CHAPTER VII
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CONCLUSION AND RECOMMENDATIONS

7.1. INTRODUCTION

The study undertaken for the present thesis gives a further understanding on the issues of water and sanitation provided to the urban slums and their accessibility to women-folk in the slums. Here a summary of the study is posted along with suggestions for future course of the current study and recommendations for improving the social amenities in the slum.

7.2. CHAPTERS: A BRIEF

The first chapter has dealt with an overview of themes in the present research, the background information for the study and also the research plan and design. The main focus of this research work has been on an urban setting with a gender approach. The area of water and sanitation has been chosen in this study because of its vital role in the well-being of the people and the growing needs of poor in the urban environment. Water fetching and finding appropriate places for defecation have a complex play in the social life of the slum communities, in particularly women. So, the study has attempted at identifying available services, choices of access, problems, burden and key considerations for women in water and sanitation facilities in the selected sample slum environments. The assessment of the issue of water and sanitation facilities for women in slums has been done using both a temporal and spatial approach to analyze. The study area selected has been the metropolitan city of Chennai, which has numerous slums with significant differences among themselves and they are distributed all over the city. To approach the study further in a geographical context, the slums have been grouped under four categories based on the location of the slums. The first three categories of the slums have been the residential slums, industrial slums and coastal slums. As an evaluation of the urban poor development strategies, the recently resettlement colonies have
been categorized as the fourth group of the sample. The Chennai city has three administrative
divisions and the sample slums were selected covering the all three. Thus, totally nine sample
slums and two relocated colonies were selected. The Chennai city lacks proper and full
information on slums and its facilities. Due to this, huge population and high number of
slums, the sample slums and respondents were selected using purposive sampling technique.

The study has used both the primary and secondary data. The primary data have been
collected from the field visits, personal interviews with the slum women and also focus group
discussions. At first, the sample slums have been visited and observed and then the boundary
and the facilities of sample slums have been located using GPS and mapped. As a second
stage, a questionnaire survey has been done with 550 households with women of the
households as respondents. Each of the sample slums/colonies has contributed 50 households
of the total sample size. The focus group discussion (FGD) has been carried out in one
selected sample slum from each of the four categories as the third stage of primary data
collection. The Secondary data have included spatial details of the slum locations and their
distribution, population and other attributes such as the social facilities and amenities in the
slums. The collected data have been analyzed using appropriate statistical techniques with the
help of Statistical Packages for Social Sciences (SPSS), MSEXCEL and ArcGIS software.
The primary data collected through the questionnaire survey have been coded, tabulated and
analyzed for simple frequency and percentage analysis and Chi-square test using the SPSS.
The analyzed data have then been presented in a series of maps, charts and tables, using
digital cartographic techniques. Descriptive statistics such as frequency distribution tables
and percentage analysis has been done to bring out the differences in information on the
variables of availability of and accessibility to water and sanitation facilities and their impacts
on the sample women of the four categories of slums. The Chi-square test has been applied to
test and prove the hypothesis/relationship between the variables of time and distance and the
problems faced by the slum women in relation to water and sanitation facilities. The scalogram analysis technique has been used to determine the most vulnerable category of slums and among the sample slums and resettlement colonies. Thus, with the selected study area and methodology, the study has been to examine the availability and accessibility of water and sanitation facilities over time and space and their influences on the everyday life among the slum women in Chennai city.

