

Assessment of Slum Redevelopment, A Case of Vadodara

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Abstract-The growth of urban population and rapid urbanization has caused increase in size of city to accommodate migrants and natural growth. In the urban areas, slums are the one that act as shock absorbers for the rising growth of urbanization. Slums are the result of unfulfilled housing demand; they often encroach upon untenable land with poor infrastructure settlements. Another phenomenon of the formation of slums is associated with settlements that were villages earlier and due to city expansion are considered in the city limits. The characteristics of these settlements are very different from the slums of the inner city. The government has taken several initiatives to cope up with their needs to improve the condition of slums. However, all slums are not identical and requires different improvement approach as per their character. The primary aim of the research is to develop redevelopment framework for those slums that were villages earlier and are presently part of urban area that are addressed as RUSS (Rural Urban Slum Settlements). To achieve this, the research develops slum typology through spatial study to identify physical diversity by the use of spatial metrics indicators. Among the two typologies, one typology referred as RUSS is considered and detailed morphological characteristics is studied. The indicators of morphology are used for study of slum redevelopment and further, set of indicators are used for assessment of slum redevelopment models in India. There are various slum redevelopment models used in India that works on economic, physical and social aspects. The assessment of redevelopment model is based on diverse morphological characteristics of RUSS. research studies the spatial character of slums in Baroda, Gujarat in India. The slum typology was developed based on selected spatial indicators that are frequently used to study slum. The research was conducted at two level i.e., temporal and settlement level. The temporal level information helped in selecting slums. The slums are mapped that are located on the hazardous location (conventional slum) and located close to the farmland and were villages earlier (rural-urban slum settlement). The result confirms the different morphological characteristics of conventional slum development. They differ in layout pattern, dwelling area and porosity. The study focuses on understanding the distinctive character of slum. These settlements differ with conventional slum with respect of

its organic layout, large and pucca dwelling units and double height of the dwelling units. The density of both the slums are similar as some settlement in slums are dense.

I.INTRODUCTION

The growth of the urban population in developing countries are facing the challenges of the high growth rate of poverty. The one primary reason for the formation of slums is poverty. Slums are “part of the sum and substance of cities. Slums are the by-product of urbanization, but they are now considered to be an integral part of a city that provides housing to many people. The main reason for the proliferation and expansion of slums that are home to growing proportion of urban dwellers. In developing countries like India, one-fourth of the population are residing in slums. As per the Housing for All (Urban) scheme (HFA), 2015 slum is defined as “a compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities” (MHUPA, 2015). prove the physical condition of slums many efforts are taken by national and international agencies. In particular, the Sustainable Development Goal (SDG) formulated by the United Nations (UN) has recognized several issues related to poverty and development (UN-Habitat, 2003). The goal number 3 and 11 of SDG has promoted the development of sustainable cities with an aim at improving the living conditions of the slums with the provision of improved quality of life. In India, since first five-year plan till National Urban Housing and Habitat Policy (NUHHP) 2007, had focused upon redevelopment models through various affordable housing program like ‘Housing for All-2022’ (MHUPA, 2015); ‘Rajiv Awas Yojana (RAY) (MHUPA, 2013); ‘Valmiki Ambedkar Awas Yojana (VAMBAY) 2001, etc. Although these policies and programs have provided a positive solution, the efficacy of these approaches is a challenge for those

slums that were villages earlier. Urban poverty is a form of poverty that is particularly visible in megacities, characterised by poor living circumstances and income, as well as a lack of essential utilities for a decent standard of life. The urban poor is largely the overflow of the rural poor who migrate to urban areas in search of alternative employment and livelihood. Lack of infrastructure in rural areas (push factor), rapid Industrialisation in urban areas (pull factor) leading to migration due to asymmetrical development. Urban Poverty: A survey of basic services in the urban slums of Vadodara identified 96,000 families (2.8 lakhs) as falling below the poverty line, the families were drawing an income of Rs 373 per capita per month. The causes of urban poverty can be linked to the lack of infrastructure in rural areas, forcing inhabitants of these regions to seek out work in India's mega-cities. However, as more and more people make this migration, the space left to accommodate them becomes less and less. One of the reasons for the concern with urban poverty is that place and neighbourhood's matter. Therefore, what happens to people living in these neighbourhoods is of concern to policy-makers. As agriculture is barely a lucrative option, their only job option is to seek out work in the cities' informal economies. Millions migrate to the cities every day to take up informal jobs such as domestic help, driving cars for middle-class people, taxi driving, construction site work, etc. However, this creates overcrowding in the already packed urban infrastructure.

