, financial banking, employment, educations, urban development policies and so on. Now, Indian planning system is more encouraging or invitation infrastructure development for more economic benefits. The Prime Minister's "Planning Commission" authorized the prospectus "Five Year Plan" to central and state government in all Indian state. After launching the proposal of the five-year plan, planning commission then monitors the process if there any revision required then they modified to

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fulfill their goal. After starting a five-year plan policy, the Local Government implements the proposed urban development strategies. Local Government is the third tier of administration, and they elected directly by the civilian. Including Mumbai, Indian all cities executed by the planning and development authorities, and these authorities are; the state government controls (1) urban, (2) metropolitan and (3) regional and these authorities.

8.2.3 The "Development Plan of Mumbai 2034":

Meanwhile, the government of Maharashtra launched a "Development Plan" for Mumbai development on 1st August 2017 and the target to accomplish the policy by 2035. The authorization body of the development plan is Mumbai Metropolitan Region Development Authority (MMRDA). The main objective of this development plan is inviting more commercial development alongside with the newly constructed MRR of Mumbai. The authority realizes the higher development of the city requires the easy communications to the workplace and at the same time consuming, and it became the blueprint of the city's land use strategy for over 16 years. According to The Times of India, the objective of the development plan of Mumbai will be opening eight million jobs and 1 million affordable houses. The development plan of Mumbai 2034 encourages the new "Mumbai Metro Line Project funded by Japan International Cooperative Agency (JICA). This project will construct a mass rapid transit system (subway) in Mumbai, the capital of Maharashtra State in West Central India (JICA; 2018). The reason for this initiative will provide accommodations the increasing need for transportation, and promote national economic development. This approach will encourage the urban environment improvements through improved road traffic congestion as well as reduction of air pollution through automobile. The Mumbai Metropolitan Region (MMR) has a population of 20.7 million people as of 2016 with a population density of 20,482 people per square kilometer, making it one of the most populated metropolitan areas in the world (JICA; 2018). The population is continually increasing its progress and this growing population, increases the number of registered and unregistered vehicles seriously, in recent year the count of growing vehicle shows in some debates, the report shows only the registered vehicle increases from 1.03 million in 2000 to 3.06 million in 2011 (JICA; 2018). This substantial increasing growth creates chronic traffic congestion in some part such as; Dadar, Andheri, Sion and so on. The driving speed of MMR is approximately 15 kilometers/ hour on trunk roads, and it is also making traffic congestion in the MMR far worse than such other major cities as Tokyo (approximately 20 kilometers

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per hour) and New York City (about 30 kilometers per hour) (JICA; 2018).

Furthermore, Mumbai city has low precipitations rate and also the town also facing water shortage; therefore, the port facing air pollutions simultaneously the growing number of the car creates enormous noise pollution. This reason realized emergence to develop a subway as a mass rapid transit system to improve the transportation capacity with a means of transportation other than the road network. Therefore, construction work by the Mumbai Metro Rail Corporation Limited, the executing agency, has been progressing since 2013 toward the opening of the subway at the end of 2021.

8.2.3.1 Increasing FSI:

The Floor Space Index (FSI) under the development plan is increasing from the past practice. FSI is also considered as the Floor Area Ratio (FAR), and it is the ratio of the total built-up or total construction area of the entire area of land or plot. FSI or FAR is a measurement that defines the extent of construction permissible on land or plot. In development plan of Mumbai, FSI is increasing at least (three) 3 for the residential developments, whereas for commercial development of the city will be increased up to 5 from earlier practice 1.33. In the case of suburban areas, the new proposed FSI will be using up to 2.5 for residential development, and 5 FSI is for commercial properties. Previously, in suburban areas in Mumbai, the FSI was quite lower than now. In the residential area of suburban the FSI can be used up to 2, and in the case of commercial developments in suburban areas FSI could use up to 2.5. The growing FSI of the development plan will provide at least an extra one more room in the flat of the residents and one extra office space in every commercial development in Mumbai metropolitan area. The FSI implemented in five different zones (MMRDA; 2018). New proposed FSI is considering the minimum road width of nine meters and a maximum of 24 meters.

Table 8.2: Floor Space Index (FSI) Increasing in The New Development Plan of Mumbai 2035				
Area	FSI use in Residential (Past)	FSI use in Residential (Present)	FSI use in Commercial (Past)	FSI use in Commercial (Present)
CBD	1	3	1.33	5
Suburbs	2	2.5	2.5	5

These growing phenomena of FSI in the Development Plan of Mumbai 2034 are shown in the table no 8.2. The new development plan encourages developing more office space near railway station according to its offered zoning. For example; FSI can be used near the

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railway station up to 8. This action allows transit-oriented development, and it would positively expected. The point also noted that the earlier higher FSI such as 1.33 or more only considers for parking infrastructure and in case of SRA 33 (10) [in-situ development], but now this benefits will use by all development in the city. The Transit-oriented development is encouraged by this increasing FSI along the MRT corridor.

The MRT corridor is a project assist by Japan International Cooperation Agency's (JICA) support. The project will construct a mass transit system (subway) in Mumbai as The name of "Mumbai Metro Line 3 Project (II). The primary objective of this MRT is to minimize the distance of the workplace. Through the project, a subway will be constructed to connect Island City, the central urban area of South Mumbai, to the northwestern suburbs through Chhatrapati Shivaji Maharaj International Airport. The volume of transportation is projected to reach 13.8 million person-kilometers per day within two years of operation commencement, and balanced economic development is expected to result in the MMR through the alleviation in transportation congestion and air pollution. For this reason, the authority increases the FSI near the MRT corridor especially for commercial development, so that the office space can build and people don't need to walk so long to reach office.

8.2.3.2 Using New Spaces for Urban Development:

In the development plan, some abandoned space those were not under any specific actions previously now under the planning proposal. The new development plan is mainly considered the future growing population. Under this strategic plan, at least 3,650 hectares of land will unlock and consider as the part of urban development. Some frontline newspaper in Mumbai appreciates the move is favorable for development which will later improve the existing infrastructure. MMRDA claims 3,000 hectares of land would be available to construct affordable houses. The authority also said another 300 hectares land of salt-pan land would be used for the affordable house too as the goal to provide 1 million affordable houses to the urban dwellers by 2035.

8.2.4 Problems of Development Plan of Mumbai 2034:

Some pre-assumption of the adverse effects is also argued (Firstpost; 28th July 2018).

1.   The planning has not any specific timing for the process of implementation.

2.   Western suburbs of Mumbai should not consider for larger FSI as some areas in this part is under civil-aviation funnel as well as road width requirements.

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3.   The civilians also argued that more FSI would highly conjugate the areas like Dadar or Andheri as these areas always criticized for high traffic conjugations.

4.   Since the more FSI can use for more build-up space, therefore; the developer will discourage to provide garden or swimming pools or playground for children.

8.2.5 The "Development Plan of Mumbai 2034" Encourages more SRS Apartment:

The new development plan 2035 planned to accommodate 1 million affordable homes to the urban dwellers. Slum Rehabilitation Scheme (SRS) apartment is the affordable house and it is ensuring slum dwellers residential status. More FSI use will encourage developers to redevelop the slum areas. Moreover, the government includes another 3,650 hectares of unused land in the planning policy where most of the regions have some slum. Therefore, these dwellers will also have supplied with a regular home in the city. Furthermore, the development plan of Mumbai 2034 also has some extra benefits for slum rehabilitation housing (SRS) apartments.

For example, the in-situ 33(10) SRS apartment will get 2 FSI extra then previous. Therefore, it's seemed that development plan 2034 highly encourages SRS apartments, and by SRS apartments the planning system will also provide a home to the illegal slum dwellers.

8.3 Background History of Planning System of Dhaka:

First Develop Master Plan in Dhaka was much earlier than Mumbai. It was established in the year of 1917 during the period British Colonial period. During the British colonial period, the city only focused on dividing into zones without formal concentration. The zoning concentrated (1) Old areas has an outline for developing remote administrative office, and (2) The green area of the city was the place for residential development purpose (A. Kabir & B. Parolin; 2012). During that period, the total land area of the town was only 50 square kilometers, and the basic concept of that 50 km2 Master Plan was to input infrastructure (road network) within this area. Chronologically, the city developed and extended as same as Mumbai city does, mean the needs of economic demand and the growth can define as Linear City Growth. The city was continuing to grow, and the problem of many planning issues rose because the increase was not formally (A. Kabir & B. Parolin; 2012).

Then an act was proposed in 1959 was introduced during the time, when Bangladesh was a part of Pakistan and named as East Pakistan. The authority formulated an organization for the development of overall Dhaka city and called as "Dacca Improvement Trust" (DIT) now

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a day, this organization recalled as Rajdhani Unnayan Kartipakkho (RAJUK). The DIT prepared the comprehensive master plan, and the name of the act was "Dacca Master Plan 1959". This master plan is only considering the growth of the city to suburb and lay down the inflexible schemes (A. Kabir & B. Parolin; 2012). Because the city was facing some demand for housing, however those housing was only focused on government employees housing.

After independence in 1971, DIT was renamed as RAJUK, under the Ministry of Housing and Public Works, and became the central planning and development agency for the Dhaka Metropolitan Area (DMA). The responsibility of RAJUK is to formulate the master plan, putting in place development controls and implementing major public works.

In 1981, RAJUK launched the second master plan with the collaboration of Asian Development Bank, and it was the first master plan in Dhaka after getting independence. The second master plan named as "Dhaka Metropolitan Area Integrated Urban Development Project 1981" (Anwara B; 2007, A. Kabir & B. Parolin; 2012). The concept of the project was to reduce flood problems in the city and to manage the stormwater. Initially, to propose the plan the authority and ADB staffs are studying the condition of the city and found several lacks in planning system because of facing sizeable unplanned development in the city, as well as the past master plan, was gone out of fashion (A. Kabir & B. Parolin; 2012). Then the master plan was considered a project instead of a plan.

Then in 1995, RAJUK proposed another plan again with the collaboration of some foreigner Mr. Mott Macdonald and Calpin Planning Limited called "Dhaka Metropolitan Development Plan 1995 (A. Kabir & B. Parolin; 2012) and the principal objective of the plan was to reduce the traffic conjugation in the city. To derive the KEY objective, there are few objectives also considered such as (1) strategic growth option, (2) structural plan, and (3) urban area or detail area plan. The Detail area plan considered for (a) flood free area, (b) new peripheral expansion, and (c) more road and high way to connect with new development.

8.3.1 Authorities for Spatial Policies for Urban Planning at Bangladesh:

Land use planning and urban planning controlled by the authorities under the jurisdiction of City Development Authorities such as RAJUK, CDA, KDA, and RTDA (see table 8.3). In case local area plan, this structured plan considers as a detail area plan. Apart from the past master plan the second consideration pf planning is detail area planning. Usually, Dhaka city considers the master plan or the land use plan by preparing a detail area planning. The table

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8.3 shows the master plan and the level of plans those are proposing by the government time to time and the implementation bodies district wise.

Table 8.3: Planning Implementation Policies in India		
No	Different Level of Plan	City Development Authorities
1	National Housing policy -2001	1. Dhaka City Planning Authority: The Capital Development Authority (RAJUK)- 1956
2	National Land-use Policy, 2001	
3	Hyderabad town Planning	2. Chittagong City Planning Authority: Chittagong Development Authority (CDA)- 1959
4	Bangladesh National Building Codes 2010	3. Khulna City Planning Authority: Khulna Development Authority (KAD)- 1961
5	Perspective Plan 2010-21	
6	Sustainable development plan 2010-21	4. Rajshahi City Planning Authority: Rajshahi Town Development Authority (RTDA)- 1976
7	National Urban Sector Policy -2011	
8	Urban and Regional Planning Act, 2014 (Draft)	**Furthermore,** (1) Urban Development Directorates (UDD)- 1965 (2) National Housing Authority (NHA)- 2000
9	Delta plan 2100	

8.3.2 The "Dhaka Structure Plan 2016-2035":

In the Dhaka Structure plan 2016-2035 has several targets with different goals. The planning is focusing not only the urban development but also the overall all sector of developments including health, education and disaster mitigations. The table 8.4 is the representing the targets and the goals of each targets of Dhaka Structure plan for 2016-2035.

Table 8.4: The Targets and Goals of Dhaka Structure Plan 2016- 2035

No	Target	Goal
1	Effective land use management for livable Dhaka	Effective management for land use and spatial growth for livable Dhaka
2	Transportation for Effective Connectivity	Safe, affordable, sustainable and connected community
3	**Affordable housing for All**	**Increase the range of affordable and appropriate housing opportunities for low to moderate income group**
4	Enhancing Dhaka's employment and productivity	Making Dhaka increasingly functional and productive
5	Public facilities for better living	Flood water management for protection of life and property including safe water, safe environment, sanitation, education and health care
6	Protection natural and healthy environment	Protecting the natural elements for human health and ecological harmony
7	Preserving open space for recreation, livability and identity	Enhancing Livability through promotion of open space and heritage
8	Resilience through disaster prevention and mitigation	Create healthy responsive and resilient community in a safe and protected build and natural environment
9	Enhance the cityscape with urban design and landscape	Ensure the quality of urban life both the functional and aesthetic aspects.

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8.3.3 Affordable House for all: "Dhaka Structure Plan 2016- 2035"

In this part of the Dhaka Structure Plan (DSP) 2016-35 considers the increasing housing supply for low and moderate income group of the city. Therefore few aspects the will go to focus such as better infrastructure services in the potential and designated housing areas in the city, ensure an adequate supply of land for new residential development. Moreover, the planning strategy is considered public sector housing agencies than a housing facilitator in this planning. The most importantly, the authority also has a plan to consider "Slum Area Improvement" and create planned and environmentally sound housing neighborhood in the potential urban areas in the city in this planning structure.

City's low-income groups receive a negligible share from RAJUK's land distribution. In Purbachal project (a project that supplies housing for lower and middle-income group) only 4.3% (110.46 acres) of land reserved for the low-income groups in that project, in Uttara 3rd Phase (another project for affordable housing by RAJUK) the share was only 7.5% (40.51 acres) and in Jhilmeel Project (another project by governmental authority for capital development, RAJUK) the allocation for the low income was only 1.2%. However, the price and some requirement for allotment were strict to access by the lower-income people. NHA provided 15,704 housing units to the lower income groups, but its recent projects are not reasonable for the urban poor in Dhaka city.

8.3.3.1 Policy-HN/4.2: Improve Conditions in Slums Under "DSP 2016-2035":
Improvement of slums will improve the living condition of the urban poor slum dwellers. The policy will contact the slum owner (legal/illegal) that the rent will not be raised for a specific time. Then, exercising of the rent control provisions of the Rent Control Act may be applied to prevent house owners to indulge in exploitative measures against the tenants. Interestingly, in Mumbai Rent control Act was applied on 1947, and it discourages owner to improve or maintain the surrounding of the home, resulting from significant damage of health care and the housing condition getting very low.
8.3.3.2 Strategic Action for Slum Improvement in DSP 2016-2035:
DSP 2016-2035 policy will make a decision taking up slum improvement project by RAJUK, NHA, City Corporations, and Pourashavas. These organizations will work out together with the squatter and slum communities and discuss the ways to improve the living conditions on site or at the more appropriate location elsewhere. Implementing body will be RAJUK, City

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Corporations, and Pourashavas, these organizations will consider slum improvement projects in collaboration with private slum owners. The DSP 2016-2035 mentioned that the fund might be procured from the donor agencies. The most effective three actions, which would consider in the Dhaka Structure Plan 2016-2035 is written below:

1. The slum owners must agree that they would not raise house rent for the next five years.
2. Exercise legal powers under the House Rent Control Act 1991 to control house rent in favor of tenants.
3. Advertise the essential provisions of rent control for information of house owners and tenants.

8.3.4 The Problems of Dhaka Structure Plan (DSP) 2016- 2035

There are several problems is detecting in DSP planning system by some researchers. The problems are writing below:

1. There is an absence of proper institutional and legal framework for implementing the plan.
2. The planning commission of Dhaka said that a comprehensive national physical plan or land use plan is missing in DSP.
3. Communicational gap and the team leader crisis detected at the same time limited resource also noticed. Moreover, it has also been detected some limitation in an effort.

The slum improvement policy only focused on rent control act which is already practiced in Mumbai on 1947 and several negative impacts were seen after applications such as; owner doesn't consider to improve the surroundings of the house, and they were also denied to maintain the internal and external damage of the building it causes unhealthy conditions resulting health damage and the look of the city was also got worse. Therefore, now in a slum area if rent control act will propose then the scenario of slum will get worse than now.