The second chapter has presented a review of literature relevant to the conceptual framework undertaken and the review has provided for an understanding of the basic concepts vital to the research themes. Then, the study has identified the existing research gap in the investigated theme. The existing literature on the subject of urbanization has been wide and varied and there is a remarkable contribution to the water and sanitation research, focusing on both the rural and urban contexts. But the focused literature on the research issue has been limited and in particularly at the local context. Only a very few researches done in gendered geographical research on water and sanitation and most such researches have been carried out on an exploratory basis or considered as a small ingredient of the whole research. Despite the fact of bad public health caused by poor availability and accessibility of water and sanitation among the urban poor, there have been a lack of studies on the availability and accessibility among the urban slum dwellers and a relatively very low effort has been made to explore the reasons and solutions for the issues in gender and geographical approach, on an everyday basis. However, from the review of the research problem on hand, it seems that most research has been quantitative and that qualitative research has been rather limited. The gender-geographical approach of the research issue has required more of qualitative analysis, which can describe the conditions of women in particular geographical space or location for water and sanitation resources. Thus, the study has found considerable research gap in the water and sanitation of urban slums, where a potential contribution could be made through gender and geographical approach, for sustainable development of cities and resources.
The third chapter has described about the study area, Chennai city, and its slum profile. Chennai city is one of the major metropolitan and urbanized centres of India. The city has huge population growth and inflow of migrants, which have led to mushrooming of new slums and increase in the slum population. The city has around 2,173 identified slums of which 1,329 surveyed slums have comprised 347 thousand slum households and 1.29 million slum population in the city as on March 2015. Of this population, about 60 per cent have been considered as a vulnerable group, which comprises of the BPL and SC/ST population. Of the total surveyed slums (1,131 slums) as on 2014, 896 slums have been non-objectionable and 235 are objectionable. Housing, being a key factor to the overall wellbeing of the slum people, still around 51 per cent have been living in non-pucca houses with poor facilities of roofing, flooring, lighting, water, sanitation, cooking fuel and road facilities. The slum dwellers of Chennai city are mostly engaged in informal sector employment with low incomes. About 73 per cent of the slum dwellers are casual labourers and 61 per cent of them are earning less than Rs. 5,000 per month. The slum population of Chennai city has suffered distinctly as far as access to drinking water and sanitation facilities is concerned, when compared to their non-slum population. Nearly 30 per cent of the slum households have access to drinking water within their premises while the remaining 70 per cent are the highly dependent on public sources. The people accessing public sources are highly influenced by the poor availability and supply. Around only 256 slums have been getting water for more than 2 hours while all the other slums have reported of less than that and even some have not been getting any water supply, at all. In Chennai slums, around 71 per cent of the households have toilet within their premises for their exclusive use. But, still there have been around 29 per cent of the households with no toilet facility in 2015 and they are dependent on the badly maintained and overcrowded toilet blocks or have no form of toilet at all.
The chapter also discussed the general profile of the sample slums and women respondents. In the selected sample groups of four categories, totally 6 tenable and 3 untenable slums and 2 resettlement colonies have been chosen for study. Based on the field observations, 6 slums have been under the phase of developing slums while the remaining three have been totally underdeveloped. The two resettlement colonies have been considered as developed places. The respondents from these sample categories have differed in all general aspects of their living environment. Thus, the increasing trends in slums and slum population of Chennai city and their conditions have implied that the Government has been focussing on developing the existing slums which are not 100 per cent developed and the study has concentrated on preventive strategies for the mushrooming new slums.

The fourth chapter has examined the available facilities and the women residents’ diverse water and sanitation experiences within the broader processes of space and time in the four location-based sample groups. The study has also looked into gender participation / roles in water and sanitation related activities among the sample slums to highlight the women’s high rate of participation. The major findings of this chapter are briefed as following:

• Women of all age and girls were involved in fetching water and also in maintaining healthy and hygienic environment in all the four categories of samples areas. Only a very few men, of about 8 per cent (average of four sample categories) have been involved in these activities. The study has also found that of all the women involved in water and sanitation related activities, the burden of water and sanitation related works have been reduced for women in their early stages of marriage and also women having children of age group of 11 – 15 years as they have depended on them.

• In the sample slums, 16 per cent of the residential slum households, 2 per cent of the industrial slum households, 11 per cent of the coastal slum households have shown individual water supply connections within their premises, while the resettlement colonies
have not been designed with individual water connections. On the other hand, 43 per cent of the residential slum households, 38 per cent of the industrial slum households, 22 per cent of the coastal slum households have had toilet within their premises. While in resettlement colonies though households have had toilet facility within their premises, 50 per cent have had access to only share toilets within the building. Thus, averages of around only 10 per cent and 34 per cent of the households have had water supply and toilet facilities in the house of the Chennai city slums. The slum people have reported three major reasons for not having toilets within their house premises: a spatial constraint, financial constraint and a lack of drainage facilities.

- On considering the facilities available, the study has found that the residential slums have disproportional availability of both public water and sanitation facilities to its population. Whereas, the industrial and coastal slums have had proportional availability of water supply points and disproportional availability of toilet facilities, respectively. The resettlement colonies too have shown disproportional availability of water facilities and have in-built toilet facilities to service the occupants. On looking into the individual slums, which are different in their own ways, three slums have had proportional availability while six slums have had disproportional availability of water points. But the awful condition of the slum occupants has been shown clearly in the study, which has indeed shown no proportional availability of toilet facilities in sample slums.