1) IMPORTANCE AND AIM OF THE STUDY

These downward trends can be legal (land tenure), physical (infrastructure), social (crime or education, for example) or economic." The main objective of slum upgrading is to remove the poor living standards of slum dwellers and largely focuses on removing slum dwellers altogether. the significance of the study is identifying and highlighting the problems of slum. It specially aims towards finding answers to problems of slum and their quantity and quality of services, accommodation and schemes for removing poverty and slum redevelopment. By now there has been made quite a few attempts to measure and analyse the problem of rural poverty and its dimensions. But very little is known about the characteristics of the urban poor, both natives and migrants. Migrated rural poor have lived long enough in urban poverty and they

acquire characteristics of their own. few urban studies highlighted certain aspects of the urban poverty problems, such as poverty of slum dwellers, housing, over-crowding and transportation. But empirical studies focussing on economic and social background, occupations, migration, education, skill, employment and income generating activities are scarce. City surveys and urban studies of some big cities did collect data with regard to levels of income and people below poverty line. But income figures of households or per capita income do not fully reveal many facets of poverty. For any useful analysis of the extent of poverty we need factual information about a number of factors which determine the magnitude of the problem. Hence in-depth study of urban poverty covering details among other things on education, occupation, skills, health etc. to billing out the nature and characteristics of poverty in urban areas assumes a great importance. In general, slums are the result of lack of policies and governance, inadequate regulations and lack of political determination" (UN-Habitat, 2003). In developing regions, the government policies are addressing the challenges of the provision of housing. The policies are addressing two-fold

(1) the quality improvement of housing within the existing slum

(2) provision of land and housing to those without shelter. The housing policies are classified into three phases from the construction of public housing to self-help and ended as enablement strategy.

In India, the National Housing Policy (NHP) 1988 states human basic need is shelter, till 1988, there had been no comprehensive plan of housing (introduction of first national scheme was in 1988). In the past, all the government policies had a piecemeal approach. Moreover, the gap in between the demand and supply of housing units (affordable housing) still persists for low-income group (LIG) and economically weaker section (EWS) as per National Urban Housing and Habitat policy 2007. The shortage of affordable housing becomes a significant reason behind the transformation of cities into dense agglomeration of EWS and LIG settlements resulting in urban slums. In developing country, till twentieth century, the housing policy of slums has been differentiated in between slum upgrading and slum clearance, of which slum redevelopment is a third approach.

2) PROBLEM STATEMENT

Nowadays, the number of slums is increasing at an unprecedented rate due to the highest rural-urban exodus & alarming internal population growth. However; due to the increasing number of slums is the problems of poverty. Inadequate Provision of Necessary Amenities: Slums lack basic amenities like access to clean drinking water, sanitation, waste collection systems, sewerage and electricity. There is also lack of schools and hospitals leading to neglect of both education and health. Due to excessive rural-urban migration, population growth high, and limited infrastructure and technical skill. As well, interruption of the electric power, communication network and water supply. Moreover, lack of diversified opportunities such as lack of commerce, income shortage, sanitary problem and more of dwellers are engaged in occupation which have limited returns. the entire above problem directly or indirectly has implication of slums in the city. The three problems of slums in India are high unemployment, poverty, and the informal economy. Slums are neighbourhoods with few options, run-down housing, unhygienic conditions, poor ventilation, and a lack of essential services such as lighting, toilets, and drinking water. It lacks basic hygiene facilities and prone to unsanitary living conditions. Constant migration increases the population of slums further increases hygiene problem. Lack of basic needs and overcrowding. The much talked about the subject of the present decade is slum and poverty eradication programmes. From top to bottom everybody, at least intends to do something for the poor, hence resulting in launching of various programmes and pumped into it a lot of money but unfortunately nothing substantial has been achieved so far. It is notable that the problem of slum dwellers is very acute. In this context, it is important to focus attention on the implementation of slum development programmes and its impact on poverty reduction in urban areas. various Centrally Sponsored and State Sponsored slum development schemes and poverty alleviation programmes have been carried out for urban development especially in poverty eradication, the level of poverty is still very high.