8.3.5 The "Dhaka Structure Plan 2016- 2035" and Mumbai's SRS Application:

Indeed the Dhaka Structure Plan 2016- 2035 is considering slum area improvements, which might be the first action, need to be taken for SRS application in Dhaka's slum. However, the SRS is not the only consideration for slum area improvement it also focuses for some planning and regulatory actions such as more FSI/ FAR or allows TDR or slum area

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privatizations. However, DSP will not consider any extra FAR, or build-up area is increasing intentions or providing TDR for housing development whereas the Development Plan Mumbai 2035 will increase more FSI and allow more unused land under development which is broadly welcome to construct more SRS apartments in the city. In Dhaka structure Plan 2016-235 has some plan to provide affordable house - low to moderate income people, therefore it can be perceived that the authority will be relaxing in some construction provisions such as extra FAR or allow TDR in housing business and allow slum land privatization that may encourage Mumbai's SRS apartment housing application at Dhaka's slum.

8.3.6 Some Similarities and Dissimilarities in Both Cities; Mumbai and Dhaka:

BOX- 2

Recent Planning Policy   *Facilities for SRS Application*

The Development Plan of Mumbai- 2034
→ Increasing FSI for more build-up area in both residential and commercial developments in city
→ *Dissimilarities* — This action has the dissimilarities if application Mumbai's SRS at Dhaka's slum areas

The planning system will supply 1 million urban dwellers home

The Dhaka Structure Plan 2016-2035
→ 1. Affordable house for lower and moderate-income people of the city
2. Slum areas in Dhaka will be improve under the planning system
→ *Similarities* — These two actions in two planning action has similarities for SRS application

The chapter discusses both cities' running planning policies those recently executing, and it will execute till 2035, therefore, the similarities and dissimilarities are showing at the "Box-2". The action of the development plan of Mumbai 2035 has two influencing proposals to apply more SRS apartments in the city. In case of the Dhaka structure plan, 2016-2035 has two actions that may influence Mumbai's SRS application at Dhaka's slum such as affordable housing for lower group and slum improvement planning. These two actions have the similarities with the action "home to at least 1 million urban dwellers" of the

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development plan of Mumbai 2035. Whereas another action "increasing FSI for more build-up areas has a dissimilarity with the Dhaka structure plan 2035.

The previous discussion was about the chronological evaluation of the master plan of two cities where the policy SRS is practicing and the city where could be applied or transfer the policy of SRS. In Mumbai, the planning system is supported slum rehabilitation scheme as well as authority realized the emergence of rehabilitation of slum areas in the city to ensure overall economic improvement. For this reason, they proposed some flexible construction conditions to attract free marketing through land privatization. On the other hand, the planning system in Dhaka started to accept some schemes for so long. However, the process and aftermath of the application of these planning systems prove not well. Dhaka's planning system has adopted a scheme in 1981 to reduce flood and storm water and then in 1995 to reduce traffic conjugations. Therefore, the study expected that SRS would have some possibilities to ensure tenure security to develop overall economic improvement. The study is now discussing the box in the later section that will show the similarity and dissimilarities of the planning system within these two cities.

8.4 Conclusion

The Dhaka Structure Plan 2016-2035 has some administrative and legal lacking if consider applying any new slum rehabilitation in slum areas at Dhaka. In case of Mumbai's SRS application in Dhaka's slum area, the structure plan must need some legal shelter because SRS apartment usually provides the slum dwellers habitation under legal ownership of a unit/ room. Moreover, the land use planning is another primary concern for SRS application, So, these missing administrative requirements need to consider while Mumbai's SRS apply. Furthermore, some planning regulation such as large-scale FAR for more build-up areas for substantial slum dwellers and allow TDR for slum rehabilitation development requires, therefore, authority, RAJUK needs to consider these aspects to ensure the application of Mumbai's SRS at Dhaka's slum.

Many research indicates that Dhaka planning system, bureaucratic inflexibility and the lack of coordination with policy maker and policy proposal are the critical factors affecting the provision of urban services (Anwara Begum; 2007, Kabir; 2012). According to Anwara Begum (2007), institutions dealing with urban planning are guided by the prevailing philosophy of preparing the master plan concept, which then becomes the blueprint for

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development where two significant problems associated with the master plan approach to urban development: (1) rigidity with respect to the time allowed for the implementation of formal plans and (2) the government's inability to combine planning and implementation processes.

Some research claims that recently, some change can see in this conception of metropolitan planning in Dhaka city, in case of land management that requires a strategy and need to incorporate with detailed area planning. Researches also argued that necessity of new institutions, so that primary policy thrusts could make on evolving appropriate measures for urban land use, land administration and land management (Anwara Begum; 2007, A. Kabir & B. Parolin; 2012). Meanwhile, the concept of SRS is to encourage requiring new institutions for slum rehabilitation which is not recommended by the past researchers. Furthermore, SRS require some construction flexibility, and from the above discussion, the recent master plan or detail area plan of Dhaka require to be modified to incorporate with the new strategic concept.

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Chapter 9
Possibilities to Transfer the Policy of Mumbai's SRS at Dhaka

9.1 Introduction:

Several studies are now focusing directly or indirectly to the uses and analysis on lesson drawing, policy convergence, and policy diffusion and especially on policy transfer. Some policy maker depends upon policy transfer through studying; however, it is also needing to be considering whether the policy proposal would fit the social context of the applicable area or not. This dissertation is focusing on a policy that applied to provide tenure security by using free market ideology where a separate body of government is playing as controller and private organization as a producer, however, the principal actor of this scheme is the slum community. It means Mumbai's Slum Rehabilitation Scheme (SRS) mainly executed by the slum community where private builders precede the project and authority monitors the whole process. So, these three are the fundamental stakeholders of SRS application anywhere. Furthermore, the policy, SRS appears successful in Mumbai as the city has housing demand due to land scarcity. Mumbai's private developing companies are looking for cheap priced land because the land price is unbearable by the middle to poor group people and finally the city already extended a lot and more extension is not possible therefore in-situ rehabilitation for slum dwellers is unavoidable. Mumbai's SRS prepared to respect the recent condition of planning system of Mumbai and demand in developing business. Therefore, if Mumbai's SRS need to transfer to a different place where the planning system is not similar then it's essential to identify the expert's opinion of the overall planning system of that area where the policy, SRS will apply as well as how to overcome the dissimilarity of planning system by proposing some recommendations. Moreover, Mumbai's SRS offers some flexible construction condition to attract private developing companies; therefore, it also needs to identify whether the private developing companies in the applicable area are interested in these construction conditions.

9.1.1 Possibilities of the Application of Mumbai's SRS at Dhaka by Experts:

The study intended to identify the possibilities of the application of Mumbai's SRS at Dhaka's slum, and the study discussed the policy with academia, researchers, and planners. Dhaka's planning system and rules of construction is not hundred percent similar as Mumbai

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does, notably, introducing Transfer Development Right (TDR) is not starting application in Dhaka's urban planning yet therefore, it's necessary to know whether the TRD application through slum rehabilitation scheme would be beneficial in Dhaka's urban planning or not. Another important issue of urban planning is construction rules which are more flexible in case of SRS application to fulfill the requirement of slum dweller's density. So, the research also intended to know whether these considerations of relaxing the construction rules would be beneficial for urban planning system in Dhaka or not.
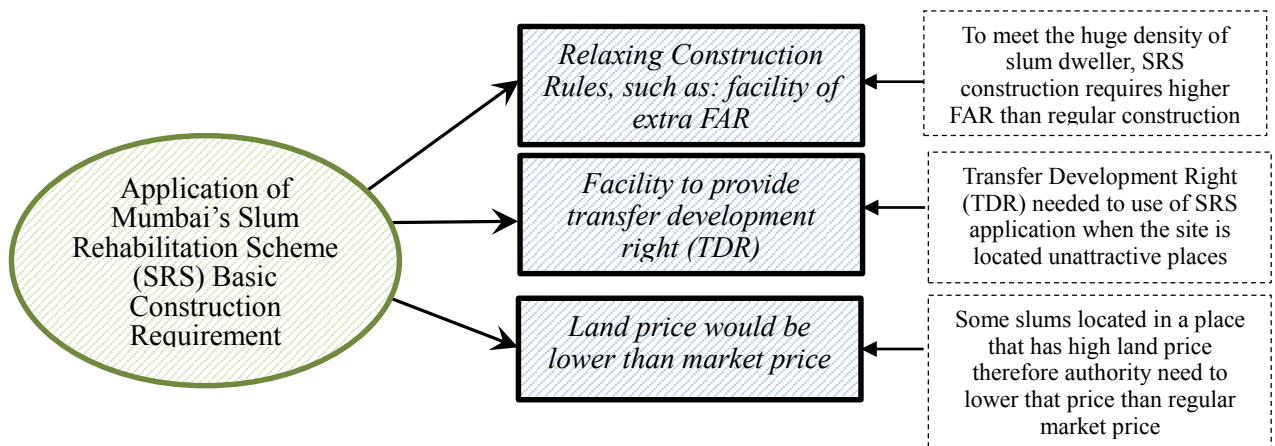
Figure 9.1: Construction Requirement for SRS Application

For this reason, the questionnaires to them were; (1) what possibilities would arise if apply SRS at Dhaka's slum in case of introducing of TDR? (2) Does the authority (RAJUK) should relaxing construction rule, especially FAR for SRS application? If yes, then what would be its effect in planning system at Dhaka? The study conducted a discussion on January- February 2018, with the academia, researchers, and planner are written in table no 9.1.

Table 9.1 List of Personnel (Interview with researchers, planned and professor in Dhaka)

Academia No			
1	Dr. Bijan Bihari Sharma	Professor	Former Head of the Dept. Dept. of Architecture, Khulna University
2	Dr. Shehzad Zahir	Professor	Department of Architecture. Ahsanullah University of Science and Technology
3	Dr. Ishrat Islam	Professor	Department of Urban & Regional Planning Bangladesh University of Engineering and Technology
Planner			
1	Kazi Golam Nasir	Chief Architect	Department of Architecture. Public Works Department of Bangladesh (PWD)
2	Fhamida Sultana	Ass. Chief Architect	Department of Architecture. Public Works Department of Bangladesh (PWD)
Researcher			
1	Mubasshar Hussein	Educator	Former President of Institute of Architect, Bangladesh (IAB)
2	Dr. Abu Sayeed M Ahmed	Educator	Former Head of the Dept. Dept. of Architecture, University of Asia Pacific

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The entire expert believed that SRS application in slum areas of Dhaka would have definite possibilities because this policy will provide formal housing to the urban dwellers that have huge demand nowadays.

Moreover, there will be no option other than relaxing construction rule especially increase or higher the value of FAR in some place to meet the vast density. Dr. B Sharm said; "this policy not only could use in slum areas in Dhaka it also could use for the lower-middle-class group. However, in the case of Dhaka, many middle-class people are not able to afford the formal house. Therefore, SRS policy would be beneficial for those how can't afford formal housing in the city." Ar. Mubasshar Hussein said the government of Bangladesh already accepts to provide TDR for heritage building protection and soon TDR will be adopting in Dhaka's planning system too.

Meanwhile, Dr. Ishrat Islam also supports SRS application in Dhaka but her focus concentrated on the stakeholder-2, private developing companies as the policy depends on the free market economy. According to Dr. Ishrat and Dr. Shehzad Jahir, indeed SRS policy will open a new door for housing business in Dhaka which would be booming free market economy through housing business. Therefore, it would be necessary for the authority (RAJK) to proper control and monitor the regulation of SRS construction and business rule, especially for Dhaka's private developing companies.

9.2 Stakeholders of Slum Rehabilitation Scheme (SRS):

The study already mentioned in chapter 3 that Mumbai's Slum Rehabilitation Scheme (SRS) has three identical stakeholders. The three stakeholders, such as; (1) authority, (2) private developing company and (3) slum dwellers. Figure 9.2 shows the three stakeholders of
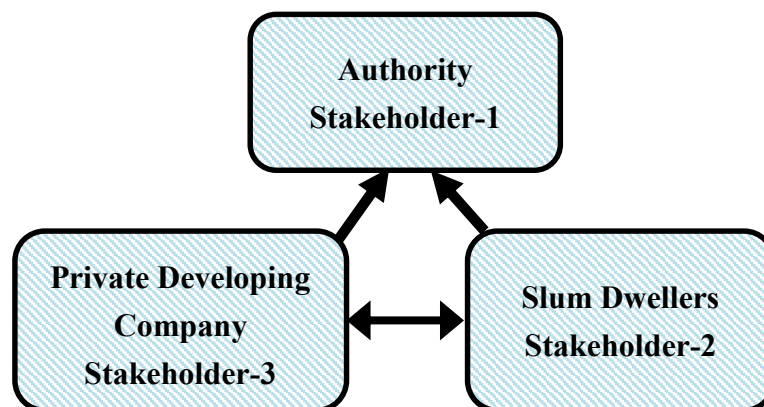
Figure 9.2: Stakeholders of Mumbai's SRS to Application

Mumbai. To apply SRS project in a slum area, at first, slum dwellers formulate a community and hire a private developing company or an architect and then applied to the authority, SRA

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to give them permission to develop the slum area.

9.2.1 Four Stakeholders of Mumbai's SRS for applying at Dhaka:

In chapter 7, the study already has discussed that NGO plays a vital role to ensure better and sound management and maintenance service at SRS apartments; therefore, the study also intended to include the fourth stakeholder "NGO" when applying in a slum at Dhaka. Figure 8.2 shows the proposed four stakeholders when SRS would have applied at Dhaka's slum.

To identify the acceptance of Mumbai's SRS, the researchers interviewed with governmental authority and conducted a small questionnaire survey with some private developing companies at Dhaka. Since Dhaka's slum dwellers are already accepted to live in an in-situ type apartment by some monthly payment (Alam & Matsuyuki; 2017), therefore the study avoids conducting a questionnaire survey for acceptation of Slum Rehabilitation Scheme (SRS) by Dhaka's slum dwellers. Because, for two reasons; (1) the concept of Mumbai's SRS is rehabilitating slum areas by providing an apartment type building to the slum dwellers in the same area, that means in-situ type apartment for slum habitat. (2) The second concept is to provide ownership to a 260 square feet room unit/room to the eligible slum dwellers with zero cost, and Dhaka's slum dwellers are ready to accept any policy that will provide them full ownership of a room/unit at their current location. The figure, 9.3 represent the possible stakeholders at Dhaka when applying SRS at a slum.
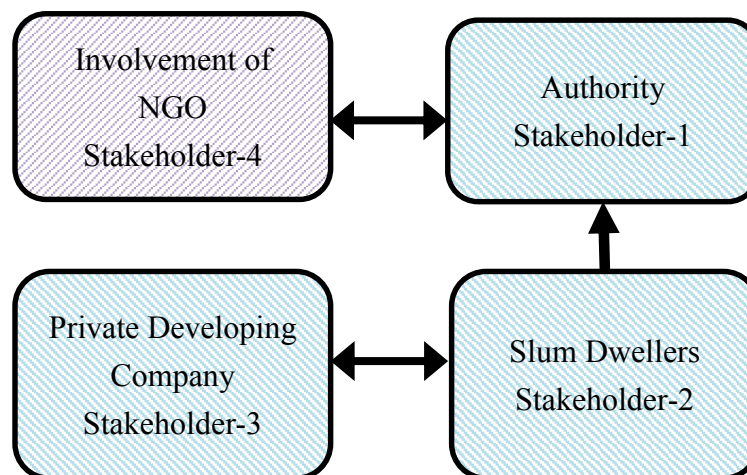
Figure 9.3: Stakeholders of SRS Application at Dhaka's Slum

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1. Stakeholder-1: The research contemplates the response of some higher officials from the Capital Development Authority; RAJUK as stakeholder-1. RAJUK is the primary authority in Dhaka for planning consideration and development and the only organization for slum area development.

2. Stakeholder-2: This part of the research will consider the result of a paper published about the acceptation of some offered scenarios to accept their tenure choice in a slum located at the key location. The slum is well known as Korail slum, and the research will consider the result of the Korail slum dwellers response about Land Sharing Scheme (Alam, Matsuyuki; 2017).

3. Stakeholder-3: The third stakeholder is Dhaka's private developing companies to identify their preferred construction attributes for SRS project business. The study conducted a questionnaire survey with 21 private developing companies of Dhaka to identify the construction attributes such as; (1) Extra FAR, (2) Offering TDR, (3) Development type and (4) Cost of rehabilitation.

4. Stakeholder-4: The result of the study found that the dwellers are satisfied with living when they are satisfied with the management and maintenance service of the cooperative housing society at SRS apartments. Furthermore, it also identified that the involvement of NGO plays an essential role in improving management and maintenance service in SRS apartments therefore the study wanted to include stakeholder-4 for improving living satisfaction. This part of the study considers one of the most popular local Bangladeshi NGO commonly known as BRAC.

The research interviewed several researchers, planners, and professors at the universities of Bangladesh. Before discussing the three stakeholder's decision, it would be logical to discuss the possibilities of the application of Mumbai's SRS at Dhaka's slum by researchers, planner, and academia.