- The study has found that the choices of women water fetchers are mainly based on their perception about water quality, distance to water supply points and frequency and timings of water supply at the available facilities. So, the choice of primary water service point for drinking and domestic use and the level of access to it have differed between the categories of the slums and also within each of the slums. The primary water supply points for drinking purpose are water tanks in the residential slums, can water in the industrial
slums, public taps in the coastal slums and tube wells in the resettlement colonies. The
frequency of women’s access to drinking water supply is highly irregular in all the slums.
In the residential slums, around 70 per cent of the women avail drinking water daily, while
it is 21 per cent, 22 per cent and 50 per cent in the industrial, coastal slums and
resettlement colonies respectively. The remaining women have been availing water from
the irregular supply of once in 2 days or 4 days or even once a week.

• In the sample slums still, women have been made to walk for more than 100 metres to
fetch water on their everyday routine. Nearly 61 per cent, 52 per cent and 46 per cent of
the women in the residential, industrial and coastal slums have been walking for more than
100 metres to fetch water for their homes. Though the resettlement colonies have not been
making women far distances, but still around 59 per cent of the colony women have
walked between 50 metres and 100 metres to fetch water. They have however been facing
the issue of climbing the stairs while carrying water for their homes and stepping onto the
floors of the tenements above the ground floor where they have been collecting their
waters. In all categories of samples, a majority (> 90 per cent) of women has been made to
walk to fetch water from the distant supply points. The women have been able to access
water by other modes as well: bicycle or tricycle when they are supported by a male
member of the family in most cases. With these choices, the slum women have been making
several trips, to and fro, with heavy containers of water to meet their daily demands and needs.
In all the slums, there have been around 9 per cent, 28 per cent, 27 per cent and 31 per cent of
the residential, industrial, coastal slums and resettlement colonies respectively, making more
than 20 trips a day, which has indeed been very strenuous on women.

• Time has been an important factor in water supply but the timings of supply in the slums
have been very uncertain. In the residential slums, all women of the slums have not had any
particular preferred timing and they have been dependent on the regular /irregular water
supply timings only. In the industrial and the coastal slums, more than half the women have shown preference for the morning timings to fetch water as the water has generally been supplied for only two hours or less during the morning timings and in some cases both the morning and the evening hours. In the resettlement colonies, however, half the women have been accessing water in the mornings and the evenings while the other half has been depending on the uncertain water supply timings. Women of about 38 per cent (residential slums), 45 per cent (industrial slums), 53 per cent (coastal slums) and 13 per cent (resettlement colonies) have been spending 2 to 4 hours daily to fetch water alone and this has not taken into account the waiting time in the queue, cleaning containers, and the in-between quarrels.

- The slum women have been making their choices of toilet services based on their availability, distance to and location of toilet, willingness to pay for access and also the maintenance and cleanliness of the latrines concerned. In many slums, the availability of the public toilet facilities has been minimal or not present at all, giving them no choice other than the open defecation. In the residential slums, there has not been any free toilet facility, but 24 per cent of the women have opted for ‘pay and use’ toilet and 57 per cent have been practicing open defecation. In the industrial slums, 6 per cent of the women have been using free public toilet and nearly 62 per cent have been practicing open defecation. In the coastal slums, 11 per cent, 49 per cent and 85 per cent of the women have been availing free public toilets, pay and use public toilets and practicing open defecation, respectively. In coastal slums, women were found who having toilet at home also found to practice open defecation for the reason to save money from spending towards cleaning septic tank frequently.

- The study found that nearly 43 per cent, 46 per cent and 12 per cent of the residential, industrial and coastal slum women, respectively, negotiate more than 100 metres to attend to their natural calls daily in open spaces. Whereas women of around 23 per cent and 49
per cent of the residential and coastal slum women have been accessing the public toilets by walking more than 100 metres. The remaining women occupants of slum areas are accessing sanitation at 50-100 meters mostly.

- The time of access for the women of the slums for sanitation facilities has mainly been in the morning as well as the night timings. Among the women accessing public toilets, a majority of them has preference for using them in the morning hours: 9 per cent of the residential slum women and 59 per cent of the coastal slum women. In the industrial slum alone, 6 per cent of the women accessing public toilets have shown preference for night timings. Among women opting for open defecation, nearly 23 per cent and 24 per cent, 43 per cent and 5 per cent and 23 per cent and 61 per cent of the residential, industrial and coastal slum women, respectively, have shown preferences for early mornings and for the night timings.