A. RESEARCH OBJECTIVE

The objective of the present study is to analyse the problems of slum redevelopment and problems are faces by the slum dwellers This study will also highlight the different factors and issues which are

important for the slum dwellers. The study will assist in identifying the problems faced by the slum dwellers of Vadodara city and also suggest measures to overcome these problems. This study will throw light on redevelopment status of various slums and its implementation and will provide guidance on how to make effective implementation in redevelopment procedure to clear slum areas from Vadodara city.

II. RESEARCH METHODOLOGY

Consideration of literary sources, visual analysis, the study mainly deals with the broad research question of assessing the determinants of slum dwellers and coping strategies of the households to urban life in the city. Based on this broad research question the study aims to answer the specific research questions the data were collected through personal interviews with the help of a structured schedule (questionnaire) - our main research tool. Besides, use of information from secondary sources has also been made wherever necessary and available.

A. Analysis

Study of Vadodara & Slum Area

Vadodara, formerly known as Baroda, is the third largest and most populated city in the Indian State of Gujarat, after Ahmedabad and Surat. During the days of the British Raj, Baroda state was a Maratha Princely state ruled by the royal Gaekwad dynasty, entitled to 21 Gun Salute's, and was one of the largest and richest Indian Princely states. Vadodara is situated on the banks of River Vishwa Mitri. The name of this river was derived from the name of a great Saint Vishwamitra. During 9th Century, Present Akota was known as Ankottaka, which was a little town and was famous for Jainism located on banks of River Vishwa Mitri. In 5th and 6th Century A.D. Some of bronze Images are still found in Baroda Museum. Architecture findings also date Baroda back to this time. The city was ruled for a long time by various Sultans, until they were easily overthrown by the Mughal emperors. During this time, Maratha Gaekwads made an entry into this region and began their reputable reign. They made Vadodara as their capital. Vadodara, the third largest city in the state of Gujarat, is one of the focal points of industrial growth in Western India. The city became a metropolis in 1991, along with eleven other major cities across the country, by

crossing the one million-population mark. Owing in large part to the availability of work in Vadodara (an industrial centre), the city has seen heavy migration from mostly rural, but also urban areas, resulting in slums mushrooming throughout the city. These slums are mostly situated on topographically disadvantageous sites or on marginal lands. From a slum population of 49,950 in 1972, today there are over 257,195 persons residing in slums in various parts of the city. In other words, the slum population has increased five times during the last four decades. The increase in industrial and commercial activities in the city has resulted in an increase in migration and hence in the growth of slums. There is a municipal corporation (Maha Nagar Palika) in Vadodara city and 4 municipalities (Nagar Palika) in Vadodara. The Vadodara administration is handled by the Vadodara Municipal Corporation also called the Vadodara Mahanagar Seva Sadan. In terms of administration, Vadodara is divided into four main zones which are East, West, North and South. The city is further subdivided into wards. Vadodara is located at 22.30°n, 73.19°e in western India at an elevation of 39 metres (128 ft). It is the tenth-largest city in India with an area of 400 square kilometres (150 sq. mi) and a population of 3.5 million, according to the 2010–11 census. The city sits on the banks of the Vishwa Mitri river, in central Gujarat. Vadodara also known as Baroda, is the second largest city in the Indian state of Gujarat. It serves as the administrative headquarters of the Vadodara district and is situated on the banks of the Vishwa Mitri river, 141 kilometres from the state capital of Gandhinagar. Vadodara features a borderline tropical savanna climate that despite the roughly 850 millimetres or 33 inches of rain that the city receives annually is due to the area's high potential evapotranspiration very close to being classified as a hot semi-arid climate. There are three main seasons: summer, monsoon and winter. Aside from the monsoon season, the climate is dry. The weather is hot during March to July, when the average maximum is 39 °C or 102.2 °F, and the average minimum is 24 °C or 75.2 °F. From November to February, the average maximum temperature is 30 °C or 86 °F, the average minimum is 15 °C or 59 °F, and the climate is extremely dry. The major rivers which serve the district are the Narmada, Vishwa Mitri and the Mahi. Apart from Narmada, Vishwa Mitri and Mahi rivers, the rivers flowing from the district and meeting the bay