9.3 Mumbai's SRS Acceptation by Dhaka's Slum Dwellers:

This part of the research is discussing the result of the slum dweller's acceptation to residing in their current place even with some monthly payment. The slum located at the vital

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location of Dhaka city which was surrounded by two posh areas. The land price of these two areas is very high, and the area is famous for both residential and commercial use for rich people. Maximum dwellers of this slum are works as an informal worker ear the slum because of illiteracy and inexperience. This slum is known as Korail slum, and the maximum dwellers are temporary habitat in an illegal tenement with an unsafe condition, lack of management and support and insecure tenure system. As a result, the slum dwellers are unwilling to improve their present condition because they are in constant fears of eviction.

9.3.1 Land-sharing Scheme Acceptation by Korail Slum dwellers (Stakeholder: 2)

Land sharing scheme is a win-win scheme whereby landowner and slum dweller will share the land. For example, Land-sharing means that the owner of a plot of a land and the occupants of that plot (either squatters or tenants) partition the land so that the landowner can develop his portion to the best possible advantage and the residents can use their share to build their houses with full security of tenure (UNCHS, 1986, p. 39). Usually, in the process of land sharing scheme landowner either sell some part of land with nominal price or lease some part of the land for a specified period. By this scheme both tenant and landowner becomes gainer.

Since land sharing scheme will provide legal tenure to slum dwellers in their current location, and Mumbai's SRS also provide secure tenure in in-situ, so this part of the dissertation is considering the result that already has published in 2017 (Alam, Matsuyuki; 2017)

9.3.2 Result of Dhaka's Slum Dwellers' Acceptation to live in an In-situ Apartment:

The dweller's response was evaluated with Contingent Valuation Method (CVM) to know Willingness to Acceptation (WTA) and Willingness to Pay (WTA) from the paper published on 2017, "Applicability of Land Sharing Scheme to Korail Slum, Dhaka, Bangladesh. Urban and Regional Planning Review, 4, page no 151-167".

The land sharing scheme followed five CVM scenarios for the questionnaire survey to the Korail slum dwellers, among that four identical scenarios consider land sharing scheme and another scenario designed for relocation. The four identical CVM scenarios of land sharing and a relocation scenario are showing in table 9.2.

Table 9.2 Scenario to know the acceptance in living at the current location

No	Scenario Option	Scenario Content
1	Scenario 1 (in-situ)	12 story high-rise building with permanent ownership
2	Scenario 2 (in-situ)	12 story high-rise building with 30-year long term lease-hold
3	Scenario 3 (in-situ)	6 story middle-rises building with permanent ownership
4	Scenario 4 (in-situ)	6 story middle-rises building with permanent ownership
5	Relocation Scenario	Relocation to any suburb, 1.5 to 2 hours away from Korail slum

There were four proposals of two types of buildings: 12-story high-rise and six-story middle-rise buildings that have ownership for lifetime and leas-ship for 30 years. The fifth scenario was a proposal of relocation for a single detached house located any suburban area. Slum dwellers' responses showed that they were more interested in the in-situ proposal than in moving to another area. Table 9.2 represents the proposed scenario and numbers of dwellers acceptation for land-sharing Scheme

Table 9.3 Korail Slum Dwellers' Acceptation About Proposed Land-Sharing Scheme

No	Scenario-1	Scenario-2	Scenario-3	Scenario-4	Scenario-5
	In-situ 12 story apartment with full-ownership	In-situ 12 story apartment with 30 years leas	In-situ 6 story apartment with full-ownership	In-situ 6 story apartment with 30 years leas	Relocation with full-ownership
1	8	7	28	10	7
2	11	5	31	9	7
3	9	5	34	10	5
4	8	6	28	10	7
5	8	5	25	7	3
Total	44	28	146	46	28

*Source: ALAM, S. S. B., & MATSUYUKI, M. (2017). "Applicability of Land Sharing Scheme to Korail Slum, Dhaka, Bangladesh". Urban and Regional Planning Review, 4, pg.151-167

Among 192 households, 85.4% slum dwellers are wanted to stay in their current location with an apartment type of building. As mentioned previously that there were four scenarios are made for dwellers choice, and two type building and two type ownership was considered. The scenario 1 was selected by 22.9% dwellers, scenario 2 was chosen by 14.5% and scenario 4 was accepted by 23.9% dwellers. Maximum dwellers, 76% were accepted

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scenario 3, which was a proposal of a 6-story apartment type building in the current location and dwellers will have ownership for life time.

9.3.3 Acceptation of Mumbai's SRS by Dhaka's Slum Dwellers:

The acceptation result of land-sharing pointed two most important criteria of Slum Rehabilitation Scheme (SRS) application in Dhaka's slum. Therefore, the study expected that the slum dwellers of Dhaka will accept Mumbai's SRS because of these two reasons written below:

(1) Dhaka's slum dwellers wanted a lifetime ownership that means dwellers wants tenure security for their current living place

(2) Dhaka's slum dwellers are interested to stay in their current location with an apartment type building.

These two criteria prove that the slum dwellers' of Dhaka will accept Mumbai's SRS application, moreover, in case of land-sharing; dwellers are ready to pay an amount to get a room/unit at their current location. In another word dwellers wish to have tenure security in their current living location by some monthly payment. But, Mumbai's SRS provide full ownership room/unit to an eligible slum dweller with zero amounts.

Note:
The result of Table 8.3 was taken from research to identify Dhaka's Korail slum dwellers' acceptation about a scheme named land-sharing. The research prepared five scenarios and a questionnaire survey conducted in July 2014 at Korail slum. Same scenarios were offered to the landowner group to identify whether the landowners are interested in applying the land-sharing scheme at Korail slum or not. The landowners of Korail slum are RAJUK and PWD. Both organizations are a governmental body. The questionnaire conducted with four responsible officers who are involved developing Korail slum area. The research selected two officers from RAJUK and two officers from PWD and this questionnaire also conducted in July 2014 in Dhaka. [ALAM, S. S. B., & MATSUYUKI, M. (2017). "Applicability of Land Sharing Scheme to Korail Slum, Dhaka, Bangladesh." Urban and Regional Planning Review, 4, pg.151-167]

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9.4 Possibilities of Mumbai's SRS by the Authority RAJUK (Stakeholder 1):

Authority is the key stakeholder in controlling SRS application; in fact, authority plays an important role in executing the whole procedure that starts before the construction. In Mumbai, the Slum Rehabilitation Authority (SRA) is an independent body to control everything for slum rehabilitation scheme. In case of Dhaka, it has not required to forming a separate body to maintain and execute SRS application; however, it is essential to know that the actors use to handle by SRA at Mumbai will be considered by the Capital Development Authority (RAJUK) of Dhaka or not.

Dhaka is facing a massive scarcity of land as well as a small piece of land costs quite high. Because of the high demand of housing and other development, the landowners are not interested in handover the property which is occupied with slum to the illegal slum dwellers forever even though they are unable to get the land from the slum dwellers since several years. Meanwhile, in Mumbai policy make faces this situation for many years and finally, they modified the policy of SRS. SRS is not only considering providing formal housing to the slum dwellers it also opens a new housing business policy for free marketing. Therefore, applying SRS at Dhaka would be an opportunity for proposing the free market economy which will drive by supplying formal housing to the illegal slum dwellers. This research also interviewed some officers from RAJUK to identify the possibilities of Mumbai's SRS at Dhaka.

9. 4.1 Key Issues Need to Decide by RAJUK for Mumbai's SRS Application:

This dissertation already has discussed that Mumbai's SRS has some issues with the application. Such as; (1) Land Privatization for slum rehabilitation, it means handover the land to the private developing companies. (2) Offer Transfer Development Right (TDR), when the slum location is not attractive for the free market, then the developer could use TDR. (3) Offer some construction benefits with providing Extra FAR of additional space construction to meet the high density of the slum population.

The study, therefore, conducted a whole interview with some officers of RAJUK to identify their judgment about Mumbai's SRS application at Dhaka's slum and their support on it.

9.4.2 Interview with RAJUK about Mumbai's SRS Application:

The study intended to interview the particular officers who are involving in new proposals for city development. Since there is no any governmental body for slum rehabilitation in

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Dhaka city and the employees who propose and plan any new proposal for city development, so interview conducted with those same employs. Table 9.4 is the list of officers; the research interviewed on January 2018 from "Capital Development Authority (RAJUK)" because RAJUK is handling all urban development in Dhaka city and the purpose of the study was to identify whether the authority will accept SRS policy for slum rehabilitation scheme or not.

Table 9.4 Authority's Acceptation About a New Policy Application at Slum

Officer	Organization	Name	Division	Designation
1		Md. Shirajul Islam	Planning	Chief Town Planner
2		Md. Ashraful Islam	Planning	Ass. Chief Town Planner
3	RAJUK	Mahfuja Aktar	Planning	Deputy Town Planner
4		Sultana Razia Doula	Housing Development *(Uttara Apartment Project)*	Deputy Director
5		K. M. Obaidul Sadique	Housing Development *(Uttara Apartment Project)*	Ass. Deputy Director

The main target of this part of the research is to let the authority understand that Dhaka's slum dwellers need tenure security, but the government does not have enough funds to rehabilitation because the number of slum people is vast. SRS is the policy where government handover the construction responsibility to the developer and government do not need to pay the cost of construction. Therefore the first question to the authority was; "Do you think Mumbai's SRS should be applying in Dhaka? If yes, then please explain why?" Then the second question was; "why Mumbai's SRS should apply in Dhaka city?"

9.4.3 Relaxing Construction Condition for Mumbai's SRS Application by RAJUK:

SRS policy application requires some new system in planning such as; (1) relaxing FAR and (2) introduce TDR. The authority asked for the third question; whether they will be ready to increasing construction area by providing extra FAR and propose the facilities of TDR or not? The fourth question was; Does RAJUK will introduce a separate body or unit to facilitated slum areas in Dhaka? Finally, RAJUK officer asked about the free market economy by proposing land privatization for the government lands which occupied with slums.

Figure 9.4 is representing the issues that authority, RAJUK need to offer to the private developing companies at Dhaka. Where "Provide a Separate Body" means that whether the

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authority will provide a separate body to handle Mumbai's SRS for slum rehabilitation at Dhaka's slum or not. Then "Propose Extra FAR" means, whether the authority would propose Extra FAR to meet the huge density of slum dwellers' tenement demand or not. After that "Offer TDR" is a proposal by the authority to the private developer to the land which located unattractive places for marketing. Because some slum areas located far from the city and the developer might not find enough customers to sell the sale component, in such case developer could use the TDR option. Finally, "Land Privatization" is another issue that needs to be offered by RAJUK because of the free market economy through sale another development for construction cost for rehabilitation part of slum dwellers.
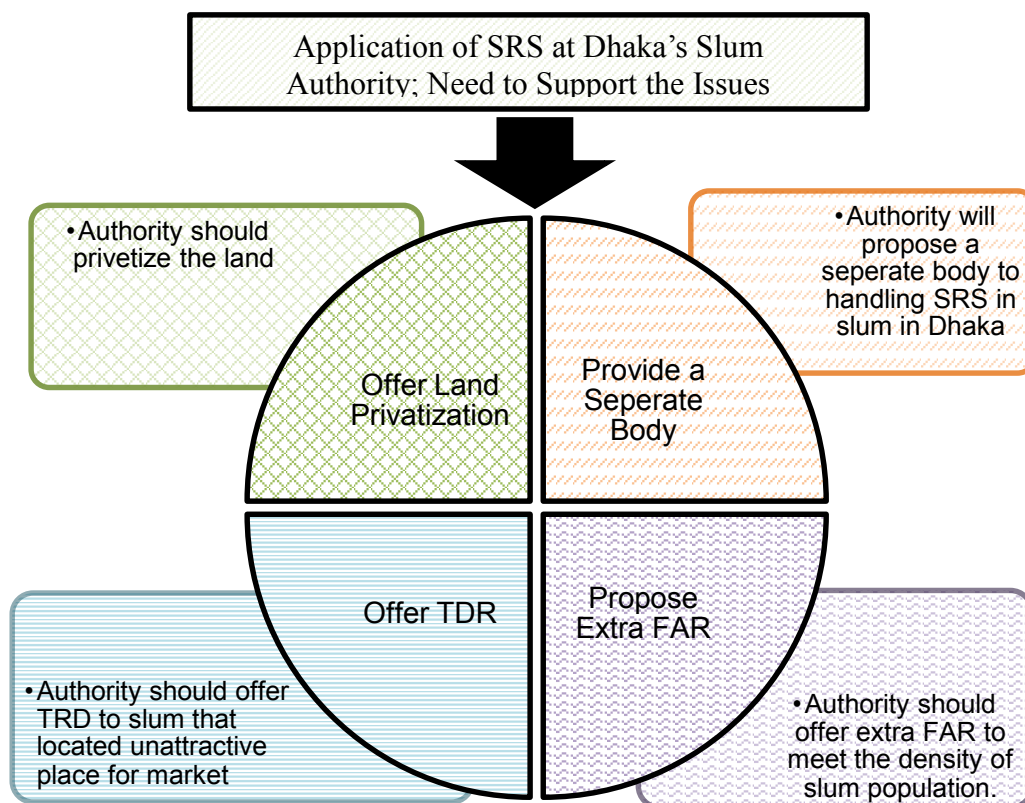
Figure 9.4: Key Issues need to Consider by Authority

9.4.4 Response of RAJUK about Construction Condition for Mumbai's SRS:

All members from the authority are responded positively to SRS policy application for slum rehabilitation in Dhaka city. From housing development division, the interviewer thought that relaxing far is possible as construction rule and FAR has already some beneficiary issues for poor, lower class and lower-middle-class group for construction in Dhaka. So, it is a possibility of relaxing construction rules and FAR for applying SRS. Meanwhile, the

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research got the information from the planning division that the future ongoing planning system was already adopting TDR because recently TDR is followed by some developing countries for the betterment of urban planning system which was also a target of RAJUK to including TDR in the planning system.

Authority, RAJUK Response about some conditions to Apply of SRS

Authority is ready to adopting land privatization

Because the land occupied with slum is difficult to acquire unless giving the dwellers some benefits

Offer Land Privatization

• Authority is not ready to open a seperate body as its depend on political decision

Providing a separate body is difficult As it depends on political decision

Offer TDR

Propose Extra FAR

Because, recently govt. decide to adopt TDR to protect heritage buildings as well as govt. wanted to include TDR in new planning

• Authority is ready to offer TDR

• Authority is ready to propose extra FAR

Because, already there are some relaxing FAR is practices in planning for poor housing

Figure 9.5: The Response of Authority, RAJUK about the acceptance of Mumba's Slum Rehabilitation Scheme (SRS)

The free market economy, planning, and housing development division both supported as the government does not have enough budget to fulfill the housing demand of a vast number of slum dwellers in Dhaka city. Finally, the response about the separate body is not welcoming by the respondents as it is a consideration of high political authority. In this consequence, the scenario of adopting SRS in Dhaka's slum by the authority is showing in figure 9.5.

9.5 Possibilities to Accept Mumbai's SRS by Dhaka's Private Developing Companies (Stakeholder- 3):

This part of the research is discussing how the private developing companies of Dhaka are responding their interest in SRS project business. Initially, the study introduces the policy to developing companies by providing a power point presentation. The primary intention to provide PPT to the target developing companies to introduce some attribute that usually used

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in SRS project construction. The attributes are; (1) Extra FAR, (2) Free market development option, (3) Cost for slum rehabilitation for 500 slum dwellers and (4) TDR option. Previous

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┌─────────────────┐      ┌──────────────────────────┐      ┌──────────────────┐
│                 │      │ Provide a transit shelter │      │                  │
│                 │  →   │ or provide rent of the    │  →   │                  │
│ Private Developing     │ house during construction │      │ Eligible Slum    │
│ Company Should   │     │ period to the eligible    │      │ Dwellers will    │
│ Provide to the  │ →    │ slum dwellers             │      │ Facelifted from  │
│ Slum Dwellers   │      ├──────────────────────────┤  →   │ Private Developer│
│                 │      │ Supply room/units to the │      │                  │
│                 │  →   │ eligible slum dwellers.   │      │                  │
│                 │      │ Each household should be  │      │                  │
│                 │      │ supplied a room/unit of   │      │                  │
│                 │      │ 260 feet² with zero cost  │      │                  │
│                 │      ├──────────────────────────┤  →   │                  │
│                 │      │ After allotment of the    │      │                  │
│                 │      │ room builders need to     │      │                  │
│                 │      │ provide some amount as    │      │                  │
│                 │      │ maintenance subsidy for   │      │                  │
│                 │      │ long term maintenance     │      │                  │
└─────────────────┘      └──────────────────────────┘      └──────────────────┘
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Figure 9.6: Private developing company's responsibility to the eligible slum dwellers

chapters of this dissertation already discussed that to develop SRS project in a slum area, and the government should privatize the land first as well as to provide some beneficial construction attributes to the developer in order to make the proposal attractive. Because developer should supply free rooms/ units to the eligible slum dwellers and they also provide transit shelter to the dwellers during construction and provide some amount as maintenance cost for next ten years as maintenance subsidy. For development SRS, the developer should supply some facilities to the slum dwellers and the government also need to supply some benefits to the private developing companies.