Overall, in all variables there are variations between the categories in available facilities and this may be due to location of the residential slums as part of the residential areas where the supply has been easier than in the far-flung industrial slums in the outer fringes and the coastal slums in objectionable and excluded places. Due to the poor availability of water and sanitation, the women of the slums investigated have reacted in accessing them in different ways according to their environments. Major elements such as the time spent and distances negotiated / walked to access the facilities have been based on the place, distance and quality of facilities. Most of these variables have been interlinked with each other. So, to have good access to water and sanitation facilities, first, the proportional availability of facilities in the slums in the context of right location and distance is required; second, the primary gender which plays a major role has to be considered in construction of facilities, as they are going to access them for all the family members.
The fifth chapter has elaborated the key water and sanitation related problems experienced by the women of the four different categories of slums in Chennai city under two broad categories, namely, individual impacts and social impacts. The problems of women have also been ranked and a scalogram analysis technique has been used to explore and expose the major location-based slum categories affected by the problems. The major findings of the chapter are:

- In three categories of slums, women of around 75 per cent, 69 per cent and 56 per cent of the residential, industrial and coastal slum, respectively have been spending money to get water for their needs. But for sanitation facilities, those accessing the services of pay and use have all been paying for it. In the resettlement colonies, however, there have been a few people (24 per cent) who could afford and opt for better quality water from the private vendors.

- Women respondents of the slums under study have been unhappy about a majority of the water points and the sites used for defecation as they have been difficult in reaching and highly undesirable in terms of personal safety and security. The slum women have felt that the sites are uncomfortable locations and distant for accessing in different stages of women’s use. Whereas, nearly 58 per cent, 95 per cent and 81 per cent of the residential, industrial and coastal slum women, respectively, have reported of seasonal difficulties in accessing water and sanitation. In the resettlement colonies too, around 41 per cent of women have been facing seasonal difficulties.

- Women of all categories of slums have demanded support to access the already poor water facilities. Nearly 72 per cent, 65 per cent and 69 per cent of the women in the residential, industrial and coastal slums have not been adequately supported in water fetching activities. In the resettlement colonies, however, about 63 per cent of the women have not been supported to carry water up the stairs for the household needs. And also women have been greatly concerned about the excessive time spent in waiting in long queues. About 64
per cent, 92 per cent and 62 per cent of the residential, industrial and coastal slum women, respectively, have been waiting in long queues for more than 30 minutes to access the water facilities. In the resettlement colonies, on the other hand, only 13 per cent of the women have been waiting in queues, if at all, for less than 30 minutes to access the water.

- The women accessing the public toilets have not all been happy with them and have reported issues such as the broken doors and windows, unfit for use, dirty and stinky and irregular water supply. The women who are all accessing public toilet facilities have had complained about its poor maintenance and cleanliness. Due to the isolated and far presence of public toilets and open spaces, women of all categories have been totally dependent on the accompanying persons to go for defecation sites (about 57 per cent, 60 per cent and 85 per cent of the residential, industrial and coastal slum women). The women folks have also felt uneasy and difficulty in access to the facilities due to the nuisance of crowding in and around the defecation sites. About 23 per cent to 25 per cent of women from all three categories of slums have been feeling uneasy and concerned about the nuisance of crowding at the facilities or defecation sites. About 6 per cent and 13 per cent of the industrial and coastal slum women have also been worried about the nuisance around the defecation sites. And also women of around 10 per cent, 20 per cent and 30 per cent of the residential, industrial and coastal slum women, respectively, fear the encounter with male strangers at or on the way to defecation sites. About 15 per cent, 17 per cent and 13 per cent of the residential, industrial and coastal slum women have fear for insects or animals, as well. For these issues, the slum women are greatly concerned about their privacy. Nearly 51 per cent, 59 per cent and 70 per cent of the residential, industrial and coastal slum women have been worried about a lack of privacy during sanitation-related behaviours as they do expose parts of a woman’s body and it is not a concern.
however in accessing water. The coastal slum people have been greatly worried than those of the other two categories of slums as they find no hideouts along the coast to defecate.

- The women of all the slum categories have reported of violence or abuse in some form against them during their access to water and sanitation facilities. Nearly 64 per cent and 27 per cent, 91 per cent and 50 percent and 63 per cent and 43 percent of the women of the residential, industrial and coastal slums have been verbally abused while they have been accessing water facilities and sanitation facilities respectively. Only a few women have reported of physical abuses happening during their accessing of water facilities and the shares of the slums have been about 18 per cent, 7 per cent and 8 per cent of the residential, industrial and coastal slums, respectively. About 9 per cent, 4 per cent and 5 per cent of the women of the residential, industrial and coastal slums have been abused sexually during their water fetching. Also, nearly 8 per cent, 1 per cent and 12 per cent of the women of the residential, industrial and coastal slums have been victims of sexual violence during their sanitation related activities. In resettlement colonies, however, though such issues have not been reported as major concerns, still there have been 14 per cent of the women, who have been abused verbally while fetching water for their households from the water points.