of Khambhat are Jambua, Suria and Dhadhar, while the rivers Unchha, Orsang, Ujeti, Heran, Dev, Karjan, Madhumati, Karad, Mesari, Goma, Bhukhi, Men and Kaveri meet the principal rivers.

Impact of slum in the city

Slums are a result of the lack of opportunities and skills training for most of the working age population. Over the years, a shortage of adequate investment in quality education and basic services like health, sanitation, waste management and skill training has had its consequences. They settle wherever they can, but as more people join, a whole community of undocumented settlers emerges. This further complicates the procedure of accessing basic services like electricity, water and sanitation, etc. as the authorities and public utilities can only serve those registered-on paper – this is how poverty begins. Slums are the most common development and management problem in developing countries. It is acute and more alarming in developing countries like India. The most demanding challenge is the task of adequately feeding, educating, housing and employing a large and rapidly growing number of under-nourished, semi-literate, semi-skilled, underemployed and impoverished slum dwellers who are living on pavements, unhygienic slums and inadequate settlements. This requires a huge political will, investments, skills training and education to uplift the slum dwellers and provide them their basic right to live a dignified life with basic amenities.

Problems and issues face by slum dwellers

Slum is a form of poverty that is particularly visible in megacities, characterised by poor living circumstances and income, as well as a lack of essential utilities for a decent standard of life. Slums in India are unique, particularly in the way that it follows certain patterns of growth. Though the proportion of urban poor has reportedly declined over the past decades, the numbers keep adding up. Risk of forceful eviction. Lack of safe, readily available, water supplies. Poor provision for sanitation, drainage and solid waste collection. Lack of access to healthcare, emergency services and policing. Most definitions and measurements of poverty take none of the above into consideration, as they are based only on income-levels. And income-based poverty lines are usually set too low in relation to the costs of food and non-food

needs for urban populations. As cities across the world rapidly develop, life is becoming increasingly difficult for those left behind. In India, the causes of urban poverty can be linked to the lack of infrastructure in rural areas, forcing inhabitants of these regions to seek out work in India's mega-cities. However, as more and more people make this migration, the space left to accommodate them becomes less and less. Urban development can't keep up with the growing numbers of informal settlers and no one wants to be held accountable for the slums or their residents.

Programmes of vmc for Kishanwadi

The study is carried out to assess the mid-course performance of PMAY programme in Vadodara. This study is a part of a larger research which is focused on identifying the potentials and challenges faced during the implementation of PMAY programme across Ahmedabad, Surat, Vadodara and Rajkot cities in Gujarat. The study seeks to analyse the four verticals of PMAY program with respect to its implementation and performance assessment in Vadodara City to reveal key potentials and challenges. It also identifies factors as recommendations at state level policies and practice codes, and local level implementation processes to trigger the efficiency of the programme. The Vadodara Municipal Corporation (VMC) appears to never get its plan for "slum-free Vadodara" right. On Thursday, the VMC demolished around 160 clustered homes at Kishanwadi slums and shifted the families to the houses constructed under Khodiyar Nagar slum redevelopment scheme that do not have electric supply or water connection. Vadodara Municipal Corporation (VMC) plans to make Vadodara a slum free city. It has already implemented part of this plan and the rest is in progress. Four-floor vertical buildings are constructed either in situ, close by or far away from the existing slum site to house the displaced slum dwellers. According to the VMC Department of Basic Service to the Urban Poor (BSUP) and Jawaharlal Nehru National Urban Renewal Mission (JNNURM) Housing.