9.5.1 Construction Attribute to the Developer for SRS Construction:

Meanwhile, authority RAJUK, need to offer some construction attributes to the private developing companies for business attraction. Businessmen needs some profits to run the business and SRS project construction require huge construction cost for rehabilitation. Furthermore builder also need to provide free shelter to the dwellers if they are unable to find free shelter during construction period then they should pay the rent/month of the slum dwellers temporary house. Additionally, poor slum dwellers are not able to pay monthly maintenance cost properly which could be a big failure of the project because the SRS apartment usually provide elevator and other common facilities, therefore without maintenance cost the management service will fail. Therefore, SRA regulation mended an amount as maintenance subsidy by the private developing company. Figure 9.5 show that the benefits that the developing companies will facelifted by the authority to provide free tenure

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to the slum dwellers.

The study includes the cost of rehabilitation part too as its necessary to identify how much the private developing companies are interested for the rehabilitation. The study conducted a questionnaire survey to know the response of the developer regarding the SRS projects. The

Figure 9.7: Construction Condition Given by the Authority to the Private Builder

study proposed these construction conditions as attributes in this dissertation. The section below is the explanation of the four attributes that offered to the private developing companies:

(A) Attribute 1:

The study offers cost of rehab part to identify the developer's intention to pay the cost for slum dwellers habitation. The research has conducted a telephone interview with some architectural construction companies such as; "Arc-field" and "Volume Zero" in Dhaka. These companies informed the market construction cost per square feet. The companies informed three level of construction cost are now practicing, where the lower is 1,800 TK/ feet2, the average cost is 2,000 TK/ feet2 and the height cost is 2,200Tk/ feet2. The study offers, 230 Million (when the construction cost would be 1,800 Tk/ Feet2), 255 Million (when the construction cost would be 2,000 Tk/ Feet2) and 280 Million (when the construction cost would be 2,200 Tk/ Feet2).

(B) Attribute 2:

Floor Area Ratio (FAR) is the principal regulation that controls the total build up areas of a plot or land. For residential building FAR considers some group and the regulation book

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name them as; A1- Building for one family, A2-apartment and flat, A3- dormitory, A4-houses for lower-income people and A5- residential hotel. In Dhaka city, FAR is calculation is depending on the size of the land and wideness of the front road and authority divided these five-category developments under two type FAR considerations. Table 9.5 represents the FAR for the area in Dhaka city.

Building Type (A1-A4) Residential			Building Type (A5) Residential		
Land Size	Road width	FAR	Land Size	Road width	FAR
134m^2 or less	6 M*	3.15	134m^2 or less	6 M*	2.50
201m^2 to 268 m^2	6 M	3.35	201m^2 to 268 m^2	6 M	2.75
268m^2 to 335 m^2	6 M	3.50	268m^2 to 335 m^2	6 M	3.00
335m^2 to 402 m^2	6 M	3.75	335m^2 to 402 m^2	6 M	3.25
402m^2 to 469 m^2	6 M	3.75	402m^2 to 469 m^2	6 M	3.50
469m^2 to 536 m^2	6 M	4.00	469m^2 to 536 m^2	6 M	3.75
536m^2 to 603 m^2	6 M	4.00	536m^2 to 603 m^2	9 M	4.50
603m^2 to 670 m^2	6 M	4.25	603m^2 to 670 m^2	9 M	5.50
670m^2 to 804 m^2	9 M	4.50	670m^2 to 804 m^2	9 M	6.00
804m^2 to 938 m^2	9 M	4.75	804m^2 to 938 m^2	9 M	6.50
938m^2 to 1072 m^2	9 M	5.00	938m^2 to 1072 m^2	9 M	7.00
1072m^2 to 1206 m^2	9 M	5.25	1072m^2 to 1206 m^2	9 M	7.50
1206m^2 to 1340 m^2	9 M	5.25	1206m^2 to 1340 m^2	9 M	8.00
More than 1340 m^2	12 M	5.50	More than 1340 m^2	12 M	8.50
Any size	18 M	6	Any size	18 M	9.50

*Note: Here M = Meter. So, 6 M means 6-meter road width.

Since the questionnaire to the developer asked about the land of any size that must be more than 1340 square meter with an 18-meter road; therefore, the study asked the developing companies about the Extra FAR which is more than 6.

"Extra FAR;" it means the developer will be facelifted additional FAR to construct more area than regular and the attribute offers additional FAR 1, 2 or 2.5. For example, if the regular FAR of any area is six then the additional FAR should:

Extra FAR 1 = (6+1) = 7,

Extra FAR 2 = (6+2) = 8 and

Extra FAR 2.5 = (6+2.5) = 8.5.

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(C) Attribute 3:

"Sell Component Development Option"; the study offer (1) residential development, it means that developer could only develop the residential component for sell or (2) residential and commercial development, which is an offer, where the developer could build both commercial and residential development for sale.

(D) Attribute 4:

"TDR Option"; TDR option is the new offer for private developing companies; however, Mumbai's SRS is practicing TDR for some projects; therefore, the study also intended to identify whether the Dhaka's developing companies are interested in having TDR for housing business or not. The study offers TDR to anywhere; it means the developer could build their sell component anywhere in the city such as; suburban areas or city center. Then the offer was TDR to suburban areas, which is an offer to the developer to develop their sell component to only suburban areas. Finally, the study offers NO TDR, so the developer could not use any TDR option for SRS projects.

9.5.2 Questionnaire Survey to the Dhaka's Private Developing Companies:

In January 2018, the study conducting a questionnaire survey of 21 private developing companies. Initially, the study conducted some interview with these companies than to minimize the time and avoid long waiting time to meet the head or second head of the companies. The study surveyed by telephone and e-mail. As per the expectation, many of the developing companies are not responding to the email. Table 9.6 shows the list of private developing companies where the study conducted the questionnaire survey and the designation of the respondents. In this questionnaire survey, it is essential to consider the designation of the respondents because it depends on the decision for the future business. The study received total 306 responses from these developing companies.

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Table 9.6 List of The Private Developing Companies & Respondents

No	Name of the Company	Respondent's Designation
1	Jamuna Group	Chief Architect
2	ABC Real Estate Ltd	Marketing Manager
3	Charuta Private Ltd.	Chief Engineer
4	Hundai Developing Company	Marketing Head
5	Richmond Developers Ltd	Director
6	Sheltech Ltd	Marketing Head
7	Volume Zero	Chief Architect
8	Idea Real Estate	Head Architect
9	Navana Real Estate	Senior Architect (Team Leader)
10	N H Foundation	Chief Engineer
11	Al Fatin Group	Director
12	Hamid Real Estate & Construction Ltd.	Managing Director
13	Developer's Company	Managing Director
14	ARCHFIELD	Director
15	Shell Engineering	Chief Engineer
16	SSPL	Managing Director
17	LGED (govt.)	Senior Engineer
18	DOME-INNO Builders Ltd.	Marketing Head
19	Zone Properties	Managing Director
20	Alliance Properties	Marketing Head
21	Ideal Real-estate	Managing Director

9.5.3 Scenario of Questionnaire Survey with Dhaka's Private Developer:

In the questionnaire survey, the study prepared a scenario to identify the developer most preferred attribute for SRS project. The scenario asked the private developing companies is:

"There is a slum of more than 500 households in Banani area where the market land price is around eighty thousand TK/ m2 (80,000TK/m2), and the road width is 18 meters (60 feet). That means the allowable FAR is 6. However, the slum dwellers do not want to leave the land at any cost, that means eviction is not possible. In this situation, if your company develops apartment house for the slum dwellers on the site and will supply 250 SFT or 23.23 m2 single unit/household. Your company needs to provide at least 500 slum households habitation for free, then; RAJUK would give you extra FAR on that site and your company could; (1) Develop more area than usual, (2) Your company could develop the slum area which is not east to vacant but located in the key location of the city, (3) Your company can transfer some development right to another area or any other projects. The name of this process is Transfer Development Right; TDR."

9.5.4 Methodology of Questionnaire Preparation for Dhaka's Private Developer:

The study uses Conjoint Analysis to identify the most preferred attribute by Dhaka's Developing companies. Because the conjoint analysis is a survey based statistical technique used in market research that helps determine how people value different attributes (feature, function, benefits) that make up an individual product or service (Green, P. and Srinivasan, V. 1978; Green, P. Carroll, J. and Goldberg, S. 1981).

In this part of the research, CA; Conjoint Analysis conducted to identify the most preferred attribute of SRS construction condition such as (1) extra FAR, (2) TDR option, (3) Sale component and (4) cost for rehab part by Dhaka's private developing companies.

A selection type conjoint analysis presented several scenarios to select by the interviewer. The study presented some scenarios with different level of attributes of construction condition of SRS apartment. The table below shows the offered attributes and its level. Table 9.7 below is showing the scenarios that offered to the private developing companies.

Table 9.7: Attributes and its level of SRS construction

No	**Attribute**	**Level**	**Remark**
4	Cost for Rehab Part	230 Million	Construction cost =1,800 Tk/ Feet^2
		255 Million	Construction cost =2,000 Tk/ Feet^2
		280 Million	Construction cost =2,200 Tk/ Feet^2
1	Extra FAR	1	Extra 1 FAR will be added with regular FAR
		2	Extra 2 FAR will be added with regular FAR
		2.3	Extra 2.5 FAR will be added with regular FAR
3	Sale Component	Residential Development	-
		Residential and Commercial Component	-
2	TDR Option	TDR to Anywhere	TDR to the CBD or suburban area
		TDR to Suburb	TDR to the suburban area
		No TDR	-

9.5.5 Create Profile for Questionnaire:

In this case, there are four attributes of three and two levels, the combination of the attributes the number 3 X 3 X 2 X 3 =54. An orthogonal table used to reduce the selecting option. The study used 16 combinations of scenarios to choose by using an orthogonal array.

From the orthogonal array, the study selected 16 combinations of questions to know the developers' most preferred scenario for SRS construction condition. The questionnaire that the study used for the survey is showing below in the table no 9.8. There are total four sets of questionnaires were prepared for the survey, and the table 9.8 represents only one set of questionnaire survey with private developing companies at Dhaka. After supply four sets to

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each company, the total answer was around 306.

Table 9.8: Questionnaire Set for Dhaka's Developing Company

Which is your most preferred card from card 1-3

	Card 1	Card 2	Card 3
Extra FAR	2	2	1
TDR	TDR to Anywhere	TDR to Suburban	TDR to Anywhere
Sale Component	Residential Development	Residential & Commercial Development	Residential & Commercial Development
Cost of Rehab Part	280M	230 M	255 M

Which is your most preferred card from card 1-3?

	Card 1	Card 2	Card 3
Extra FAR	2.5	1	2
TDR	No TDR	TDR to Anywhere	TDR to Suburban
Sale Component	Residential & Commercial Development	Residential & Commercial Development	Residential Development
Cost of Rehab Part	230 M	255 M	255 M

Which is your most preferred card from card 1-3?

	Card 1	Card 2	Card 3
Extra FAR	2.5	2	1
TDR	No TDR	No TDR	TDR to Suburban
Sale Component	Residential Development	Residential Development	Residential Development
Cost of Rehab Part	280 M	230 M	230 M

Which is your most preferred card from card 1-3?

	Card 1	Card 2	Card 3
Extra FAR	1	1	1
TDR	No TRD	TDR to Suburban	TDR to Anywhere
Sale Component	Residential & Commercial Development	Residential & Commercial Development	Residential Development
Cost of Rehab Part	230 M	280 M	230 M

9.5.6 Conjoint Utility and the Level for Contraction Condition of Mumbai's SRS:

Utility: An individual's subjective preference judgment representing the holistic value or worth of a specific object. Part-worth: Estimate from conjoint analysis of the overall preference or utility associated with each level of each factor used to define the product or service. Conjoint utility or part-worth scaled to an arbitrary additive constant within each attribute.

In conjoint analysis dummy answer is considering as effects coding, utilities are scaled to sum to zero within each attribute. In this study, a plausible set of part-worth utilities for extra FAR considered like:

1. Cost for Rehab Part		2. Extra FAR	
Level	Utility	Level	Utility
280 Million Tk	1	Extra FAR 1	1
255 Million Tk	2	Extra FAR 2	2
230 Million Tk	3	Extra FAR 3	3

3. Development Type		4. TDR	
Level	Utility	Level	Utility
Residential dev	1	No TDR	1
Residential and		TDR to Suburb	2
Commercial dev	2	TDR to Anywhere	3

In this analysis, there are four attributes was decided to ask the developers as mentioning upper. Every attribute has 3-2 levels; therefore, the utility also decides to score 1-3 according to the higher farcicalities. For example, the utility decide for the lower cost for rehabilitation part is 1 and gradually middle cost is 2, and higher cost is 3. Utility for other attributes is also following the same way. In the questionnaire survey, the study used total 16 questionnaires for the developer response.

Table 9.9 shows the level of 16 questions the study had asked the private developing companies at Dhaka. These questions have prepared with the combinations of different choice of construction attributes. One response of each developing companies answered one card from three card options. So, each developing companies answered 16 selections from the studied questionnaire sheet.

Table 9.9 Level of Utility of Four Construction Attribute for Questionnaire Survey

Attribute	Question-1			Question-2			Question-3			Question-4		
	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3
1 (Cost)	1	3	2	3	2	2	1	3	3	3	1	3
2 (FAR)	2	2	1	3	1	2	3	2	3	1	1	1
3 (D. Type)	1	2	2	2	2	1	1	1	1	2	2	1
4 (TDR)	3	2	3	1	3	2	1	1	2	1	2	3

	Question-5			Question-6			Question-7			Question-8		
	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3
1 (Cost)	2	3	3	3	1	1	2	1	2	2	2	1
2 (FAR)	2	1	1	3	1	3	1	1	1	1	1	2
3 (D. Type)	1	1	2	2	2	2	1	2	2	2	1	1
4 (TDR)	3	2	1	1	2	1	2	2	1	1	2	3

	Question-9			Question-10			Question-11			Question-12		
	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3
1 (Cost)	3	2	1	3	2	3	2	3	2	2	3	2
2 (FAR)	1	1	2	1	1	2	1	1	2	1	2	3
3 (D. Type)	1	2	2	1	2	1	2	1	1	2	1	1
4 (TDR)	3	3	2	3	1	1	3	1	1	3	1	2

	Question-13			Question-14			Question-15			Question-16		
	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3	Card 1	Card 2	Card 3
1 (Cost)	3	1	2	3	2	2	1	3	3	3	3	1
2 (FAR)	1	2	3	1	1	3	2	1	1	2	3	2
3 (D. Type)	1	2	1	2	2	1	2	1	1	1	1	2
4 (TDR)	3	2	2	1	3	2	2	1	1	3	2	2

9.5.7 Result of the Conjoint Analysis of Construction Condition of SRS by Private Builder:

Table 9.10 represents the result of the conjoint analysis conducted to identify the private developer's most preferred attribute of construction condition of Mumbai's SRS project construction. The result shows the attribute "Development Type" has the highest coefficient score of 0.5282, where the "t-value" is 3.178, and the "p-value" is 0.002 that means the

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coefficient value is significant in 1% level. The results show "TDR Option" has the second highest coefficient score of 0.3718, and here the "t-value" is 3.386, and the "p-value" is 0.001, so the attribute "TDR Option" is also significant at the level of 1%. On the other hand, the coefficient values of the other two attributes "Cost of Rehab Part" and "Extra FAR" is 0.0004 and 0.0822 respectively. The "t-value" of the attribute "Cost of Rehab part" is 0.092 and "p-value" is 0.927, so the score indicates the value is not significant here. Besides, the "t-value" and "p-value" of attribute "Extra FAR" are gradually 0.723 and 0.470, which are also not significant. Therefore, the result shows that the private developer in Dhaka selected "Development Type" for SRS project construction condition as their best choice. The developer choice another construction condition "TDR Option" for SRS project construction for their second-best choice. Furthermore, the "Log Likelihood" result shows in table 9.11. Here the score of "Log Likelihood" is (-323.0198), it means the model is a good fit.

Table 9.10 Coefficient of Four Attribute of Construction Condition of SRS					
No	Attribute	Coefficient	t-value	p-value	Significant
1	Cost of Rehab Part	0.0004	0.092	0.927	
2	Extra FAR	0.0822	0.723	0.470	
3	Development Type	**0.5282**	**3.178**	**0.002**	***
4	TDR Option	**0.3718**	**3.386**	**0.001**	***

Table 9.11 Log Likelihood of the Four Attribute of Construction of SRS	
Total Sample Number	**Log Likelihood**
306	**-323.0198**

9.5.8 Discussion of the Result of Conjoint Analysis:

Here, the study found that Dhaka's private developing company is not interested in more area construction through extra FAR. The study expected that the developer would like the benefit of constructing more space than usual, but the result shows the opposite. As mentioned previously, that RAJUK already provides a rule where development for poor will get extra space than usual to meet the density; therefore Dhaka's developers are not interested about extra FAR facilities. The construction cost for slum dwellers' housing also hasn't any significant coefficient score in the analysis. Dhaka's developers are more focused on two attributes, one, development type and TDR. Among these two-construction conditions, development type has high significant value. In Dhaka, developers are always

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interested in developing commercial space for more profit. Here commercial space is considered as office space or shopping area or restaurant which is more profitable.