- Around 70 per cent, 75 per cent, 61 per cent and 73 per cent of the women of the residential, industrial, coastal slums and resettlement colonies have been finding their daily lives imbalanced with the routine, encumbered gender household chores along with the hindering of the poor water and sanitation facilities. The women of about 77 per cent, 73 per cent and 84 per cent of the residential, industrial and coastal slums and 78 per cent of the women of the resettlement colonies have reported a lack of time for their personal needs and interests due to higher time consumption in the households, water and sanitation related activities, which have stopped them from moving to other stages of life.
The study has also found that the poor water and sanitation facilities have a significant effect on the health of the women. A majority of the slum women (> 90 per cent) of all the categories has reported of severe physical pain due to walking over long distances on slippery slopes and upstairs, carrying heavy water containers, continuous unpaid work, lack of helping hands and discontinuous or improper sleep over uncertain timings of water supply. Apart from the body pain, in all the four categories of slums, reproductive tract infections have been highly noticeable among women followed by stomach complications, skin diseases and chronic constipation issues. Nearly 64 per cent, 55 per cent and 61 per cent of the women of the residential, industrial and coastal slums have reported of reproductive tract infections. The study has also found that these women have not been ready to take treatment for the reasons of shame and lacking awareness about the seriousness of RTI. In the resettlement colonies too women have reported of water-sanitation related diseases of all types as in the slums with a high number of reproductive tract infections (33 per cent) in spite of the in-built toilet services within the house premises.

The study has found that water fetching and sanitation practices have put women into a lot of stress and the stress levels have been modified by their life stage, living environments, and access to water and sanitation facilities. About 59 per cent and 58 per cent, 59 per cent and 53 per cent, 77 per cent and 85 per cent of the women in the residential, industrial and coastal slums, respectively, have been stressed due to poor availability and the conditions of accessibility to water and sanitation facilities. In these, women have been reported to be highly stressed due to poor sanitation facilities than the water in the industrial and coastal slums while the numbers are more or less equal in the residential slums. In the resettlement colonies, though no woman has been found stressed by the sanitation issues, around 14 per cent of the women have reported stresses from water fetching.

The study has found that the women’s impact due to poor water and sanitation facilities have led to impacts of particular community or gender or economic group of the society. The major
social impacts found in the slums have been low productivity, low educational participation and poor social network. Nearly 5 per cent, 1 per cent and 5 per cent of the residential, industrial and coastal slum women dropout from paid work have been found in the study for the reasons of meeting the demand for water. Also women comprising of 17 per cent, 15 per cent and 2 per cent of the residential, industrial and coastal slums have reported of time constraints due to their household activities and water fetching and hence they have not been employed in income earning activities. In the resettlement colonies, however, no dropouts have been found but nearly 20 per cent of the women of the slums have reported of time constraints for not being involved in paid work. The study has also found that children of about 7 per cent, 20 per cent, 15 per cent and 11 per cent of the residential, industrial, coastal slums and resettlement colonies have been stopped from going to school to manage the household duties and also manage the young children at home while women have been engaged in water fetching activities. The study has again noted a poor social network among the women of all categories of slums due to poor availability of water and sanitation facilities in their slums. The disproportional availability of water and sanitation facilities and dependencies has given the neighbours a chance to quarrel or fight, leading to enmity or poor relationships.

- The study has further found that a majority of the problems of the poor water and sanitation facilities for women in the slums has relationships with time and space elements in any one or two or in all of the sample categories. Though some problems have been found as being not associated with the choice, the facilities are at a very low level and the mode of access has always been more or less similar among the slum folks. The study has also found that among the categories of slums, a majority of the variables of the residential and coastal slums has been tested positive for relationships while in the industrial slums it has been the opposite. This is due to the poor choice of available water points and defecation sites.
in their places. In the resettlement colonies, waiting in queue, quarrel and stress have been associated with the preferable time for fetching water while in others they are not.

- The study has found through ranking that though the problems faced by women due to poor water and sanitation facilities have been similar in the slums, the levels of impact, changes and worries among women have been different according to their living environments. For instance, the problem of seasonal difficulty in accessing water is ranked eighth, second, third and fifth among the women of the residential slums, industrial slums, coastal slums and resettlement colonies, respectively. The seasonal difficulty is a major concern for the women of industrial slums and coastal slums when compared to those of the other two categories of slums due to the reason of water scarcity in the peripheral region of the industrial slums whereas coastal slums are unsuitable and excluded from the city limits.