Kisha wadi is a Locality in Vadodara City in Gujarat State, India also known as slum area located on east of Vadodara. The locality Kisha wadi falls in Vadodara district situated in Gujarat state, with a population 19361. The male and female populations are 10088 and 9273 respectively. The size of the area is about 1.32 square kilometre. The locality Kishanwadi falls in

Vadodara district situated in Gujarat state, with a population 19361. The male and female populations are 10088 and 9273 respectively. The size of the area is about 1.32 square kilometre.

Area	1.32 km ²
Population	19361
Population Density	14721 people per km ²
Male Population	10088
Female Population	9273
Nearest airport & distance (Aerial)	Vadodara Airport, 2.18 km
Nearest Railway Station & Distance (Aerial)	Pratap Nagar, 3.14 km

Only two respondents amounting to 1.2 percent of the total respondents were found to be in the age group of 1 to 20 years of age while a big number of 82 respondents amounting to 50.3 percent of the total population were found to be in the age group of 21 to 40 years. 63 respondents and 16 respondents amounting to 38.7 percent and 9.8 percent of the total respondents were found to be in the age group of 41 to 60 years and 61 to 80 years respectively. There was no one in the age group of above 80 years of age. It can be seen that 138 respondents amounting to 84.7 percent of the total respondents were married and 13 respondents amounting to 8 percent of the total respondents were unmarried whereas 12 respondents amounting to 7.4 percent of the total respondents were widowed. From the analysis it can be interpreted that majority of the respondents, 84.7 percent were found to be married. This variable has been considered because this is the group which is responsible for increase in slum population since they contribute more towards the increase in the existing slum population. It is evident from the information that there were 105 respondents amounting to 64.4 percent of the total respondents who belonged to the Hindu religion and 27 respondents amounting to 16.6 percent of the total respondents who belonged to the Muslim religion while 7 respondents amounting to 4.3 percent of the total respondents were following Christian religion and 23 respondents amounting to 14.1 percent were following Buddhism religion. Around 87 respondents amounting to 53.4 percent of the total respondents were found to be self-employed and 76 respondents amounting to 46.6 percent of the total respondents were found to be employed with others, they had jobs.

From the analysis it is clear that most of the respondents who migrated to Pune employed themselves with some work or the other. Most of the respondents around 53.4 percent of the respondents were self-employed. Due to illiteracy and lack of education most of the slum dwellers could not find a job and had to employ themselves with whatever opportunities they got. The women were mostly employed as household maids. From the analysis it can be interpreted that 75.5 percent of the respondents were educated below 10th standard. Due to less education the slum dwellers do not find jobs which would help them to earn enough money to provide a good standard of living to their family members. Also, in most of the families the slum dweller was the only person who works and hence he / she had to earn enough to support more than 4 persons and hence there is a burden on the slum dweller. But as a surprise one slum dweller was found to have taken up adult education which is a welcome change as the slum dweller has realized the need for education. It is evident that 73 respondents amounting to 44.8 percent of the total respondents have nuclear family structure and 90 respondents amounting to 55.2 percent of the total respondents have joint family structure. From the analysis it can be interpreted that around 55.2 percent of the total respondents have joint family structure. It has also been proved with most of the respondents having a family of more than four persons. 161 respondents amounting to 55.6 percent of the total respondents do not have the electricity facility in their dwelling and around 25.6 percent of the total respondents said that they have the facility in their dwelling. intending to detail the profile of the sampled households to give us an idea of its various socio-economic and demographic characteristics. Table shows the distribution of 120 sampled households over selected slums along with their wards of the city into which they fall. The list revealed that Baroda slums varied immensely in the number of family's inhabitation particular slum areas It has both small slums with as less as one family to as big as having 1560 families living in a slum area. This made the task of drawing a representative sample rather difficult as disproportionality needed to be checked. Therefore, judgementally and deliberately very small and very large slums in terms of number of families (in the survey they were named as number of households and from here on household term will be used) were not