Moreover, if any market or shopping area will be close to the apartment, then the market would be more accessible. For this reason, the developer most, preferred construction condition for SRS project is development type. Next preferred attribute by Dhaka's developer is TDR. Interestingly, TDR is newly adopted to protect heritage building during British colonization by the authority, RAJUK, but the facilities of TDR already attracted by the private developing companies. The study also expected that the option of TDR would be a preferred attribute by the developer.

9.6 Possibilities to Accept Mumbai's SRS by NGO-BRAC (Stakeholder- 4):

The study already discussed that NGO plays a vital role to increase dwellers overall living satisfaction through improving management and maintenance service of SRS apartments by its cooperative housing society. Therefore, the study considers NGO as its' fourth stakeholder. In Dhaka, there are several locals, and international NGOs are working for different issues. Some of these NGOs are working for slum dwellers' health education and financial issues. The study targeted to interview with NGO which is well known to slum dwellers because slum dwellers need to have the faith that the NGO will support them for their welfare. Besides, an involvement of NGO is a finding for the quality maintenance and management service of SRS apartment. Therefore, the study selected "BRAC" to a target NGO for the interview survey because BRAC is not only well known to the poor society of Bangladesh as well as it proves several good attempts for improvement of the poor community. Since NGO is the targeted stakeholder to identify the acceptance of SRS application at Dhaka's slum; therefore, the study interviewed with an officer from the NGO "BRAC." Bangladesh Rural Advancement Committee (BRAC) is one of the world's largest NGO founded in 1972. The primary goal of BRAC is to poverty aviation, and the organization also encourage women to improve their financial conditions, as well as this organization, also works for children health care and education.

9.6.1 Objective and Interview Questions to the Fourth Stakeholder NGO "BRAC":

The main objective to interview with NGO is to identify whether the local NGO will support the slum dweller if Mumbai's SRS will apply at Dhaka's slum or not.

To identify the acceptance of Mumbai's Slum Rehabilitation Scheme (SRS) at Dhaka's slum

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by the NGO "BRAC," three questions asked to the representative of the NGO "BRAC," the questions are explaining below:

Question no 1. "Does BRAC will support Mumbai's SRS at Dhaka's slum to improve tenure security including overall living condition?"

In chapter 7 of this dissertation discussed to provide sound and proper management and maintenance service, cooperative housing society of SRS apartment need some guidance and training by the NGO. So, the study also asked the representative of BRAC:

Question no 2. "Whether BRAC has any program for slum dwellers housing improvement or not"

The research questioned about their program of slum dwellers' housing improvement for two reasons; (1) maximum NGOs in Dhaka are working for the health and education and these actions already achieve the goal of government to reduce the under-five mortuary rate and primary education for all children. So, it is essential to know whether BRAC is working for housing-related issues or not. (2) The second reason is many local including international NGOs such as "Red-Cross" or "UNDP" are working for housing but they only consider disaster housing, so the study expected whether BRAC also only focused on disaster housing or not.

Finally, the study asked the question about the women involved in any housing improvement because the dissertation found women participation affects quality management and maintenance service in SRS apartments. Therefore, the last question asked of the BRAC,

Question no 3. "Does BRAC encourage women or train them for housing improvement?"

The answer of these three questions will guide the study to identify its' intended quarry about the possibilities to apply Mumbai' SRS at Dhaka's slum by some local NGO.

9.6.2 Methodology:

An exclusive interview was conducted on 10th June 2018 through telephone with Ms. Maria Ahmed, Senior Manager, Monitoring and Evaluation, Urban Development Program, BRAC.

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9.6.3 The Response from the NGO BRAC about the Acceptability of Mumbai's SRS Respecting the Three questions:

The study questioned to NGO officer three questions, the responses written below:

(a) Answer to Question no 1:
BRAC will support Mumbai's Slum Rehabilitation Scheme (SRS) for two reasons. First, Mumbai's SRS supplies legal home to the slum dwellers, and legal or formal housing is one of the significant aspects to reduce poverty. Second, BRAC is now dealing a program for slum dwellers current housing improvement and Mumbai's SRS provides formal housing which already has an improved living condition for slum dwellers. She also mentioned that she believes not only BRAC other local NGOs will also support any policy that will improve the overall living condition of slum dwellers.

(b) Answer to Question 2:
According to the representative of the NGO "BRAC," there is a program running for Dhaka's slum dwellers current living conditions improve. The name of the program is "Urban Development Program of BRAC (2016-2020)". The program has some actions that already done by NGO "Nivara Hakk" at Chandivali SRS projects. The detail of the program explaining below:

✓ Urban Development Program of BRAC:
BRAC initiated service for slum dwellers under the program called; "Urban Development Program" from 2016, and it will continue till 2020. This program is a four-year target program and BRAC conducted this program by household mapping of the slum dwellers in Dhaka city.

✓ Objective of Urban Development Program of BRAC:
The principal objective of this program is Policy and empowerment. The program is deriving by building up some community of slum dwellers how the voice must taking action for their demand on housing and its surrounding environment. For example; the vulnerable situation of their house or how much the dwellers need to improve their housing condition. At the same time, BRAC also provides some social livelihood support to improve their financial

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condition such as providing small tea stall or small tailoring for the slum dwellers.

✓ Methodology of Urban Development Program of BRAC:

As mentioned previously, that BRAC conducted this program by using slum household mapping, so it also realizes the necessity to know, what is the mapping code for these household mapping. BRAC mapping the household mapping by ensuring two issues;

① Whether the slum dwellers had any training to improve their house or not

② Whether the slum dwellers need any training to improve their house or not.

To find these two issues BRAC requested the slum dwellers to form a community and this community conducted this household mapping.

● **Similarities the actions done at Chandivali SRS apartment by NGO "Nivara Hakk and the program done by BRAC:**

Table 9.12: The similarities of the actions done by NGO at SRS apartment and the Urban Development Program conduction by "BRAC"

Similarities	NGO Nivara Hakk Done actions for SRS Apartments in Chandivali	The program of BRAC "Urban Development Program (UDP)"
Formulation of Cooperative society	Before construction NGO "Nivara Hakk" formed the slum cooperative society for monitor the construction	The program also creates a slum community of those dwellers who has strong voice.
Action by cooperative society	The cooperative society collect dwellers agreements for construction & maintenance after allotment	Cooperative society surveyed whether the dwellers need any assistant for housing improvement
Training	The NGO trains the slum dwellers about the way to monitor the building during construction. They also train the dwellers about the wat to good management after room/unit allotment at SRS apartments	Urban Development Program of BRAC also trains the slum dwellers about the way to improve their recent housing condition.

The table 9.12 represents the similarities of the actions done by the NGO "Nivara Hakk" at SRS apartments in Chandivali, Mumbai and the Urban Development Program conduction by the Dhaka's NGO "BRAC." Both NGOs are forming a slum community and train them for improved living conditions. Therefore, "BRAC" will support Mumbai's SRS in future is

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expected.

(c) Answer to Question 3:

In some aspects, "BRAC" only supported women, for example, women will improve the overall financial condition, and it affects poverty reduction. Therefore, BRAC will encourage women for improving their living condition.

The study asked three questions to the representative of the Bangladeshi NGO called BRAC about their acceptation for Mumbai's SRS application in Dhaka's slum areas, and the answer of the interviewers shows that if Mumbai's SRS applies at Dhaka, then local NGOs including BRAC will assist and guide to the dwellers.

9.7 Conclusion and Recommendation:

The study found some results from the four stakeholders of Dhaka if applying SRS project. The study considers authority for control the SRS project management is the capital development authority Dhaka, RAJUK as the stakeholder-1.

Stakeholder 1 (RAJUK)

RAJUK, as they are the only organization for capital development and one of the goals of "Dhaka Structure Plan 2035" is "affordable home to lower and moderate-income group of people" so the study asked them about the acceptability of Mumbai's SRS application at Dhaka's slum. Moreover, the DSP-2035 also has a sub-goal to improve slum areas in Dhaka city so, the study found some possibilities to ask about their acceptation to allow other construction conditions of SRS project application such as (1) land privatization (2) allow TDR and (3) offer extra FAR. The authority accepts land privatization to process Mumbai's SRS as they are not able to free the slum areas since so long as well as the government also has the policy to improve slum areas. In case of offering some construction benefits to the private developer they will allow extra FAR because, for the housing of poor, RAJUK already allow to construct more build-up area than regular so that the authority will allow extra FAR for Mumbai's SRS application. Another condition was allowed TDR to the developer if the slum land not located at the lucrative land then the developers could transfer (use) their development right to any other project or sell the right of development to other developers. However, another issue, the study asked to open a new separate organization for

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slum area improvement and to handle SRS project, the authority not accepted because the government should make this decision.

Stakeholder- 2 (Dhaka's Slum Dwellers' Acceptation)

The study considers a result of research conducting at a slum of Dhaka about to identify whether the dwellers are accepting to stay in-situ apartment of wanted to relocate. The result by slum dwellers' shows that the dwellers are accepted to stay at an in-situ apartment with legal ownership. The result found that 73% of Dhaka's slums dwellers are accepted a scenario where they will get a room/unit in a six-story middle rise apartment with legal ownership. Meanwhile, Mumbai's SRS supplies legal ownership of a room/unit to a slum dweller without cost. Since, Dhaka's slum dwellers are ready to stay at an apartment when they could be able to stay at their current location and get legal ownership, so the study expected that the slum dwellers at Dhaka are ready to accept Mumbai's SRS.

Stakeholder- 3 (Dhaka's Private Developer)

Mumbai's SRS projects require some construction benefits to apply in any slum areas. These construction benefits offered to attract more developer. The construction benefits are; extra build-up area or extra FRA and allow the developer to transfer development right or TDR. The study conducted a questionnaire survey with 21 private develop to identify which construction conditions are much attracting to the developer. The study also questions on the type of development, the developer interested to sell such as; (1) residential development and (2) combination of residential and commercial development. Since, the developer needs to provide free housing to the slum dwellers; therefore, the study also asked them the range of price they wanted to cost. The developer's response analyzed with conjoint analysis, and the result shows that Dhaka's private developer highly interested in the type of development they wanted to sell. Naturally, the developers are much interested in selling the asset for profit; therefore, Dhaka's developers are also interested in the development. Among the two construction attributes, developers are highly interested in TDR option. Developers not focused on the cost of the rehabilitation part in the result.

Stakeholder- 4 (NGOs acceptation to support Mumbai's SRS application at Dhaka)

The study found that the involvement of NGO improves the overall scenario of management and maintenance service of SRS apartments. Slum dwellers do not have any experience to

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live in an apartment as well as they also do not know what issues need to consider for a perfect maintenance service; therefore they must need training that they could understand that the quality maintenance service requires some aspects. NGO could train them on the way to live in an apartment and guide the dwellers that they could improve the scenario of maintenance service. If the policy SRS would apply at Dhaka's slum, then it also requires identifying whether the local NGO is ready to train and guide the slum dwellers about the way to live in a high-rise apartment and the way to improve the overall condition of maintenance service. The study interviewed with an officer of the Dhaka's local NGO-BRAC and the respondent agreed that the NGO- BRAC is ready to support Mumbai's SRS application at Dhaka's Slum. Because, BRAC is now running a program in Dhaka's slum areas, and the NGO trains the slum dwellers' the way to improve their living environment. So, in future, if Mumbai's SRS would have applied at Dhaka's slum, they will train and guide the slum dwellers about the way to live in apartment building and the way to improve their building maintenance.

Unlike other slum dwellers around the world, Dhaka's slums dwellers are also desired tenure right because tenure security not only provides the legal home but also improve the overall social condition of an impoverished slum dweller. The study found some obstacle conditions in planning systems and regulatory actions to apply Mumbai's SRS at Dhaka's slum. However, there are also several possibilities when applying SRS projects at Dhaka's slum. To provide sustainable and secure home is now an emergency consideration in Dhaka's overall urban development; therefore the study highly recommended applying the policy like Mumbai's Slum Rehabilitation Scheme.

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Chapter 10
Conclusion and Recommendation

10. 1 Introductions:

The primary target of the dissertation is to evaluate a policy that ensures tenure right. Mumbai's Slum Rehabilitation Scheme (SRS) is practicing a rehabilitation scheme that continuing its progress with continuous modification respecting dwellers demand. The study also realized, most of the publications are criticized SRS considering the visual judgment of physical appearance of the building where dwellers judgment was absent or not evaluate SRS dwellers judgment about their satisfaction with living at SRS apartment. Indeed, some literature argued about the dwellers' judgment, but the issues were not building conditions or living environment or the dweller's satisfaction with living at the apartment, those about the economy as well as social improvement of the dwellers. Therefore, the study intended to recommend improvement of SRS for upgrading the dwellers' overall living satisfaction at SRS apartment respecting dwellers own judgment on their living satisfaction.

This chapter is the concluding chapter of the dissertation, and it will discuss the key findings that related with dwellers living satisfaction at SRS apartments. The chapter also discusses and recommends the possible way to improve the overall scenario of SRS apartments through enhancing management and maintenance service. At first, the study prepared an analytical framework to find the factor or factors that affect dwellers living satisfaction and then justify the framework respecting correlation coefficient analysis and structural equation modeling. The result of the evaluations of this study showed that dwellers' level of satisfaction is increasing or decreases with the satisfaction level of maintenance service. Then three frameworks of management and maintenance service of three SRS apartments in three locations were discussed. The Cooperative Housing Society (CHS) of SRS apartment could improve their service to make dwellers more satisfied to living at SRS apartments using some essential regulatory actions and proper knowledge about apartment management discussed. The study found from the interview with CHS and questionnaire survey with dwellers of SRS apartments that to improve the dwellers living satisfaction, the involvement of NGO is positively affected. As mentioned previously, In case of SRS, there are three identical stakeholders are works together they are; (1) slum dwellers, (2) private developing companies and (3) authority. Though SRS apartment dwellers' living satisfaction increased

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when they are satisfied with the maintenance service and maintenance service by CHS and this service could be improved by involving NGO. So, the study includes NGO as another stakeholder they could improve the overall living satisfaction of the SRS apartment dwellers for transferring the policy to other cities where tenure security is required.

10.2 The Objective of The Research and It's Result:

10.2.1 The first objective: "To identify the dwellers' satisfaction at Slum Rehabilitation Scheme (SRS) apartment".

SRS is an enabling approach for tenure security which adopted since 1995 in Mumbai, India. The scheme is driven by free-market ideology, as mentioned earlier that government or authority allows private developing companies to construct the slum land with some construction benefits and build another building for sale. According to the several researchers, SRS is a successful scheme for slum rehabilitation because the government allows slum land privatize where private builder develops housing for slum dwellers, and they do not need to pay any cost. Several Indian researchers are welcoming the policy positively because this is the first scheme where government generates a standalone body to manage SRS called Slum Rehabilitation Authority (SRA). At the same time researches are also applauding SRS as the free market economy drives the policy. However, the present research intended to identify whether the SRS apartment dwellers are satisfied in living at SRS apartments or not, the private developing companies are interested about the beneficial features such as extra FSI or TDR, offered by the government instead consider slum dwellers apartment condition. For example; the size of room or ventilation or building design which affects dwellers social relationship and maintenance and management by the Cooperative Housing Society (CHS). Therefore, the research arranges an analytical framework for SRS dwellers living satisfaction using literature and discussing with several researchers in Mumbai, educator and the SRS dwellers and then verified the evaluated results from correlation coefficient analysis and after that justified the framework with Structural Equation Modeling (SEM). The result shows that two factors (1) satisfaction with management service by CHS and (2) physical feature affects SRS apartment's dwellers living satisfaction. However, the key factor that affects SRS dwellers' living satisfaction is satisfaction with management service in SRS apartments. It means the SRS dwellers are satisfied with living at SRS apartments when they are satisfied with the maintenance service by the cooperative housing society.