- Using scalogram analysis, the study has found that the coastal slum women have been the most highly affected in accessing water and sanitation facilities. The study has also found the industrial and coastal slums as the most highly affected categories by the water issues, individually and severally, while the coastal slums have been the highly affected in regard to sanitation issues. The resettlement colonies have however been the least affected of the categories of slums of Chennai.

From the above findings, the study found that women in slums are not affected or sharing resources equally. In some areas women are highly worried for poor water facilities and face its consequences, while in some areas they are more concerned for sanitation issues and in some poor slums women are highly impacted by both poor water and sanitation facilities. This brings out the geographical inequality of facilities and difference in women’s concerns for water and sanitation facilities among the slums of Chennai city. Thus, this
chapter has discussed the diverse problems of the slum women in accessing water and sanitation in their everyday life.

The sixth chapter has discussed the slum development strategies of the Central and State Governments and their implementation in the study area. Recent, major schemes implemented to improve water and sanitation services for the urban poor have also been discussed. The study has also assessed the facilities of water and sanitation for women in the resettlement colonies and the negative impacts of the relocation slum development approach on the people’s livelihoods by taking two selected samples of the resettlement colonies of Chennai city. The National urban poverty alleviation programmes have not been able to provide basic livelihoods, education, and health for all to the slums, in spite of its various schemes. The State Government of Tamil Nadu has also effectively implemented the various, National UPA programmes in the state. Apart from that the government has taken up various measures to improve the living conditions of the urban poor, living mostly in the slums and also has rehabilitated the urban poor living on the river margins and objectionable places. Some such measures have included the formulation of slum policy for the State of Tamil Nadu, formation of the TNSCB, to act as a nodal agency to implement various housing, slum improvement and rehabilitation and resettlement programmes to improve the living conditions of the urban slum families, and various development programmes to improve the living conditions of the urban poor living in the slums. Chennai city has been focused on by the State Government for urban development at first hand for its metropolitan status. The State Government, along with other international bodies, in some cases have implemented various schemes for the city and a few prominent ones have been the Environmental Improvement Scheme, Accelerated Slum Improvement Scheme, Madras Urban Development Project I and II and Tamil Nadu Urban Development Project. The Government has also adopted the Second Master Development Plan for CMA under a nation-wide policy known as the JNNURM to address the issues of urban infrastructure and basic services to the urban poor. As a recent one, the Government has been implementing the
programme RAY, which has been very recently replaced by the PMAY. The study has found that there are no particular schemes for the development of water and sanitation facilities for the slum people of Chennai city and the programmes have been concentrated only in the upgrading or resettlement housing strategies as a part. But recently, the State Government has launched the “Tamil Nadu Vision 2023”, which aims to develop water and sanitation facilities for the urban slum dwellers. The study has also found fragmentation of authority between different government departments, namely, the CMWSSB and TNSCB for providing the basic services to slums and resettlement colonies, which sometimes has been found to be difficult to coordinate with each other. For the last few years, the sub-mission BSUP of JNNURM has been implemented for the development of basic services like water in the Chennai slums. Apart from these, the urban development projects which have incorporated slum development as a part has also been implemented in the city for development.

The study has also found that the Government has focused on house construction in resettlement colonies at greater distances and away from the cities than on in-situ improvements as the means to deal with slums, in spite of heavy financial and social costs. The people relocated to resettlement colonies have not been happy with it and have reported of similar living conditions of slums in there. Through the study of resettlement colonies, the researcher has found the major problems of the resettlement people such as the forced evictions, denial of land ownership and tenure insecurity, loss of education, loss of employment, extra cost on transportation, inadequate and poor basic facilities of water and sanitation, lack of safety for women and girls, conflicts and violence and spatial and social exclusion. But in relocation projects, however, the degree of satisfaction in terms of improved living conditions and quality of life of the urban poor has not been satisfactory; and this is due to certain factors which have not been taken into consideration during the relocation process. The study has seen the uniformity on the issues in both the resettlement colonies. Most of the urban poor have since returned to their original places or settled near their workplaces and created thus new slums. This means that the
negative impacts of relocation project has been high. So, besides providing shelter, the Government has also the need to provide other civic facilities to the slum people. Otherwise, they are likely to continue to live in the unhealthy conditions that they do now.

7.3. CONCLUSION

Among many challenges confronted by slum areas, lack of access to improved water sources has arguably been the most enduring, problematic and important:

Women have suffered disproportionately from inadequate water and sanitation facilities. In the slums of Chennai, not only women bear the burden of collecting water from standpipes or vendors, often queuing as early as 3 am to get just a fraction of their family’s daily need, but they suffer considerably more from deficient sanitation facilities. Women are often forced to defecate in the open and, due to the stigma associated with this, they have to wait until after the dark, when they also face the risk of physical abuse. This list is of course incomplete and rudimentary, but it highlights the fact that, whether it is due to a gendered division of labour or the exclusion of women from the decision-making or the management of resources, women are disproportionately affected by the lack of access to adequate water and sanitation.

The research has further demonstrated how, when the right to water and sanitation has not been fulfilled, a wide range of women’s other rights are threatened (Bouwer, 2006):

Not only in slums, such conditions also exist in the relocation sites as well, which are developed under a curative strategy for a slum-free city. If this condition of water and sanitation is allowed to continue, it becomes a vicious cycle, generation after generation, of an inhuman cycle of poverty, pain and hopelessness, threatening the health and wellbeing of women, their families and economic growth all over the world.
It is presumed that improving infrastructure will have a positive impact on poverty reduction. The sample slums of the study have formed three types and this classification has emphasised the physical differences among the slums. For example, the availability and opportunity status of resources in residential and coastal slums have been quite different, physically. This classification is based on their location, but has not only defined the differences between each other in the context of water and sanitation facilities, it has also paved the way towards thinking about different needs and priorities of the slum people in the future plans of the slum development strategies. This has also aided in tailoring programmes to particular types of slums as well as facilitating the comparison of the Chennai situation with other cities and also tracing changes in these characteristics over time. Similarly, Bunch (1996), in his study on physical ecology of slums in Madras, has emphasized typology of slums based on physical characteristics. He has included six types of slums based on the general categories of slums on government and privately-owned lands, “pucca” slums of better environmental conditions, very small and large slums, and linear roadside slums. Each of these categories have been mutually exclusive and have been physically distinct from one another.

This categorization of slums of the study may have ushered in a particular utility with regard to formulating and implementing policy. Depending on the objectives of policies and programmes, certain types of slums which have been more vulnerable as identified above may have been concentrated more specifically or excluded from the programmes. For example, if the programme/policy has aimed at addressing the sanitation problems of slums most in need, then the policy/programme may have been directed towards the coastal slums which are characterized by very poor facilities and implications and are mostly located on unsuitable or non-accessible lands. Alternatively, if the programmes or policy wishes to develop the largest number of people with limited resources, then the residential slums should
be targeted. These slums are largely located in the core of the city and in most cases they are very large so that, economies of scale may have been achieved in the provision of basic infrastructure and services. Thus, the classification of slums has been made potentially very useful in the planning and implementation of the programmes directed towards the problems of the slums in Chennai, and perhaps slums in other Indian cities as well.

The argument of the study is to have crucial changes in approach for the future research, that is, geographical approach and gender approach, which would help in attaining sustainable development. Priority in attention to this issue can be given through these approaches such that they could fast track the achievement of Sustainable Development Goals by 2030 and Tamil Nadu’s Vision 2023 and free the women of the slums from a cycle of poverty, disease, child mortality and low productivity. Furthermore, it has also strengthened the argument that women could be key agents of change, if they are empowered and allowed to be involved at all levels of planning, implementation and operation of projects. Thus, slums are challenges to the policy makers and city administrators, and it is also true that slums face challenges from evictions executed for development. Challenges unattended may certainly affect our delivery of development goals adversely, and they are required to be understood immediately for framing pro-active policies.

The conviction expressed by the Heads of State at the United Nations in 2005 on “Progress for women is progress for all” is true in the mega cities and in particular among the urban poor where most women stand as pillars against their poor living conditions. Thus, gender-sensitive development is needed to ensure that cities provide safe and empowering living conditions for all citizens; and women, men, girls and boys could contribute to equitable, effective and sustainable urban development for the benefit of all.
7.4. SUGGESTIONS

- **Concentration on Geographical Inequalities:** The implications of geographical inequalities in water and sanitation sector coverage go beyond logistic consideration of effective service provision. Being able to target where inequalities or vulnerabilities exist will bring us closer to the goal of universal water and sanitation, which will fulfil human rights obligations. Understanding geographical inequalities in water and sanitation sector coverage can also provide insights into the epidemiology and control of many infectious diseases and improve and empower the excluded population, and in particular slum women. Thus reducing inequalities is a key element to improve the basic facilities among the urban poor and there is a growing consensus that monitoring indicators solely at the national level fails to incentivise the targeting of areas of greatest need and potentially greatest impact. Therefore, policy makers need to take into account the relationships between different spatial zones or areas of slums between and within urban areas. The impact of urban economic change within the urban setting should be concentrated as an important dynamic.

- **Develop Gender Analysis for all Programmes:** Although cities belong to both men and women, developments within cities are often carried out without consulting and involving women, thereby hindering them from exercising their fundamental right to full citizenship. As a result, city institutions, facilities, and services are not always conceived with the needs, priorities and contributions of women as well as men in mind, which can result in, among other things, inefficient public services with inappropriate opening hours. This can have very negative implications for women, not least in the area of safety and security. Women’s reality is not the same as men’s – socially, politically or economically in the urban slums. For the urban poor to meet the needs and priorities of all its population, both women and men should be taken into account for their contributions and potentials.
Policies, plans, resource allocations and programmes in cities for urban slum developments need to more effectively target the particular needs and priorities, and build on the contributions of women as well as men to guarantee more effective and sustainable management of human and financial resources. This requires gender analysis to make policy makers and planners aware of the situation of men and women of all ages, community and religious groups, income brackets, marital status, and so on.

- **Develop Women’s Capacity**: Capacity development in women and girls is essential. Affirmative action programmes for training women in technical and managerial careers in the water and sanitation sector can be effective in getting women involved in the management of water resources and sanitation schemes. On-the-job training of women in the operation and maintenance has also proved effective in improving the reliability of the water/sanitation facilities and generating income. In addition, assistance is needed to facilitate research into looking for solutions to gender concerns in water resources management.

- **Develop Women’s Participation in Decision Making**: It is important to engage women in decision making processes from cabinet down to water committees at the local level. The main element for establishing environment for gender equality and the empowerment of poor women is to increase their access to and control over opportunities and resources, in particular water and sanitation, which in turn can provide more chances for women to improve their capabilities through access to education and employment. Also women should be helped to enhance their agency and leadership roles, including through increased participation in decision-making of water and sanitation projects or plans; and protecting and promoting their human rights and ensuring their security, including freedom from violence and the threat of violence.
• **Increase Adequate and Proportional Facilities for Poor:** Improvement in water and sanitation is not just reduction in water-collection time and thus is not a matter of getting a single water point or toilet into the community, but would probably require household connections and toilets at home at all the urban poor households. Before achieving this, the Government should ensure proportional availability of civic amenities for all its citizens in all areas. It is important to provide these facilities free of cost of access to the urban poor and in the periods of absence of adequate resources it may be provided at a price affordable to them.

• **Promote Access to Water and Sanitation in Time and Space:** This study has highlighted the absolute necessity for the National and State Governments to ensure that overall water and sanitation programmes are implemented using a gender-geographical approach. To succeed, the Governments should support research to identify particular areas or groups of slums that are more vulnerable in access to water and sanitation and to identify influencing geographical factors like distance and location and to open up the discussion of consequences that tend to inhibit women from using these facilities.

• **Access to Environmentally-Sound Urban Services:** Actions in this area helps to ensure that women and men’s different needs and priorities are adequately met in the urban services, such as those covering water and sanitation, waste management and ecologically sound transport, fuel and power. The Government should increase its public facilities in consideration of the increasing population. For instance, a large number of public toilets, absent now in most places, must be constructed in a way that no individual is left underserved/unserved and they should be environment and gender-sensitive.

• **Sustainable Finance for Housing and Infrastructure:** The National and State Governments need to help in developing affordable finance options for the urban poor.
There should be special emphasis on slum-dwelling women, who often face even more difficulty in accessing credit than men in slums.

- **Strengthened Gender Mainstreaming in all Policies and Programmes:** The Governments should strengthen their own procedures, performances and monitoring of gender mainstreaming across the cities.

- **Urban Planning, Governance and Management:** Good governance at the local level allows women and men to engage equally with the sphere of the Government closest to them on issues of accountability, transparency, participation and service delivery.

### 7.5. SUGGESTIONS FOR FUTURE RESEARCH

The study has revealed substantial levels of inequality in availability and access to water and sanitation for women in the slums and also the gender-space differences among the poor living in slums. A reliable data base may be a crucial need for a clear understanding of the issues of accessibility for social amenities and facilities in slums, and here the role of State Government and local bodies is to be recognized and appreciated. Detailed investigation of the women’s needs and priorities for social facilities, and the spatial and temporal variations in these needs may be the logical extension of the current study for planning strategies to capitalize the women’s potentials. The slum development strategies, in particular the relocated colonies, should be more on gender-geographical perspectives in the future projects to stop or eliminate negative implications on its occupants of the city. Thus, all urban planning, urban development, and urban poverty alleviation programmes must explicitly incorporate gender-geographical perspectives; otherwise, development programmes may result in unforeseen and unfortunate consequences, adversely affecting the over-all development of the city and women.