considered and were omitted from the universe of the survey. Total no. of Slums in Vadodara city & it's Out Growth numbers 18,180 in which population of 84,804 resides. This is around 4.84% of total population of Vadodara city & its outgrowth which is 1,752,371. The surveyed also confirms that the population increase of a city and in slum area largely takes place due to the migration of people from rural to urban areas. Baroda slums reflect a typical characteristic of a slum in a metropolitan city. Most of the surveyed slums had above 85 percent migrant population coming from Maharashtra, Uttar Pradesh or Rajasthan. The natives of Baroda city, who are born and brought up here, were fewer in number. However, many of them were old migrants who have come to Baroda city more than 15-25 years ago. present the information on the reason for migration to Pune. Around 7 respondents representing 4.3 percent of the total respondents have migrated to Pune to set up a business and earn a livelihood. 32 respondents representing 19.6 percent of the total respondents have migrated so that they could get a job and earn a livelihood. 45 respondents amounting to 27.6 percent of the total respondents have migrated to Pune to earn money through any means and make a living and 3 respondents amounting to 1.8 persons have migrated to Pune due to other reasons like famine and draught situations in village, castism in villages or due to marriage. Around 76 respondents amounting to 46.6 percent of the total respondents have not migrated to Pune since they have been here since their birth. In the sample households, the educational status of the head of the household is very low. About 40% percent (male adults) are literate, although their educational level is limited to primary or secondary school. Illiterate heads of the household were 21.7 percent, 22.5 percent were educated till primary levels (out of 30%). the level of literacy among the female members is low. Nearly 80 percent female adult members are illiterate, and of those having any formal education, 5 percent are educated only up to primary level, 8 percent up to middle school level and only 3 percent have reached above that standard. comparatively low literacy rate in the head of the households, it was observed that majority of them were involved in the unskilled profession like loaders, sweepers, scavengers, hand rickshaw drivers. This also reflects their low earnings with high variation or level of irregularity in the income. It is found that because of low level of literacy

makes insignificant difference so far as occupation or employment is concerned. The level of work force participation in various occupations in the surveyed slum indicate that 36.7 percent are engaged in unskilled occupations like the construction labour, hand rickshaw driver, wood cutter, loaders, etc. The second widely prevalent occupation is semi-skilled activities like autorickshaw drivers, drivers in company buses, radio repairer, Mistry (carpenter), etc. This category was found to be 24.2 percent in the sampled slum. About 12.7 percent of the head of the households were employed in skilled occupations like mechanics in factory, or garage, electrician, worker in factory or workshop etc. Comparatively self-employed category involving occupations like cobbler, barbers, dhobis, vegetable and fruit vendors, tailors were found to be rather small proportion about 15.3 percent of the total surveyed households. About 3.3 percent households were found to be unemployed, retired people in the sampled slum. the monthly family income of the slum dwellers. It can be seen that around 12 respondents amounting to 8 percent of the total respondents earn upto Rs.5000/- per month. 19 respondents amounting to 12 percent of the total respondents earn between Rs.5001/- to Rs. 10000/- per month. Around 15 respondents amounting to 19 percent of the total respondents earn between Rs.10001 to Rs.15000/- per month. 22 respondents amounting to 27 percent of the total respondents earn between Rs.15001/- to Rs.20000/-. From the analysis it can be interpreted that more than half of the respondent's 39.5 percent earn upto only Rs.20000/- per month. With the family structure and the number of family members of the slum dwellers and with the fact that in most of the cases the slum dweller is the only bread winning member of the family, this amount is not at all sufficient to provide even the basic necessities properly. Also lack of education adds up to the problems since the slum dweller cannot get a good and well earning job due to that. the information regarding the number of earning members in the slum dwellers family. 44 percent of the total respondents have only one earning member in the family. amounting to 22.0 percent of the total respondents have two members earning in the family and amounting to 19.0 percent of the total respondents have 3 members earning whereas respondents amounting to 15.0 percent of the total respondents have more than three members earning for the family.