Figure 10.1: Relationship of Management satisfaction and Living Satisfaction

The figure 10.1 means that when management and maintenance service of SRS apartment will be better dwellers are satisfied with living at SRS apartments. This result guides the study to consider another research about the possible way to improve management and maintenance service by the cooperative housing society of SRS apartments. In SRS apartments some of the households contain more than five family members in one room. The size of the room is around 260 square feet (SRA; 2018). So, the room size is not suitable for the households with large family numbers. Moreover, dwellers are using corridor in front of their room as a chatting place.
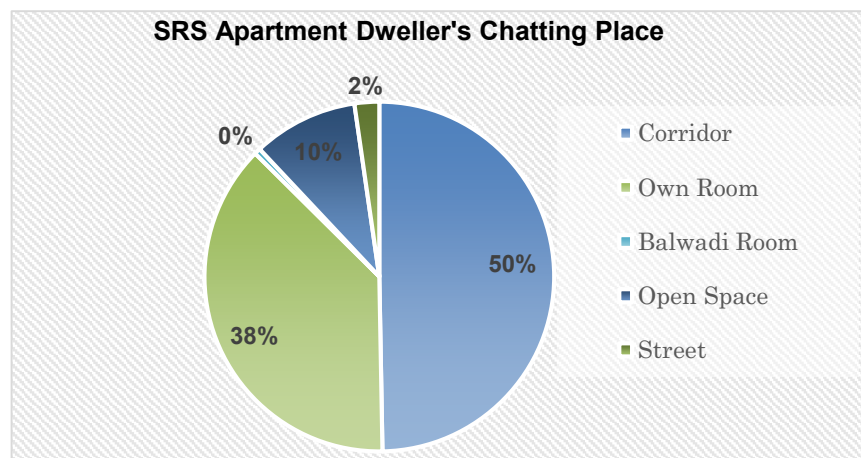
Figure 10.2: Different Chatting Places of SRS Apartment Dwellers'

Figure 10.2 shows that 50% of dwellers in SRS apartment are talking with their neighbor in the corridor. Furthermore, some household place a small seater or a bed at the corridor because of room size is not enough for all family members and separate sleeping male and female. Therefore, the result of correlation and SEM shows that SRS dwellers' satisfaction increases when the dwellers are comfortable with the size of the corridor.

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Figure 10.3: Area wise satisfaction and dissatisfaction

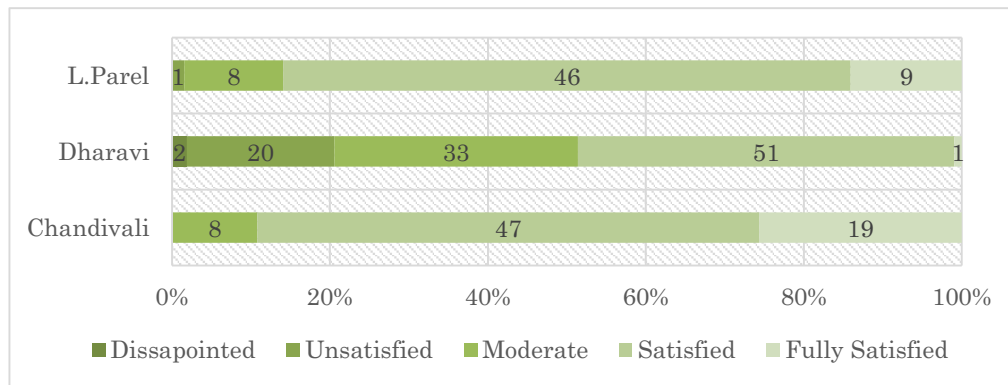Meanwhile, no dwellers are unsatisfied in Chandivali SRS apartments whereas 20.5% dwellers in Dharavi SRS apartment are unsatisfied and disappointed about their overall living satisfaction at SRS apartments. So the reason for their dissatisfaction with living at SRS apartment is poor management and maintenance service by their cooperative housing society. In chapter 7, this dissertation discussed that the Dharavi SRS apartment dwellers are not entirely satisfied with their management service. Only 45% of dwellers are satisfied with maintenance whereas 88% dwellers in Chandivali and 80% dwellers in Lower Parel SRS Apartments are satisfied and some are fully satisfied.
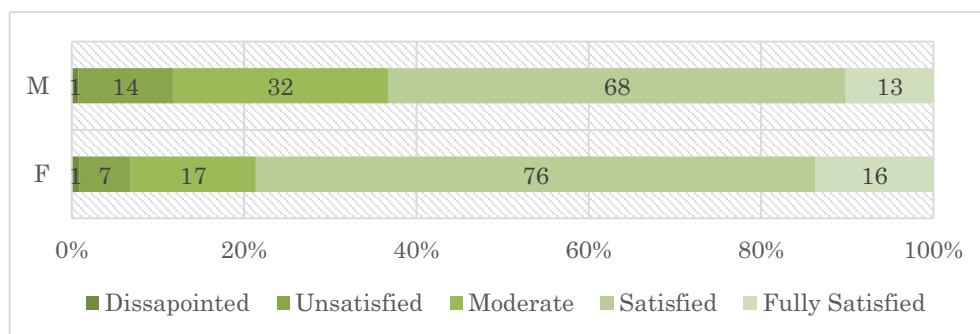
Figure 10.4: Gender wise satisfaction and dissatisfaction

Figure 10.3 shows the level of living satisfaction in three areas by SRS apartments dwellers'. On the other hand, the ranges of the male and female ratio in the questionnaire survey are female 47.7% and male 52.2% and their satisfaction level shows in figure 10.4. Where, 63% SRS male dwellers are satisfied or fully Satisfied with their living and 79% female dwellers are satisfied and fully satisfied with their living at SRS apartments. This result expected as the country like India and the city like Mumbai, female is the primary user of households, and naturally, these females could easily compare their staying with the previous slum house to current apartment type of house.

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The study conducted a small questionnaire survey to identify dweller's judgment about management and maintenance service conducted by cooperative housing society of SRS apartments. Table 9.1 represents the SRS dwellers response about the maintenance service by the Cooperative Housing Society (CHS) where Dharavi SRS apartment dwellers are disappointed in several actions done by CHS. On the other hand, the other two areas dwellers are happy about maintenance service by their CHS.

Table 10.1: Maintenance Service Judge by SRS Apartment Dwellers in Dharavi, Lower Parel and Chandivali

Maintenance service serves by cooperative society	Elevator timing & service	Common area (corridor, stair) cleaning	Cleaning in front of building	Daily water supply service	Door to door garbage collection	Security guard	Building security
Dharavi SRS Apartment							
1 Disappointed	20%	70%	70%	0	50%	70%	70%
2 Not Happy	30%	20%	20%	30%	40%	10%	30%
3 Moderate	50%	10%	10%	20%	10%	20%	20%
4 Happy	0	0	0	50%	0	0	0
5 Fully Happy	0	0	0	0	0	0	0
Lower Parel SRS Apartment							
1 Disappointed	0	10%	0	0	0	0	0
2 Not Happy	0	10%	10%	0	10%	0	0
3 Moderate	40%	10%	30%	0	0	30%	40%
4 Happy	60%	70%	50%	0	60%	70%	60%
5 Fully Happy	0	0	10%	100%	30%	0	0
Chandivali SRS Apartment							
1 Disappointed	0	0	0	0	0	0	0
2 Not Happy	10%	0	20%	0	0	0	10%
3 Moderate	20%	20%	20%	30%	0	50%	0
4 Happy	70%	60%	60%	70%	100%	50%	90%
5 Fully Happy	0	20%	0	0	0	0	0

10.2.2 Recommendation

Dwellers are satisfied with living in SRS apartments when their building management is sound and better. It's natural that any residents are sensitive to their management and maintenance service as they pay for this service regularly. Therefore their demand for this service is essential, so SRS apartment dwellers are also demanding for good maintenance service. Meanwhile, the study also found that among five factors of satisfaction, the physical feature is also the important factor for satisfaction. Interestingly, dwellers are very concern about the commonplace such as corridor rather unit size, but researches have argued about the room size of the SRS apartments. For this reason it's very important to maintain the most sensitive place for SRS dweller where they use to send their relax time. Moreover, authority, SRA also provide regulation on management service and all cooperative society of SRS

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apartment should follow. This study found some unexpected conditions in the common areas of SRS apartment such as waste dumping, motorcycle or cycle parking, old furniture placement and drying clothes. Furthermore, some apartment's common space is not adequately cleaned and sometimes absent of internal security observed during the study's questionnaire survey. Since the dwellers use to pay an amount per month for management service to the cooperative society, therefore dwellers are demanding to get proper management and maintenance service. Therefore, the study recommended that the to increase the dwellers overall living satisfaction the cooperative housing should improve their management service at SRS apartments

10.2.3 The Second Objective: "To identify the factors that affects Slum Rehabilitation Scheme (SRS) apartment dwellers' living satisfaction and recommends the improvement".

Then the study considers a government report published in 2012 about the overall condition of management and maintenance service in different housing in India and some other countries. The target of the study was to consider the report to identify the necessary parameters that require improving management and maintenance service. Then the study is preparing an analytical framework for improving maintenance service which is supported by the different literature. Since the questionnaire survey of the study conducted in three different areas in Mumbai, so, the prepared analytical framework also verified in three areas. Meanwhile, all of the housing at Mumbai follows the same regulation of management service and SRA, and the authority supplies the same regulation handbook to all cooperative society; therefore some parameters are commonly using in all SRS apartments.

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However, the management satisfaction is not similar in the selected study areas. For example,
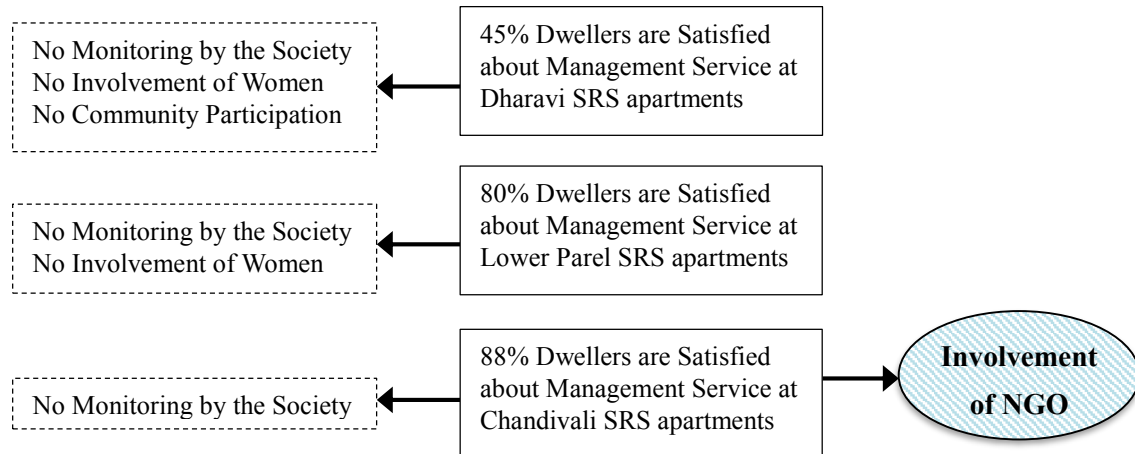

Figure 10.5: Scenario of Management and Maintenance Satisfaction in Three Areas

only 45% of dwellers are satisfied in management and maintenance satisfaction whereas 80% in Lower Parel and 88% dwellers are in Chandivali SRS apartments. The framework verification finds that the most satisfied dwellers are Chandivali SRS apartments and they are trained by a NGO for maintenance service.

10.2.4 Recommendation:

SRS dwellers are satisfied with management satisfaction, which is differing in three areas. The most satisfied dwellers are from Chandivali SRS apartments under the cooperative society of Sivneri Society of SRA. The figure shows that Sivneri society of SRA trained by the NGO "Nivara Hakk" before the construction of SRS projects. The NGO not only train them to management during construction they also train the cooperative housing society after allotment of the units/room.

The SRS apartment dwellers lived at the slum since several or more than one generation; therefore, these dwellers do not have the experience to live in multistoried apartments, and they also don't understand how to support cooperative housing societies to manage quality maintenance service. As well as the cooperative housing society members are also slum dwellers and they need to have some training to learn the procedure to manage sound management and maintenance service. In this case, NGO could support them for training and guidance to the cooperative society and dwellers. The study also recommends including the women members because women dwellers use to stay longer at home than a male dweller. Furthermore, women of the apartment are always chatting with their neighbor on the corridor,

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and they could chat with other women dwellers about the process to increase the maintenance service better once a week, then the overall maintenance service will have improved undoubtedly. The study found the effect at SRS Chandivali apartment. The study recommended to include the NGO as authority, SRA is not monitoring these issues in all SRS projects. However, through the help of NGO, the authority could control the society for better management and maintenance service. Another recommendation for this part of the study is monitoring the maintenance service of the cooperative society by SRA. As a cooperative society was the team leader for construction of SRS apartments, therefore; they have to make good relationship with the authority and invite them to check whether they are practicing properly or not.

10.2.5 The Third Objective: "To identify the possibilities to transfer the policy of SRS at Dhaka's slum that will secure the tenure of slum dwellers".

Policy transfer is not new for slum rehabilitation, and there are many policies have been adopted for the improvement of tenure or recurring the tenure. In many developing countries urban land development is increasingly operating outside the official system under the influence of unfettered land markets. A growing number of land seekers find the informal sector more responsive to their demands for housing land while the public sector finds it increasingly difficult to manage urban growth according to its legal norms and the needs of the citizens (Wilbard J Kombe & Volker Kreibich; 2000). The research recommended the Mumbai's Slum Rehabilitation Scheme (SRS) can adopt in many cities of developing nations. However, some requirements also demanded. In Mumbai, the government applied the act and realized the problem and changed or modified the regulation following the demand. For literature reviews, the research found, the potential state government of Mumbai, changed or modified the act or the policies within five years after applications, when they realized some aftermath problem of application. The cities, where the SRS policy has some possibilities to apply, must have that potentiality to change or modified to meet the requirement of the application of SRS by its planning. In Dhaka, some expert said that Mumbai's SRS has the possibilities regarding land privatization and authority is also interested in relaxing the regulation to attract the private developer. However, still, some researchers are mentioned in the planning modification in order to adopt any new policy in the city is mandatory. In case of land privatization or market quarries, the study conducted a questionnaire survey with some private developing companies to know the most preferred

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construction features when adopting Mumbai's SRS at Dhaka's slum. The target to identify how much modification requires in city planning system requires when applying Mumbai's SRS as it depends on some regulation benefits and it expected some change city planning system in Dhaka city.

The study proposed some construction attribute to the Dhaka's private developing companies including their intention to pay the cost for slum rehabilitation scheme application. Figure 9.4 shows the proposed attributes and their selection. Mumbai's SRS
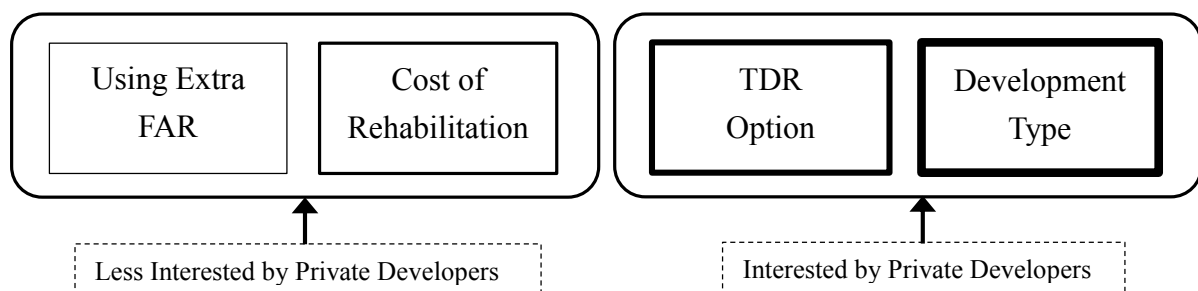

Figure 10.6: Dhaka's Developing Companies Consideration for SRS Projects

application requires relaxing the limitation of construction space if the land is not suitable for market and developers will face problem to sell the marketing component then they could allow building the sale component to, and the builder also could sell this right to any other company in the city. In the case of Dhaka's developer, the researchers asked them about the development type as a selection to identify whether the developers are interested in building residential development or commercial development. The maximum developers showed they are interested in commercial development type for sale component as their first choice because they expected next to a dense housing the commercial development would be much beneficial than another residential development. Moreover, some dwellers also could employment near their house in that commercial place. Some researchers argued about Mumbai's SRS that some slum dwellers lose their small business because of SRS apartment. The study also expected that the dwellers how lost their job for SRS apartment was unsatisfied in living with SRS apartments, but interestingly, these reason does not affect their living satisfaction. The highest selection by Dhaka's developers is development type. Since, to meet the high dense housing requirement, authority RAJUK already have some benefits so, the developer does not show their interest in extra FAR. Besides, TDR option in city planning system is not starting to apply; therefore they are not well aware of the benefits of TDR, but they select this option as their second highest.

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10.2.6 Recommendation

Mumbai's SRS have several potentialities to transferring the scheme in a city of developing nation, however; the characteristics of the overall social context need to consider. Simultaneously, to apply Mumbai's SRS in any city, the authority should tend to modify the policy gradually. Furthermore, SRS is controlling free-market ideology; therefore, it has quite strong possibilities to run in the cities those are focusing on free market business. In case of Dhaka, free-market ideology is a recent trend according to the researchers and some city planning expert, but it is essential to know the way to control this market drive scheme and authority is the best organization that could control it.

Meanwhile the research initially conducted an interview survey with some Mumbai, private developing companies how has the experience the SRS business for housing.
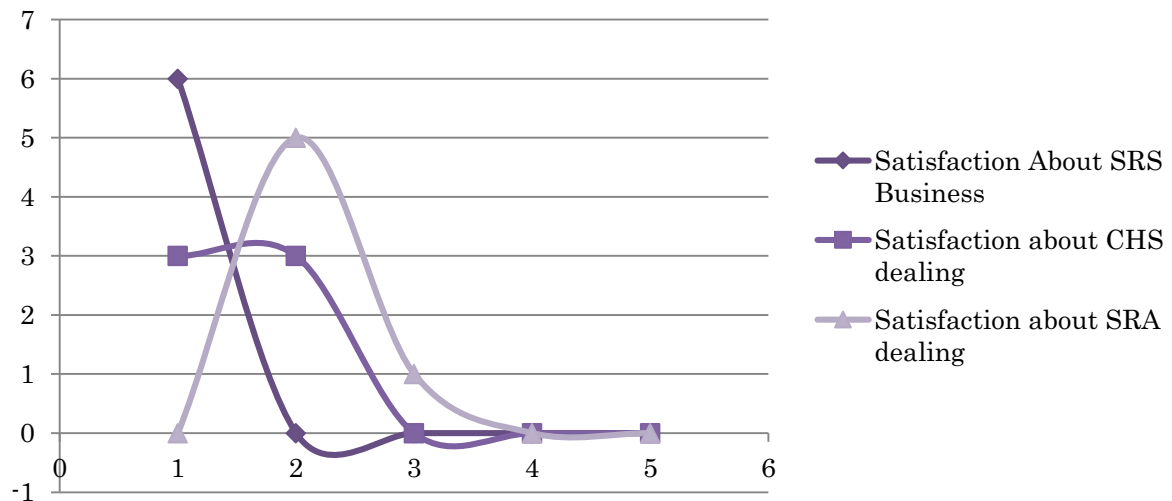

Figure 10.7: Mumbai's Developing Companies Consideration for SRS Projects

The figure 10.5 is representing the overall experience of SRS projects by Mumbai's private developing companies. The figure shows that all of the developing companies are satisfied with the SRS project business. It means, the companies can sell their sell component without harassment. However, these companies are very interested in the extra FSI benefits for construction whereas Dhaka's developing companies are not. This result from them expected because developing companies at Dhaka are not facelifted such these benefits before. However, they are interested in constructing commercial and residential development both for sell components, as well as interested to use TDR option. The study further discussed with the NGO- BRAC about their acceptation to support Mumbai's SRS apartments to train and guide the slum dwellers to learn about the way to live in an apartment building and the manage maintenance service. BRAC agreed to support the policy like Mumbai's SRS. If the

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local NGO of Bangladesh will come to support slum dwellers to teach the way to live in an apartment then the policy SRS could be applied at Dhaka's slum areas and ensure millions of slum dwellers legal tenure.

Summary of Conclusion:

From the questionnaire survey of the study found that the dwellers are highly satisfied with living at SRS apartments. Several factors are affecting SRS dwellers living satisfaction; however, the most important factor is management & maintenance service by cooperative housing society and next is the physical feature. SRS criticized by researchers, but this study proved that most of the dwellers are satisfied with living in the SRS apartments even the dwellers who relocated are also satisfied. Providing tenure security to the slum dweller, Mumbai's SRS can be one of the measures that can be used not only in India but also in Dhaka's slum. The study considered five factors respecting literature and discussion with researchers, among the five factors two factors affect the SRS dwellers satisfaction, they are; (1) maintenance service satisfaction and (2) physical feature. SEM result shows that the dwellers are highly satisfied when they are satisfied with their maintenance service. To improve SRS dwellers maintenance service, cooperative society should follow the regulation supplied by authority, and the authority needs to monitor and audit the cooperative society to avoid mismanagement. Financial mechanism of maintenance service depends on maintenance subsidy by the developer, where old SRS apartment is facing financial complexity; therefore, SRA needs to consider the condition of old SRS apartments. NGOs can play an important role to train members of the cooperative society for quality maintenance service, and they also could monitor the service on behalf of SRA. Women members can contribute the quality management therefore including women member in cooperative society is recommended.

The study found some possibilities to transfer the policy of Mumbai's SRS at Dhaka's slum by the authority, RAJUK and slum dwellers. Dhaka's private developers are interested in two construction conditions for SRS project construction; development type of sale-component and TDR option. Recently one of Dhaka's NGO is working for slum dweller's house improvement so that NGO will support SRS application in the slum area. One decision does not launch Mumbai's SRS, it is a chronological modified version of several policies and authority change the regulation time to time as per dwellers requirement, so authority in Dhaka should also have to attitude to accept several modifications. The new planning proposal in Mumbai and Dhaka has few goals; however, Mumbai planning system encourages more SRS apartment development by increasing FSI, in case of Dhaka planning system, the study found dissimilarity here. However, both planning proposal has a plan to provide housing to the urban poor. So the study expected some possibilities of Mumbai's SRS application in Dhaka's Slum.

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RESEARCH PUBLICATIONS & ACHIEVMENT

Publications:

1. ALAM, Sayeda Saika Binte, and Mihoko MATSUYUKI. "Applicability of Land Sharing Scheme to Korail Slum, Dhaka, Bangladesh." Urban and Regional Planning Review 4 (2017): 151-167. (Reviewed Journal)

2. Alam, Alam Sayeda Saika Binte, and Mihoko Matsuyuki. "Dwellers Satisfaction on Slum Rehabilitation Scheme; SRS and its Affecting Factors in Mumbai, India." (Conference Paper)

3. ALAM, Sayeda Saika Binte, and Mihoko MATSUYUKI. "Dwellers Satisfaction on Slum Rehabilitation Scheme; SRS and its Affecting Factors in Mumbai, India." Urban and Regional Planning Review 5 (2018): 67-86. (Reviewed Journal)

Achievement:

1. AWARD FOR BEST PRESENTATION on 25th August, 2017, at 2017 International Conference of Asian-Pacific Planning Societies by Young Urban Planners' Network

This survey is about the situation of quality living of the slum dwellers in Slum Rehabilitation Scheme projects in Mumbai. This survey also would like to know about the relation and role of the slum Cooperative Society

The whole process will take about 15-20 minutes to complete. The answers will be treated as confidential. Thank you very much for you cooperation.

Questionnaire Survey with SRS Dwellers

Sample no: **Floor no:**   **Date:**

Target Person for the Questionnaire: Household head: **HH or his/ her spouse** of a unit in a SRS project at Mumbai.

[Note: Target person should belong to be a resident in any SRS projects in Mumbai he/she should be the (a) Original owner [(a) Original owner: stayed at the same site before SRS projects and don't payed to get the unit from developer] (b) Purchasing owner [(b) purchasing owner: Who bought the unit from original owner] both (a) Original and (b) purchasing owner should be the main decision maker of the family and he/she should have income to support the family]

Box-A
If the owner is *Original Owner* then please fill the box A:

1. General Information of Interviewer:

Habitant	Gender	Age	You are

2. Living Duration of original owner:
_____ Years.

☐In-situ ☐Relocated	☐Male ☐Female	_____ years old	☐HH ☐Spouse of HH

Relocated from:

3. During the planning stage of this SRS building, did you participate in any discussion with community and the builders?

☐Yes, I participated	☐No, I didn't

Your attendance in the planning decision is:	☐100% Attendance ☐75% Attendance
	☐50% Attendance ☐25% Attendance

BOX-B

If the owner is _Purchasing Owner_ then please fill the box B:

1. General Information of Interviewer:			
Habitant	**Gender**	**Age**	**You are**
☐In-situ ☐Relocated	☐Male ☐Female	_____ years old	☐HH ☐Spouse of HH

Relocated from: _____

2. Living Duration of Purchasing owner:	3. Reason of purchasing SRS unit
Answer: _____ **Years.**	☐I was slum dwellers here and not eligible to get a Unit ☐Other_____

3. Family Members and Income
Total family members including you: _____ **persons. Total no of children (under12)_____Person**
Total Family Income/ Month: ☐0-5,000 Rps. ☐5,000-10,000 Rps ☐10,000-15,000 Rps ☐15,000-20,000 Rps ☐More than 20,000 Rps

Part 1:

Part 1: Present and past employment, access mode to workplace, time and cost/ day of Household Head & his/her spouse [Present status = Now and Past status= before living at SRS]

Employment status of HH and his/her spouse in present and past when they use to live in the slum
    (**In this selection, the work of household head considers the criteria below:**
    a. **Permanent work**, such as: fixed income job and will be able to get pension after retired,
    b. **Not permanent work**, such as: income from any source hasn't any long time agreement,
    c. **Owner of business**, such as: owner of the small business in a fixed place or various places
    d. **Unemployed**, such as: no work or even some work that has no income)

1(a) Change employment:
Do you change your employment for SRS projects: ☐Yes   ☐No

Reason of changing employment is: (single answer)
☐I lost my place for small business ☐I lost my people ☐Workplace was too much far because of relocation ☐My social status get better than previous ☐I got good opportunity near my house ☐Other (   )

1a.1 Present and past employment status of HH (Go and come back home; both way)			
(a) Present Employment of HH		(b) Past Employment of HH	
☐Permanent work ☐Not permanent work ☐Owner of Business ☐Unemployment		☐Same as present work	☐Not same as present work
			☐Permanent work ☐Not permanent work ☐Owner of Business ☐Unemployment

`

1a.2 Present and past access mode to workplace of HH

(a) Present access mode to workplace of HH (multiple answer)	(b) Past access mode to workplace of HH	
☐Walking　　　　　　　☐Own Vehicle (motor/ bicycle) ☐Public transport; bus/ train　☐Shared Vehicle ☐Taxi/ Auto	☐Same as present work	☐Not same as present work (multiple answer)
		☐Walking ☐Own Vehicle (motor/ bicycle) ☐Public transport; bus/ train ☐Shared Vehicle ☐Taxi/ Auto

1a.3 Present and past time to workplace of HH (Go and come back home; both way)

(a) Present time to workplace of HH	(b) Past time to workplace of HH	
_____ min/ hours/ day	☐Same as present work	☐Not same as present work
		_____min/ hours/day

1a.4 Present and past cost/day to workplace of HH (Go and come back home; both way)

(a) Present cost to workplace of HH	(b) Past cost to workplace of HH	
_____ rupees/ day	☐Same as present work	☐Not same as present work
		_____rupees/day

[Note: In this part, question no 1(b) is about the employment status of the spouse of HH. If the spouse is not working presently and previously, don't need to answer question no 2]

1(b). Does the spouse of the HH is working?

☐Yes working	☐No not working

Does the spouse of the HH change the employment for SRS project?	☐**Yes** ☐**No**

Reason of changing employment is:
☐I lost my place for small business
☐I lost my people
☐Workplace was too much far because of relocation
☐My social status get better than previous
☐I got good opportunity near my house
☐Other (　　　　　　　　　　　　　　　)

1b.1 Present and past employment status of spouse of HH

(a) Present Employment of spouse of HH	(b) Past Employment of spouse of HH	
☐Permanent work　　　☐Not permanent work ☐Owner of Business	☐Same as present work	☐Not same as present work
		☐Permanent work ☐Not permanent work ☐Owner of Business ☐Unemployment

1b.2 Present and past access mode to workplace of spouse of HH

(a) Present access mode to workplace of spouse of HH (multiple answer)	(b) Past access mode to workplace of spouse of HH

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☐Walking ☐Own Vehicle (motor/ bicycle) ☐Public transport; bus/ train ☐Shared Vehicle ☐Taxi/ Auto	☐Same as present work	☐Not same as present work (multiple answer)
		☐Walking ☐Own Vehicle (motor/ bicycle) ☐Public transport; bus/ train ☐Shared Vehicle ☐Taxi/ Auto

1b.3 Present and past time to workplace of spouse of HH

(a) Present time to workplace of spouse of HH	(b) Past time to workplace of spouse of HH	
_____min/ hours/ day	☐Same as present work	☐Not same as present work _____min/ hours/day

1b.4 Present and past cost/day to workplace of spouse of HH

(a) Present cost to workplace of spouse of HH	(b) Past cost to workplace of spouse of HH	
_____rupees/ day	☐Same as present work	☐Not same as present work _____rupees/day

Part 2

Part 2: (Unit environment satisfaction by Slum Rehabilitation dwellers) {Unit environment is depends on room condition and service area condition}	
Room: **Room is the place where, you and your family use as multipurpose such as; dining, living and bed room**	**Service area:** **The service area in the unit considers including kitchen, toilet and bathroom. Please mention its size, number of windows, length of electric light use and the source of water supply and length of water distribution.**

2.1 Room Condition

Room Size	No of window	Length of electric light use within this week	Length of electric fan use during summer	
_____Ft./ M		_____hours/day	_____hours/day	

2.2 Room size of your family member and furniture use is:

For family member	For furniture use
☐Good enough ☐Sufficient ☐Moderate ☐Insufficient ☐Too much small	☐Good enough ☐Sufficient ☐Moderate ☐Insufficient ☐Too much small

2.3 Service area Condition

Size	No of window	Length of electric light use within this week	Exhaust fan use
_____Ft./ M		_____hours/day	☐Yes always while cook ☐Sometime while cook ☐No, I don't have

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Part 3

Part 3: Common facilities of SRS apartments)
{Common facilities in this section is considering elevator, corridor and staircase in SRS apartments}

3.1 The wideness and environment of the corridor	
Wideness	Environment
☐Enough wide	☐Very clean
☐Perfect size	☐Clean
☐Moderate size	☐Moderate
☐Small	☐Suffocate and dirty
☐Too much small	☐Very dirty

3.2 Number of working elevator and the duration of use		
No of elevator	Number of working elevator	Duration of working
		☐24 hours ☐Until specific time (_____hours/day_)

3.3 Use of staircase	
You and your family generally use	☐Staircase ☐Elevator

Part 4

Part 4: (Communication and relation with the neighbor at the same building past and present)
[Present status = Now and Past status= before living at SRS]

4.1 Present and past chatting duration and place with your neighbor at this same SRS apartment			
(a) Chatting frequency at present	(b) Chatting frequency at past	(c) Chatting place at present (multiple answer)	(d) Chatting place at past (multiple answer)
_____ times/ week/ month	_____times week/ month	☐Corridor ☐Unit ☐Community space ☐Open space near your building ☐On the street	☐Corridor ☐Unit ☐Community space ☐Open space near your building ☐On the street

4.2 Personal security:	
(a) Presently you keep your door lock	(b) Past you keep your door lock
☐ All time ☐Only when outside ☐Never	☐ All time ☐Only when outside ☐Never

Part 5

Part 5: (Maintenance of SRS apartments)
{Unit environment is depends on room condition and service area condition}
Maintenance of SRS building has 2 distinguished parts. First is exterior and interior of the SRS building without considering individual units. Second part is the maintenance that deals with individual unit.

5.1 Maintenance of the common space such as; corridor, lift lobby and main entry :		
Common space use to clean by:		
☐You or any of your family member	☐Society member of the building	☐Other (_____)

You clean common space:
_____times/ week or month
You or any of your family members are cleaning the common space because:

Multiple Answers	
It's a rule from building society	
It's a rule from; SRA	
All family of the floor decide to do clean for cleanliness	
Just you need some personal cleanliness	

5.2 Your satisfaction about the cleanliness of your building's common space such as; corridor, staircase, lobby and main entry of the building :				
☐Fully satisfy	☐Satisfy	☐Moderate	☐Unsatisfied	☐Disappointed

5.3 Sudden maintenance:	
If any sudden maintenance cost requires such as corridor electric light or big damages at corridor. In this case, who usually manage and fix the problem and pay for the cost. If you need to pay some amount, to whom you have pay.	
Manage and fix the problem:	**Payment for the cost:**
☐You or any of your family member ☐Society members of the building ☐Slum Rehabilitation Authority; SRA ☐Developer (Company who constructed this building) ☐No experience	☐You or any of your family member ☐Society members of the building ☐Slum Rehabilitation Authority; SRA ☐Developer (Company who constructed this building) ☐No experience

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Your or anyone of your family member's participation in volunteer activity past and present:		
Do you or anyone of your family participating as a volunteer activity during Puja or national days in present?		**Do you or anyone of your family participating as a volunteer activity during Puja or national days in past (before SRS apartment)?**	
☐Yes	☐No	☐Yes	☐No

All Events (Religious + General)	
Specific (Religious) events	
Few events	
One or two events	

All Events (Religious + General)	
Specific (Religious) events	
Few events	
One or two events	

5.4 Maintenance of SRS individual units

Do you change the interior of the building after allotment? For example, do you divided one room in two rooms or change the location of service area?

Answer: ☐Yes ☐No

How much you cost for this?