From the analysis it can be interpreted that most of the respondent's 44.0 percent are only earning member of the family. the family has to support a family of more than four members as has been displayed earlier. This also highlights the problem of unemployment. From the survey it appears that slum localities have been in existence in the city since last five decades or more. about 7.5 percent of the total surveyed slum households, have been staying in slum localities since their birth. The respondents have estimated around more than 45 years stay in Kishanwadi these localities and at least two generations have come up during this period. About 6.7 percent of all the slum households surveyed, are found to be staying in the slum localities for almost 3 decades (25 year or more). It is probable that the people who have stayed in the slums for more than 25 years are generally migrants either from within the district or from the state. These migrants could have come during the initial stage of industrialization in Baroda city.

III.FINDINGS, RECOMONDATIONS AND CONCLUSION

Findings of Residential Slum Dwellers

- 1) 89 percent of the slum respondents were found to be in the age group of 21 to 60 years of age
- 2) Majority of the respondent's 84.7 percent were married
- 3) Majority of the respondent's 64.4 percent were following Hindu religion
- 4) More than half of the respondents have migrated to Vadodara from other places of the states
- 5) More than half of the respondents around 53.4 percent of the respondents were self employed
- 6) Most of the respondent's 60 percent have a family of more than four members which indirectly adds up to the burden of the Vadodara municipal corporation with respect to provision of basic facilities and amenities
- 7) 20% of the family members of the slum dwellers 66.9 percent were unemployed
- 8) Around 75.5 percent of the respondents were educated below 10th standard
- 9) Majority of the slum dwellers have the facility of water in their dwelling
- 10) slum dwellers do not have the proper facility of electricity in their dwelling

- 11) slum dwellers do not have the proper facility of water supply in their dwelling
- 12) The facilities provided by the Vadodara Municipal Corporation like water tap, electricity is not sufficient as per the opinion of respondent
- 13) More than half 52.2 percent of the respondents have been running their business in the slum for more than 20 years
- 14) respondents use the income for home expenditure
- 15) respondents pay service tax between, water tax between Rs. 100 to Rs. 1,500

Suggestions and recommendations

The internal roads in the slums in Vadodara are very narrow due to illegal acquisition of the land and space by the slum dwellers the roads have become narrower. Due to this in case of accidents or emergency it becomes impossible for the fire brigade or the ambulance to reach the spot and provide help to the slum dwellers. To overcome this problem, the internal roads of the slums should be broadened and the illegal acquisition of land and space in the slum should be removed. Provisions should be made in the VMC budget for the fire affected slum dwellers every year which is not present now. The VMC should prepare an action plan to create awareness in slum with help from voluntary and social organizations to tackle the problem of epidemics and incurable diseases which can be controlled by taking precautions. There is no clarity regarding the slum redevelopment rules and regulations among the authorities of the VMC which leads to chaos in the department and also leads to confusions of the staff regarding which rules to follow. The policy of redevelopment at least 70 percent of the existing slum dweller in the redevelopment scheme of the slum should be cancelled so that the slum can be redevelop and more and more slum dwellers can be provided with homes. Instead of allotting the slum redevelopment projects to private developers, the state government should construct these projects themselves under the autonomous bodies. The municipal corporation charges and taxes component are very high in the housing construction.

The VMC should reduce the taxes and charges regarding the slum redevelop housing schemes so that the cost of construction of housing can be reduces and the slum dwellers can be provided with housing at low cost. Increase the FSI for the slum redevelopment

schemes. The slum dwellers, VMC management, Corporators, MLA, Social Workers, NGO's, the state government and the central government should come together positively for making Pune a slum free city. There is no mechanism for providing compensation to the private land owners on which the slum is situated. This should be considered and a proper mechanism should be developed so that the private land owners get adequate and timely compensation for the land. Administrative ward wise detailed study on the slums in Vadodara can be done for both the declared and undeclared slums so that a comparative analysis can be done which will help the authorities and the officers to regulate the slum areas and remedial measures can be implemented on the basis of administrative wards so that development of new slums can be avoided.

A citizenship survey on the financial and social position of the slum dwellers can be done. This will reflect the actual position of the standard of living of the slum dwellers and will help the government to make policies accordingly. A study on the VMC budget on slums regarding its receipts and payments can be done. All the rehabilitation schemes the central, the state and the VMC funded schemes, can be studied in detail and the scheme wise effectiveness can be evaluated.

Slum control and rehabilitations is possible but to make it possible the political will is a must. Corporate Social Responsibility has been made compulsory by the government and strict implementation. Single window facility should be provided by the VMC for those slum redevelopments which are done under the BSUP and In-situ schemes of the central government in order to provide faster clearance to the redevelopment scheme thus avoiding a tedious and time-consuming process of getting permissions. The municipal corporation limits of Vadodara city are extended from time to time. The suburban areas have been brought into the municipal limits of Vadodara city. Out of all the state government's housing construction policies the satellite township schemes are the best option for the housing development of the state.

The slum dwellers who have only one child should be rehabilitated. This will control the family size of the slum dweller and indirectly the slum population can also be controlled. Development of villages should be

done by providing proper facilities, amenities, and employment opportunities in the village so that migration of people from villages to cities can be controlled. Also, long term planning and effective implementation of the plans must be done keeping in mind the flood and draught situations in the villages so that the villagers need not have to migrate to the cities in search of a livelihood in times of natural calamities. A legal provision should be made binding the slum dwellers that he/she cannot sell the flat to anyone. The slum dweller should only be given the right to use the flat for residential purpose and if they want to move to another place, they will have to hand it over to the government again. The slum dweller cannot rent the flat to anyone. Only the slum dweller and his legal heirs can live in the rehabilitated house. The flat can be passed on only in case of legal inheritance from parents. As per the literature review the redevelopment of slum worked with three approaches relocation, slum upgradation and in-situ redevelopment. The slum redevelopment approach has been associated with the changing definition of slum. Initially when slum was considered as black spot, the slum clearance approach was used. In developed countries the approach was linked with provision of public housing in the form of apartment that was strongly opposed. The second phase came with development of slum with self-help and tenure security approach. The third phase continues with development of slum with involvement of NGO'S and beneficiaries. The fourth phase is associated with improvement of slums and provision of infrastructure and housing mainly in the form of low-rise apartment.

To find the extent of the spread of the slums in the city and their management by Vadodara Municipal Corporation:

There is total 397 slums in the VMC limits. As per VMC, there are more than 336 slum pockets housing more than 51,439 families and making up nearly 2,57,195 (20%) of the total population of the city. There is, however, an uneven distribution of the slums. The old city area naturally cannot afford any slums, as there is no patch available with already overcrowded dwellings. The graph depicts the percentage distribution of the total 336 slums in the city according to the ownership of land. As seen below, the maximum number of slums 43% (146) slums is on the government land, followed by 37% (124 slums) on

private land and 20% (66 slums) on Municipal land. While some of the dwellings have access to water supply connections provided by the corporation, many others do not have access to protected water supply. It has been reported that almost 80% of the dwelling units in the slums of Vadodara are one-room units and 50% of them measure less than 100 to 200 Sq. ft. in area. Migrant labourers often share a single kuccha room on shift basis. Among public utilities and services, individual sanitary units are less by 56% and surfaced streets are available in 57 % slum areas only. Street light facility is almost covered and water supply facility is provided to around 88 % of the slums.

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