_____ Rupees

5.3 About your satisfaction in Living SRS:

A. Do you satisfy about the overall maintenance and management in this SRS apartment?	Do you overall satisfy in living at this SRS apartment?			
☐Fully Satisfy ☐Satisfy ☐Moderate ☐Unsatisfied ☐Disappointed	☐Fully Satisfy ☐Satisfy ☐Moderate ☐Unsatisfied ☐Disappointed			
B. Are you interested to stay in this SRS apartment in future?				
☐Strongly Agree	☐Agree	☐Moderate	☐Disagree	☐Strongly disagree

Questionnaire Survey for SRS Dwellers in Mumbai -2016/ 2017

Conducted by Yokohama National University, Japan
International Urban & Community Planning Laboratory
Graduate school of Institution of Urban Innovation
79-5 Tokiwadai Hodogaya,
Yokohama 240-8501, JAPAN

This survey is about the situation of quality living of the slum dwellers in Slum Rehabilitation Scheme projects in Mumbai. This survey also would like to know about the relation and role of the slum Cooperative Society
The whole process will take about 15-20 minutes to complete. The answers will be treated as confidential. Thank you very much for you cooperation.

Interview with S R Society:

[This part of the questionnaire requires close proximity observation and some information that would require to interview with the society of that particular SRS building. From question no 1to 16 below need to observe only 1 time for each building and interview with the society officer once for each building society]

1. Building Information:

Location	Building No	Level (? Story)	Date of Inauguration	Date of Construction

2. Direction of the Building:				**3. SRS project of**
North	South	East	West	☐In-situ ☐Relocated
				Relocation from
				Area:_____

4. FSI and Unit Information:

Local FSI	FSI for Rehabilitation	FSI for Marketing	Number of Unit	Unit Size	No of Elevator
				_____ft./M	

5. Community Space and corridor Information:

Does the building have community space? ☐Yes ☐No	
Width of Corridor	Type of Corridor
_____Ft./ M	☐Single-bay ☐Double-bay

6. Maintenance Information:

Since construction, how many time this building use to be colored? _____times		
During festival like Diwali or national day, the building use to be decorated	Dwellers use to pay for maintenance	Who usually do maintenance?
☐Yes ☐No	_____Rupees/ month	

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Conducted by Yokohama National University, Japan
International Urban & Community Planning Laboratory
Graduate school of Institution of Urban Innovation
79-5 Tokiwadai Hodogaya,
Yokohama 240-8501, JAPAN

This interview is about the marketing possibilities of SRS projects in Mumbai. The interview only will conduct with the developing companies which have the experience of at least 3-5 projects in Mumbai area. The interview will focusing on the satisfaction in the business of SRS projects from private companies.

The whole process will take about 15-20 minutes to complete. The answers will be treated as confidential. Thank you very much for you cooperation.

General Information:

Sample no: _____
Interview Date: /   /

1. Name of Private Developer Company: _____
2. Designation of interviewer: _____
3. Total numbers of SRS projects have finished by this company: _____

Target Person:
[Note: Target person should be a member/management-body of a private developer company in Mumbai has experience in SRS construction]

1. What is the priority factor for this company to under taken a SRS projects in Mumbai area?
Answer:

2. How (individual / NGOs) or what group usually introduces a SRS project for construction to this company?
Answer:

3. In past experience of SRS projects in Mumbai area, the company had needed to deal marketing for general people. How the overall marketing response from general people while selling?
Answer:

4. What is the main attractive reason for the regular buyer to buy a unit of SRS project in Mumbai area?
[For example: Is there any special offer for SRS marketing apartment like; long installment, discount price in per square meter, others?]
Answer:

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5.   Does extra FSI for SRS projects is use in both rehabilitation and marketing part?

6.   [For example: In order to meet the high density of the slum dweller's housing demand the apartment usually need to design dense and building code also reluctant in some point such as; room size, circulation, service area. In case of in-situ SRS marketing apartment are also following the same building code as for rehabilitation SRS?]

Answer:

7.   What beneficial factor is more attractive for takeover a SRS projects? FSI or TDR

8.   [For example: Both for relocation and in-situ SRS projects, facelifted some extra FSI to meet the dense of the slum population. However, in relocation SRS, developer need to sell the right of construction to other location and in-situ SRS developer need to sell the apartment to the general customer. For your company's consideration which from these two criteria would be more attractive for your company?]

Answer:

9.   Which status for a SRS projects is more acceptable for you? In situ or relocation?

Answer:

10. Overall satisfaction to takeover a SRS projects:	
(a) Satisfaction about marketing SRS	**(b) Satisfaction about deal with slum society**
□Fully Satisfy	□Fully Satisfy
□Satisfy	□Satisfy
□Moderate	□Moderate
□Unsatisfied	□Unsatisfied
□Disappointed	□Disappointed

Interview with Private Developer Company at Dhaka -2018
Conducted by Sayeda Saika Binte Alam, PhD Candidate
Yokohama National University, Japan
International Urban & Community Planning Laboratory
79-5 Tokiwadai Hodogaya,
Yokohama 240-8501, JAPAN

This interview is about the marketing possibilities of Mumbai's Slum Rehabilitation Scheme; SRS at Dhaka by the private developing companies at Dhaka. The interview only will conduct with the decision maker of the company. The whole process will take about 10-15 minutes to complete. The answers will be treated as confidential. Thank you very much for you kind cooperation.
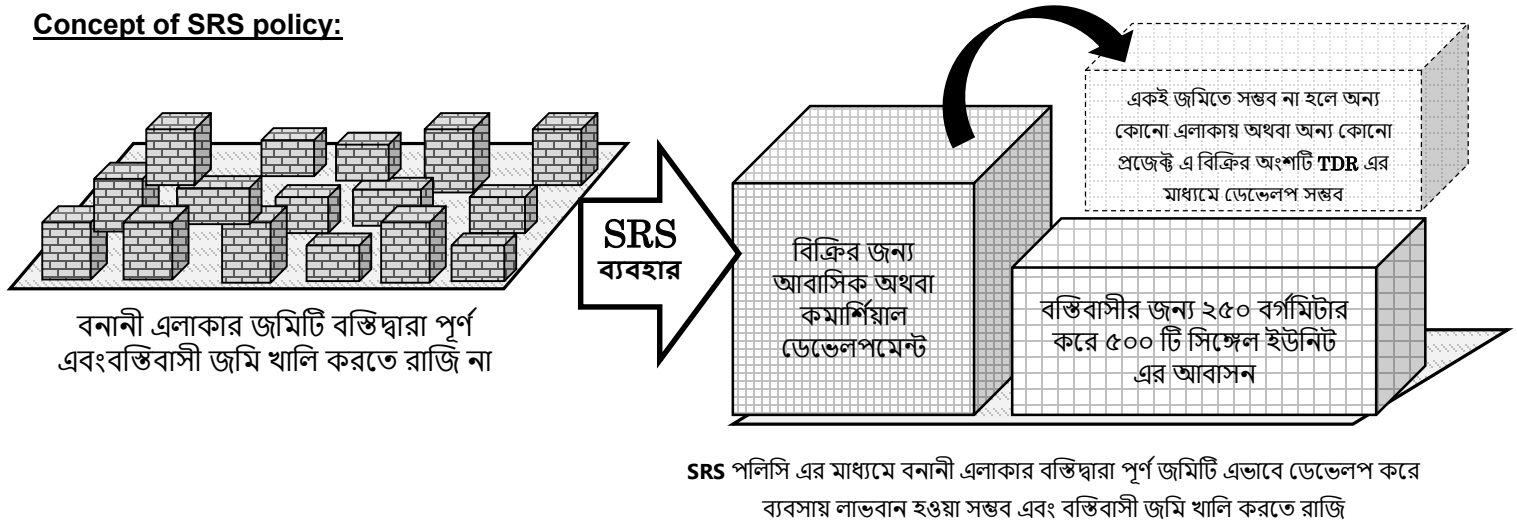
_____

Please read below and give your valuable contribution:

There is a slum of more than 500 households in Banani area where the market land price is around eighty thousand TK/ m^2 (80,000TK/m^2) and the road width is 18 meter (60 feet). That means the allowable FAR is 6. But, the slum dwellers don't want to leave the land at any cost, that means eviction is not possible.

In this situation, if your company develop apartment house for the slum dwellers on the site and will supply 250 SFT or 23.23 m^2 single unit/household to 500 slum households for free, then;

- RAJUK would give you extra FAR on that site and Your company can **Develop More Area Then Usual**
- **You Could Develop the Slum Area**.
- **You can transfer some development right to another area or any other projects**. The name of this process is Transfer Development Right; TDR.
- The slum dwellers agree with the development that means, **you don't need any Eviction.**

Concept of SRS policy:

বনানী এলাকার জমিটি বস্তিদ্বারা পূর্ণ এবংবস্তিবাসী জমি খালি করতে রাজি না

SRS ব্যবহার

বিক্রির জন্য আবাসিক অথবা কমার্শিয়াল ডেভেলপমেন্ট

একই জমিতে সম্ভব না হলে অন্য কোনো এলাকায় অথবা অন্য কোনো প্রজেক্ট এ বিক্রির অংশটি **TDR** এর মাধ্যমে ডেভেলপ সম্ভব

বস্তিবাসীর জন্য ২৫০ বর্গমিটার করে ৫০০ টি সিঙ্গেল ইউনিট এর আবাসন

SRS পলিসি এর মাধ্যমে বনানী এলাকার বস্তিদ্বারা পূর্ণ জমিটি এভাবে ডেভেলপ করে ব্যবসায় লাভবান হওয়া সম্ভব এবং বস্তিবাসী জমি খালি করতে রাজি

According to the upper explanation, we prepared some cards with different options of develop the SRS project. Each option has different level of extra FAR, construction cost for slum dwellers' apartment house (rehabilitation part), allowable land use for the development and situation of TDR; we offer no TDR option and 2 types of TDR situation. Type (1), transfer development right only to suburb area near Dhaka such as; Gajipur, Savar, Tongi etc. and type (2), transfer development right to any area in Dhaka city.

`

Please select your most preferred card from the four sections below, where each section contain three cards of different development options:

1. **Please select the most preferred card for develop SRS project in Banani area from the right options: (Click on the circle next to the card options you preferred most)**

	Card 1	Card 2	Card 3
Extra FAR	2	2	1
Cost of Rehab Part	280 Million	230 Million	255 Million
Allowable Land Use	Residential Development	Residential and Commercial Development	Residential and Commercial Development
TDR	TDR to Anywhere	TDR to Suburb	TDR to Anywhere

○ Card 1
○ Card 2
○ Card 3
◉ There are no preferred card

2. **Please select the most preferred card for develop SRS project in Banani area from the right options: (Click on the circle next to the card options you preferred most)**

	Card 1	Card 2	Card 3
Extra FAR	2.5	1	2
Cost of Rehab Part	230 Million	255 Million	255 Million
Allowable Land Use	Residential and Commercial Development	Residential and Commercial Development	Residential Development
TDR	No TDR	TDR to Anywhere	TDR to Suburb

○ Card 1
○ Card 2
○ Card 3
○ There are no preferred card

3. **Please select the most preferred card for develop SRS project in Banani area from the right options: (Click on the circle next to the card options you preferred most)**

	Card 1	Card 2	Card 3
Extra FAR	2.5	2	1
Cost of Rehab Part	280 Million	230 Million	230 Million
Allowable Land Use	Residential Development	Residential Development	Residential Development
TDR	No TDR	No TDR	TDR to Suburb

○ Card 1
○ Card 2
○ Card 3
○ There are no preferred card

4. **Please select the most preferred card for develop SRS project in Banani area from the right options: (Click on the circle next to the card options you preferred most)**

	Card 1	Card 2	Card 3
Extra FAR	1	1	1
Cost of Rehab Part	230 Million	280 Million	230 Million
Allowable Land Use	Residential and Commercial Development	Residential and Commercial Development	Residential Development
TDR	No TDR	TDR to Suburb	TDR to Anywhere

○ Card 1
○ Card 2
◉ Card 3
○ There are no preferred card

SRS Cooperative Housing Society:

1. Location of SRS project:

2. Date of construction of SRS building: _____; Date of Inauguration: _____

3. Name of the Cooperative Housing Society: _____

4. Activate date of the cooperative housing society: _____

5. Cooperative society service working hours: _____; Holidays: _____

6. Management fee/ month: _____Rupees

7. No of Society members under this cooperative housing society: _____ persons.

8. Extra payment for Diwali or Puja, how much they pay: _____rupees; how many time /year: _____

9. Your contact number:

Questionnaire:

1. Questionnaire about cooperative housing society member:

Members		Does the society has (Y/N)	Nos.	Role	Selected by election? (yes/ no)
Management Committee	President				
	Secretary				
	Treasurer				
	Women Members				
	Other Member				
General Body	Members of cooperative housing society				

2. **Who formed your cooperative housing society; CHS?**

   Answer:

3. **Why you formulate a cooperative society?**

   Answer:

4. **What is the history of this cooperative society?**

   Answer:

5. **Do your society members need to attend any training for check construction during construction? If yes then**

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Train by:

Answer:

6. Do your society members attend any training for handling management service? If yes then Train by:

Answer:

7. Who usually check the regular maintenance Service?

Answer:

8. **Do you ever train regarding issues written below:**

Different Training for Management and Maintenance Service:			
Do you or any of your member learn (training)			
How to arrange general meeting with dwellers and write meeting minutes		If yes, then who monitor or train?	
How to keep record of monthly spend of money			
How to communicate with dwellers if any emergency cost is require			
How women can support for management service			

Does your society receive any advice or fund or service from the party written below: (Please mention Y/N)

Official Urban Local Body :					
		Involve?	Provide Service?	Provide Fund?	Provide Advice?
NGO	Members of NGO				
Ward Councilor/ Commissioner/ Mayor	Member of councilor office				
Unofficial Urban Local Body Level:					
		Involve?	Provide Service?	Provide Fund?	Provide Advice?
Local Political Leader	___				
Local Leader	___				
Other Individual-1					
Other Individual-2					

9. Please discuss the grass root level management service by this cooperative housing society:

	Grass root Services	Provide? (yes/no)	If damage then repair? (yes/no)

1	Elevator maintenance		
2	Water pump maintenance		
3	Water meter check (upkeep)		
4	Overhead water tank		
5	Underground water tank		
6	Common electricity board/ panel maintenance (if firing or other issues)		
7	Maintain lights in common area		
8	Maintain water supply lines and sewerage connection		
9	Repair or clean septic tanks		
10	Sweeping road in front of building		
11	(Other)		

10. Please discuss the grass root level management staff by this cooperative housing society:

	Grass root Staff	Provide? (yes/no)	Regular? (Y/N)	If regular then how many times /week or month
1	Cleaner of common space corridor and stair			
2	Electrician			
3	Plumber			
4	Security guard			
5	Garbage collector			
6	Door keeper			
7	Other			

11. Monthly Meeting:

Answer:

12. Do you have any complain box system from dwellers? How does dwellers place their complain?

Answer:

13. Does your society require any further assistance such as evolvement of NGO, direct consideration of SRA or politician leader in future?

Answer:

Interview with SRS Dwellers at Mumbai January 2018
Conducted by Sayeda Saika Binte Alam, PhD Candidate
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International Urban & Community Planning Laboratory
79-5 Tokiwadai Hodogaya,
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SRS dwellers expression about management and maintenance service:

1. You are the dweller of _____ SRS apartments.   Living Duration:

2. Grass root level staff for maintenance and the dwellers expression about the staff:

Grass root Services for maintenance		Regular (yes/no)	If damage then repair?	How long it will take to repair?	Do you happy about this management service?				
					Disappointed	Not Happy	Moderate	Happy	Fully Happy
1	Elevator maintenance when damage								
2	Water supply								
3	Maintain and repair lights in common area (stair and lobby)								
4	Maintain sewerage connection (toilet in your house)								
5	Repair or clean septic tanks								

3. Grass root level staff for maintenance and the dwellers expression about the service:

No	Grass root level Service and staff	Does the building have? (Y/N)	How many times a day/week/ month work?	Your Expression About the Service				
				Disappointed	Not Happy	Moderate	Happy	Fully Happy
	Cleaner of the corridor and stair							
	Garbage collection (door to door)							
	Electrician							
	Plumber (toilet)							
	Security guard							
	Cleaner for the road in front of the building							
	Monthly meeting with housing society							

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About the meeting with society member:

    4. What is the content of monthly meeting? Do you have any special meeting arrange by some NGO or SRA?
Answer:

5. Does the society lesion to your opinion?
Answer:

6. If you give some opinion, does the society member use your opinion for battement?

7. Do you have any training from the group that written below?

   Answer:

Do you ever train from:	If yes then please mention the name of training	Is the training work? (yes/no)	Why it's not work?
Your cooperative society			
The NGO			
SRA			
Developer			

9. Do you satisfied with the providing maintenance service?

Answer:

10. Do you demand some service or staff to improve your maintenance in future?

Answer: