VEER NARMAD SOUTH GUJARAT UNIVERSITY

"EVALUATING THE PROCEDURE OF EARMARKING FOR EWS HOUSING SCHEMES UNDER TP SCHEME MECHANISM"- A CASE OF SURAT

A Dissertation submitted to

Shri Gijubhai Chhaganbhai Patel Institute of Architecture,
Interior Design and Fine Arts,
Veer Narmad South Gujarat University, Surat

for partial completion of

Master of Urban and Regional Planning

by

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Under the supervision of

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DECEMBER-JUNE 2021

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DECLARATION

I declare that the dissertation entitled "Evaluating the procedure of earmarking for EWS housing schemes under TP scheme mechanism"- a case of Surat submitted by me for the partial completion of Master of Urban and Regional Planning is the record of research work carried out by me during the period from December 2020 to June 2021 under the supervision Prof. (Dr.) Dharmesh Juremalani, Professor, Shri Gijubhai Chhaganbhai Patel Institute of Architecture, Interior Design and Fine Arts, Veer Narmad South Gujarat University, Surat and this has not formed the basis for award of any degree, diploma, associateship, fellowship, titles in this and any other university or other institute of higher learning. I further declare that the material obtained from other sources has been duly acknowledged in the thesis. I shall be solely responsible for any plagiarism or other irregularities, if noticed in the thesis.

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Name of the Research Scholar: **Bhuvnesh Bharatbhai Mangroliya**

Place: Surat, Gujarat, India

CERTIFICATE

I certify that the work incorporated in the dissertation **"Evaluating the procedure of earmarking for EWS housing schemes under TP scheme mechanism"- a case of Surat** submitted by **Bhuvnesh Bharatbhai Mangroliya** was carried out by the candidate under my supervision. To the best of my knowledge:

(i) The candidate has not submitted the same research work to any other institute for any degree/diploma, associateship, fellowship, or other similar titles
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ABSTRACT

T.P scheme is an important tool to manage the urban land and avoid its wastage. The study of the thesis project is about the analyze Planning and Implementation Process of T.P. Scheme, the study focuses about identify the criteria of the Earmarking of reservation in housing accommodation for EWS, Identification of existing EWS schemes in South-west zone of Surat city. Evaluating the influence of EWS scheme upon the hinterland for all selected pockets, also address the issues related urban poor, look forward of this study is to analyses the TPS in detail and understanding all the factors of its provision for hosing accommodation of EWS. Considering all the statistical data and analysis propose planning intervention on all selected pockets.

ACKNOWLEDGEMENT

This research work has been very exciting and interesting, and at times a daunting task, too. Nevertheless, I am fortunate enough to have had many of my friends coming to my help in different ways and wish to thank all of them.

At the very outset, let me thank God Almighty for providing and infusing me with indefinite strength to carry out this work and for being with me in all my endeavors.

I am extremely grateful to Prof. (Dr.) Dharmesh Juremalani, my teacher and guide, who was kind enough to take me as his M.U.R.P thesis student and provide me with his valuable guidance giving me the clarity on research statistical techniques, the supervision and support he gave truly helped the progression and completion of this dissertation.

I would like to thank my teacher and mentor Prof. Anand Kapadia, Professor of Gijubhai C Patel Institute of Architecture, Interior Design and Fine-arts and coordinator of M.U.R.P department in V.N.S.G.U, Surat for his constant encouragement, support and helpful suggestions. I also would like to thank Prof. Rajesh Mehta, Principal of Gijubhai C Patel Institute of Architecture, Interior Design and Fine-arts, V.N.S.G.U, Surat.

I also take this opportunity to thank Dharmesh. B. Mistry (Town planner & Town development officer; Town Development department- SMC), who shared with me his experience and working process of urban local body, I am grateful for his generous help for my thesis dissertation.

My sincere thanks to Manish m. Doctor (Town planner & Town development officer; Town planning department- SMC) for their cooperation in providing me required information and for sharing their valuable experience with me.

I want to extend my gratitude to all those government departments and offices which provided required, data and information on Surat city that helped this study to critically understand Town planning schemes and its reservation of Surat city. These departments are: Town Planning Department; SURAT MUNICIPAL CORPORATION, Surat Urban

Development Authority; SUDA BHAVAN, Slum upgradation cell; Surat Municipal corporation.

I appreciate and sincerely acknowledge all my colleagues who have stood by me, gave me constant encouragement and helpful suggestions during my research.

Finally, yet importantly, I would like to express my heartfelt gratitude to my father Bharatbhai J Mangroliya, my mother Pravinaben B Mangroliya, my sister Ridhdhi D Pandya for their support and my friends for their help and wishes.

BHUVNESH B. MANGROLIYA

List of Abbreviations

TPS/ TP Scheme	: Town Planning Scheme
DP:	: Development Plan
OP:	: Original Plot
FP	: Final Plot
GTPUDA	: Gujarat Town Planning and Urban Development Act
BTPA	: Bombay Town Planning Act
GOI	: Government of India
ADA	: Area Development Authority
SMC	: Surat Municipal Corporation
SUDA	: Surat Urban Development Authority
AMC	: Ahmedabad Municipal Corporation
AUDA	: Ahmedabad Urban Development Authority
BMC	: Bombay Municipal Corporation
CTP	: Chief Town Planner
TPO	: Town Planning Officer
ULB	: Urban Local Body
UDA	: Urban Development Authority
EWS	: Economically Weaker Section
LIG	: Low Income Group
PPP	: Public Private Partnership
MHUPA	: Ministry of Housing & Poverty Alleviation
JNNURM	: Jawaharlal Nehru Urban Renewal Mission
ISHUP	: Interest Subsidy Scheme for Housing the Poor
PMAY	: Pradhan Mantri Awas Yojana
MMGY	: Mukhya Mantri Gruh Yojana
SNP	: Slum Networking Programme
TDR	: Transferable Development Rights
CIDCO	: City and Industrial Development Corporation
HUDCO	: Housing & Urban Development Corporation

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1. Introduction

1.1 Background

In India, an increasing trend towards urbanisation has been recorded. The census information on urban-rural composition reveal endless rise at intervals the urbanisation in India. Urbanisation rate is calculated by the population residing in geographic area with relevance the whole population.

The proportion of urban to total population of India was only 11% in 1911. In 1921, it slowly inflated to 11.3%. In 1941, the urbanisation level was recorded at 14%. However, when the independence of India, there has been a rapid increase at intervals the urbanisation. Currently, as per 2011 census reports, the percentage of population living in urban areas is 31.16%.

Table 1:1 Urbanisation Trends in India

Year	Urban Population in Millions	Urban as % of total Population
1901	26	11
1921	32	11.3
1941		14
1951	62	17.6
1961	79	18.3
1971	109	20.2
1981	160	23.7
1991	217	25.8
2001	285	27.8
2011	377	31.16

With the fast increase in population in urban areas the infrastructure provision may be a challenge infrastructure provision is important in urban areas with the increasing population lack of infrastructure results in urban chaos associated with housing education healthcare state

growth of slums violence etc. thus providing basic infrastructure and maintaining with the pace of urbanisation is vital.

In India exploitation and infrastructure provision are done by majorly two models land acquisition technique under the land acquisition act and therefore the other is land pooling mechanism wherever the mechanism varies in numerous states in Gujarat the urban infrastructure provision is completed by the land pooling mechanism usually called Town planning scheme under the Gujarat planning and urban development act, Town planning schemes play a crucial role in urban infrastructure development and provision of maintained land.

1.2 General Introduction

1.2.1 Town Planning Scheme

1.2.1.1 What Is T. P. Scheme?

Town Planning Scheme is a land development mechanism under Gujarat Town Planning and Urban Development Act, which is a techno-legal approach to development of land and provision of infrastructure in urban areas with public participation.

Gujarat follows a twostep urban development mechanism, macro and micro level planning. Where macro level planning is the overall development plan for the city where the vision of development is set for the next 20 years. And the micro level planning is the Town Planning Scheme mechanism which allows the implementation of Development Plan as well as enables the Urban Local Body to provide infrastructure.

Town Planning Scheme means physical planning for the physical development of any area of a city. Each piece of land is identified as revenue survey numbers. All the revenue survey numbers do not have same access to the approach road and they are mostly of irregular shape. Therefore, to have planned development, the boundaries of every piece of land or revenue survey number are reconstituted to make them of regular shape and provide them with an access through a Town Planning Scheme.

Thus, Town Planning Scheme encompasses extinguishing the boundaries of revenue survey numbers, reconstituting the boundaries to form a regular shape plot, providing roads and reserve plots for public purposes. Each land owner contributes in terms of land for the

development of roads and public purpose lands, and each one gets benefit of road access and increase in property pricing. Town Planning Scheme also provides for required finance for the development on a joint expense from all the owners and authority.

1.2.1.2 History of Town Planning Scheme in Gujarat

Gujarat State has been practicing the Town Planning Scheme mechanism for over a century now and the process has evolved over the years. The organised efforts for Town Planning started during the British Period. The Gujarat State being a part of then Bombay State, enacted the Bombay Town Planning Act, 1915, which not only provided legal support, but also provided a guideline for preparing planning proposals. Gujarat started using Town Planning Scheme mechanism since 1915. The Bombay Town Planning Act 1915, empowered the Local Authorities to prepare Town Planning Schemes for fast developing areas of the city or town. Town Planning Scheme being a micro level planning, it was very detailed reconstitution of each revenue survey number. However, in Bombay Town Planning Act 1915, the planning was restricted to the part of city.

Therefore, after independence, a new legislation was enacted in the form of Bombay Town Planning Act 1954. This new legislation empowered the local authorities to prepare Development Plans for the city or town. There was a sudden increase in Town Planning activities as many authorities undertook the preparation of Development Plan. Both these acts provided a legal support, as well as a guided process for Physical Planning. The most important aspect of this process was public participation in planning. Every land owner was given an opportunity to see the plan being prepared, review it and offer his objections or suggestions on planning process.

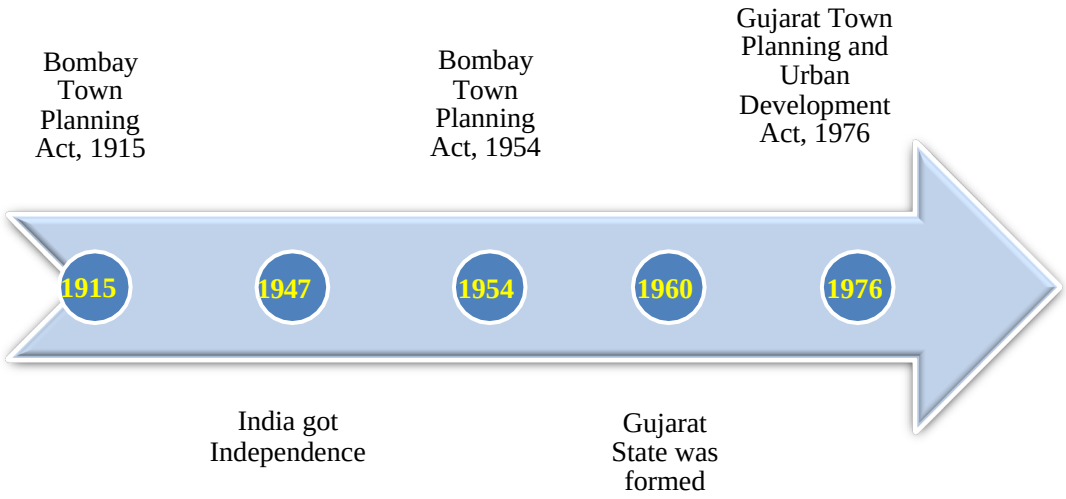
The State of Gujarat as it exists today was then formed on 1st May 1960, separated from area of then Bombay State. Later, in the mid-seventies, it was observed that the Bombay Town Planning Act 1954 does not meet up to the demands of comprehensive and meaningful planning of the towns or cities. The realization that the preparation of Development Plan for areas within the municipal boundaries would not meet up the challenges of urban development which usually does not limit to the municipal boundaries. Thus, a requirement for a new

legislation was felt. The Bombay Town Planning Act of 1954 was repealed and a more comprehensive planning legislation.

was enacted titled as "The Gujarat Town Planning and Urban Development Act, 1976" which came into force from 1st February 1978.

Under the Gujarat Town Planning and Urban Development Act, 1976, special provision has been made for the constitution of an Area Development Authority or Urban Development Authority for the tasks related to Urban Development. It enables the state govt to form UDA/ADA for urban areas and provide with the powers and responsibilities to prepare and implement Development Plan and Town Planning Scheme.

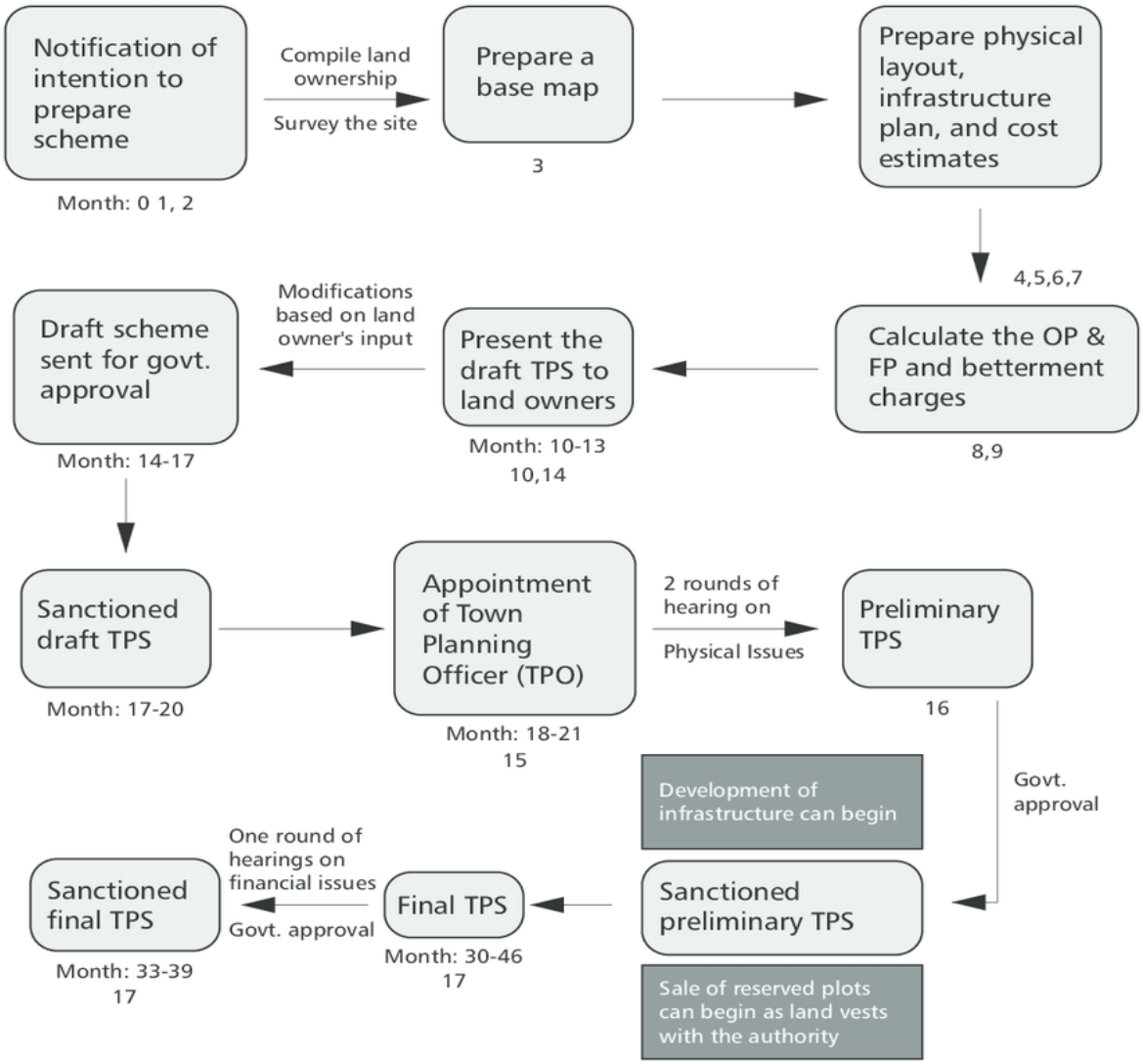
Figure 1:1 Time line showing evolution of TPS mechanism in Gujarat



Under these three acts, as on March 2010, total around 625 draft Town Planning Scheme have been prepared. Out of which more than 300 schemes are already sanctioned by Government and are implemented on site. And about 130 schemes out of the above mentioned 625 schemes have been varied more than once. As of May 2018, total 425 schemes are pending with government in the implementation stage.

1.2.1.3 Methodology Town Planning Scheme

Figure 1:2 TP Scheme Methodology



1.2.1.4 Procedural steps for preparation of T.P. Scheme

- Survey of the area
- Establishing the ownership details of every land parcel
- Reconciling the survey and landownership records to prepare a base map
- Defining the boundary of the area
- Marking original plots on the base map

- Tabulating ownership details and plot size
- Laying out the roads in the area
- Carving out plots for amenities in the area
- Tabulating deduction and final plot size
- Delineation of final plots
- Tabulating infrastructure and betterment charges
- Owner's meeting
- Modification of the draft TPS and its approval
- Appointment of the town planning officer (TPO)
- Individual hearings to each landowner on the preliminary TPS
- Finalization of the preliminary TPS and its approval
- Individual hearings to each landowner on the final TPS
- Finalization of the final TPS, its approval, and implementation

1.2.1.5 Town Planning Scheme & its comparison with other land development models

In Gujarat State, there are two land development models which are practiced for land development and infrastructure provision. Land Acquisition under LARR Act, and Town Planning Scheme mechanism (land pooling and readjustment method) under Gujarat Town Planning and Urban Development Act.

1.2.1.6 Land Acquisition Method

The land acquisition method is practiced in Gujarat under the LARR Act, 2015 (previously Land Acquisition Act, 1894). Under the Land Acquisition Method, the Government, local authority or development agencies acquire large areas of land from agricultural landholders (Farmers). Those who are deprived of their lands are paid a monetary compensation as per the prevailing agricultural land prices. Once the land is acquired, a master plan is prepared for the area. Roads, plots for social amenities, and plots for sale are demarcated in master plan. Roads and other physical infrastructure are then built using government funds. Serviced plots are then sold to buyers at market rates which are much higher than the rate at which the land was originally acquired.

Advantages	Disadvantages
Land for Urban development can be generated quickly considering that there is little opposition to the acquisition by the land owners.	Original land owners are deprived of their lands and are thrown off their lands.
Master Plan has no constraints and planning decisions can be made freely.	Unable to wisely invest money received as compensation, they are deprived of their livelihood and they end up being urban labor.
The benefit of appreciation of land value after development goes to the development authority.	Original land owners do not get the benefit in any manner.
	Development process is slow. Developer has to approach authority and the authority ends up being a bottleneck for development.

- The land acquisition method is used with some variations in the process in different states in India, like Andhra Pradesh, Karnataka, Maharashtra, Delhi, Rajasthan.

1.2.1.7 Town Planning Scheme mechanism

The Town Planning Scheme mechanism is strongly practiced in the State of Gujarat under the Gujarat Town Planning and Urban Development Act. In this method, the planning authority brings together the group of landowners for the purpose of planning. In this method, there is no acquisition or transfer of ownership involved, hence no compensation is needed to be paid by the authority. The master plan for the area is prepared and roads and other plots for social infrastructure are demarcated.

The remaining land is reconstituted to final plots and given to the original land owners. The size of FP is in proportion to the size of FP. Some proportion of land is deducted from all the plots and roads and plots for social infrastructure are allowed from that deduction. The remaining land is given back to the original land owners and the location of FP is as near as possible to the OP. A betterment charge is levied on the land owners based on the cost of infrastructure. Then, these funds are used for provision of infrastructure.

Advantages	Disadvantages
Regular shaped final plots.	The method is time consuming, since the procedure prescribed for planning and implementation of TPS is complicated.
No immediate expense to be incurred by the authority for acquisition of land for development.	Infrastructure provision and development is delayed due to long time frames.
Involves public participation for provision of basic physical and social infrastructure facilities.	Betterment charges are assessed at the beginning of the scheme preparation. As the process takes long time, the costs do not meet up to the actual infrastructure development cost. Thus, the difference is to be paid by authority.
Original land owner is not displaced in the process of development.	
Indirectly linked with various state level and national level policies.	
Process making development pay for the infrastructure cost.	Development permissions freezes during the preparation of scheme (Draft Stage), and can be obtained once the draft is sanctioned. Thus, locks land for development while the draft stage is under process.
Negative impact of process of urbanisation is reduced on original land owners.	

1.2.2 Housing

House is generally defined as "a shelter or a built structure which is used by human being as a place for habitation." The term house includes various built form typologies ranging from rudimentary huts of nomadic tribes to high-rise apartment buildings. In spite of the types of dwelling unit, shelter is one of the basic requirements of human being which needs to be met on priority basis.

A house is direct expression of individual's changing values, images, perceptions and transformations in life. It is a variable component for different individuals who stay in it in terms of appearance, meaning and significance etc. House can be a place on pavement, it can be a small hutment standing illegally on public or private land, build in ramshackle ways in dirty place, or it can be a crowded tenement where rents or installments are paid to owners, or it can be an expression of affluence in leafy suburbs. Housing typologies vary as per individuals and may depend on age, families, geographical location and economy.

After the Second World War, in all major cities of India, population has increased in multiples. It is a result of rapid pace of industrialization after the attainment of independence. This process of urbanization will go on with the same pace in coming future. Cities have created employment opportunities with urbanization which resulted in increased migration rate. Demand for new houses increased with the increasing rate of migration. But the development of new housing could not keep pace with the need generated. There are several reasons why housing in requisite quantity had not been built. Some of them are raising costs of building materials and labor, escalated land prices, high municipal taxes etc. The upkeep of existing building is neglected because the landlords are not in a position to meet the cost of repairs and replacement from the rents they receive. This picture of housing is found in most of the old areas of developing cities in India.

In accordance with the Indian Constitution, Urban development and Housing are State subjects. While the Policy Framework comes from the Central Government, State governments provide a legislative background within which the local bodies and development authorities regulate land development and other activities. In Indian urban areas, less than 10 percent of the total housing stock is provided by the public agencies. Non-formal housing accounts for up to 60 percent of the urban population while the rest is provided by private sector.

Around 75% population in India engaged in agriculture says India is predominately a rural and agrarian country. At present proportion of urban population is increasing at higher rate. Along with the construction cost, the land cost and land development cost are increasing at very high rates. The combinations of such several factors have caused serious strains on the urban housing industry. The present scenario is depressing and the future is quite frightening.

The cost of house is increasing in terms of land value, land development, building materials and labour etc.

Prices are inversely proportional to the income of the people. Major sector of the society coming to cities for employment is unable to purchase house. This has resulted in formation of slums and squatters. Rapidly growing slum population is a major problem in all metro cities. Around 30% - 40% of population stays in slums in all metro cities. The gap between need and supply is widening. Major housing supply in current situation is through private sector which caters to higher income groups only. Public sector is proved to be inefficient to fulfil the need of houses to lower income groups.

Of the various economic sectors, the construction sector including housing is a major consumption sector. The share of the housing sector in the construction industry ranges from 30%to40%. It is therefore, necessary to understand the present housing scenario in the country with respect to demand in the future to evolve realistic housing policies and programs. Optimal use of available resources by abiding to strict standards and adopting appropriate technology has become very important.

Today housing has been recognized not only as a basic necessity of life, but also as an employment stimulant and factor for measuring balanced growth. Providing housing for all is the most important challenge the countries are facing.

The total housing deficit in 1981 was about 25 million housing units, of which seven million were in the urban areas. In 1991 the shortage is about 30 million units. The average number of rooms per housing unit is 2, and the number of persons per room is between 2.8 &3 as compared to 0.8 to 1.0 person per room in most of the developed countries. Summing up, the housing situation in the country is quite alarming, inviting for all efforts of the government to accelerate the pace of housing.

However, while aiming at large numbers, the quality and livability of the housing should not get be overlooked.

The major problems of housing in the developing cities of India are summed up as below. Continuous changes in the demography are one of the important factors responsible for the situation.

- Increasing physical and social imbalance, in certain areas gives rise to imbalance in residential development too.
- Gap between the demand and supply

- Escalating land and property rates as a result of real estate boom
- Availability of the serviced land for the increasing housing demand
- Affordable housing for the population living below poverty line
- Very high density and lack of formal housing supply worsened the housing situation in the core area of the city.

1.2.2.1 What is EWS housing?

The EWS or Economically Weaker Sections of the society are defined on the basis of their income level. In India, according to the Ministry of Urban Development, all those people whose monthly income is within Rs.5000, belong to the EWS category. It is observed that this section of the population faces an acute problem in housing. This is because, the people are too poor to buy houses in the cities and the cities on the other hand cannot suffice without these people.

1.2.2.2 Need for EWS housing

(Ministry of Housing and Urban Poverty Alleviation, UNDP, 2009).

With rapid urbanization, increase in labor mobility and a shift from agrarian economy to industrial economy there is a shortage in housing for the EWS. The total housing shortage at the end of tenth plan has officially been assessed as 25 million dwelling units for 67.4 million households. 98% of this shortage was in the Low Income and Economically Weaker Sections (EWS) segment. The situation even at the end of 11th Plan, despite efforts envisaged to be implemented, did not improve, but rather is expected to escalate to 26.53 million houses for 75.01 million households.

A number of housing clusters have mushroomed in and around various metropolitan centers in haphazard and unplanned manner, without a proper layout and devoid of service lines and other essential facilities. Therefore, these unplanned settlements need to be catered and effective housing should be provided to people living in such dilapidated housing condition.

1.3 Aim

Aim is to evaluate the procedure of Earmarking for EWS housing schemes and address the issues under TP scheme mechanism in Surat city in the state of Gujarat.

1.4 Objectives of Study

The following are the objectives of the study:

- To analyze the Town Planning Schemes and identify the criteria of the select location of reservation for EWS housing schemes under T. P. Schemes mechanism.
- To study the TPS in detail and understanding all the factors of its provision for hosing accommodation of EWS.
- Identification of existing EWS schemes in South-west zone of Surat city
- Find out issues related locations of reservations specifically EWS Reservation.
- Proposing the planning intervention on all selected draft T.P. Scheme

1.5 Need of study

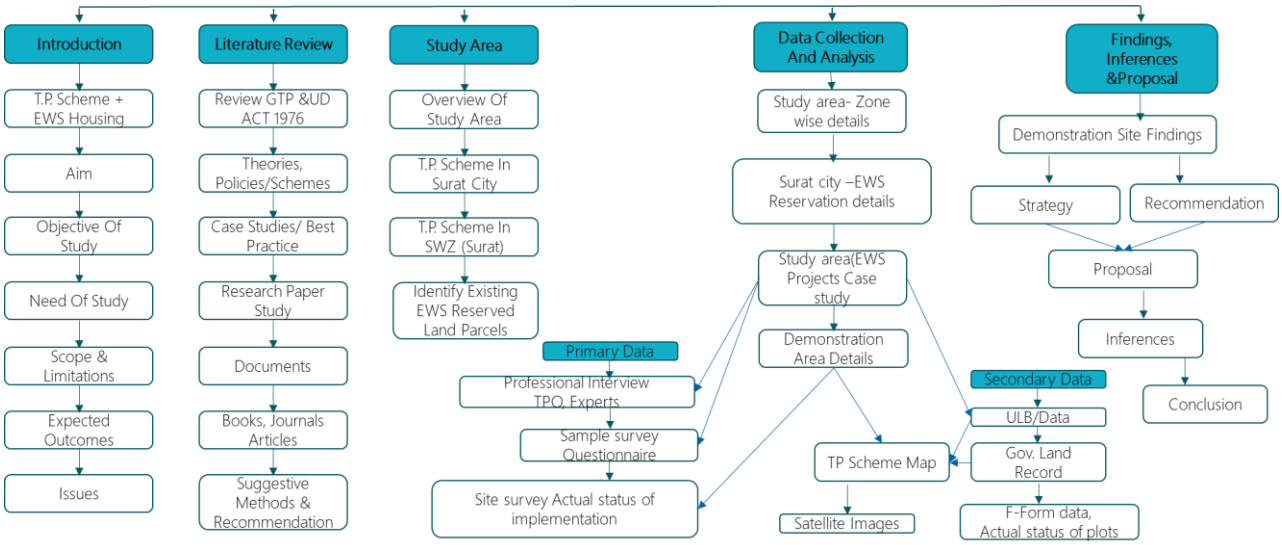
- The issues related provided land parcels for EWS housing schemes.
- Unbalanced development affected to growth of urban land.

1.6 Scope and limitations

- This study evaluates the Earmarking procedure for EWS housing schemes under TP scheme mechanism in Surat city.
- Find out the issues related and try to resolve it by proposing planning intervention.
- However, this study will not be done for the whole city of Surat. This study is restricted to the selected study area (south west zone) Surat.

1.7 Thesis Methodology

Figure 1:3 Thesis methodology



- Study the Planning and Implementation Process of T.P. Scheme
- Review of Gujarat Town Planning and Urban Development Act and its evolution over the years

- Review literature study for best practice in housing reservation
- Collect data of Surat city and analyze it, Identification of existing EWS schemes in Surat city, Selection of appropriate study area and identify existing EWS reserved land parcels Collect data and analyze regarding provided land parcels for reservation of EWS housing schemes.
- Identify the issues related location of reservation land for EWS housing Schemes.
- Collect primary data conducting with sample survey questionnaire, professional interviews and site survey.
- Collect Secondary data from Urban local body, Government land records, F-form data- actual status of plots.
- Review of Objections/Suggestions in the identified EWS housing schemes.
- After demonstration site findings prepare a modal proposal of a reasonable alternative solution for location of reservation for EWS housing schemes in TP Scheme.

1.8 Expected outcomes

- Based on the data analysis, various issues and gaps can be identified of reasons for unbalanced development in TP scheme.

1.9 Issues

1. Issues in practice

- Sometimes a landowner pursued the TPO to shift his entire plot away from a EWS housing reservation plot in a draft TP scheme and even reduce their land deductions. *(Source: The Times of India-TPOs reined in to cut graft)*
- The scope of corruption is there, the TPO can position a reserved plot for EWS housing near an owner's plot and then demand a sum to remove the reservation from draft scheme. *(Source: The Times of India-TPOs reined in to cut graft)*

2. Issues related adjoining plot owners/Surrounding areas

- Land value and land prices will be reduced
- Surrounding environment, Unbalanced development

3. **Issues of urban poor**

- Issues related work place distance
- Affordability of daily goods and services
- Community preference
- Travel cost, Travel time
- Gov. Schools

2. Literature Review

2.1 Gujarat Town Planning and Urban Development Act, 1976

The Gujarat Town Planning and Urban Development Act provides the legal basis for urban planning in Gujarat. Development Plan and Town Planning Scheme both are prepared under the provision of this act. The act provides the authority the power to prepare and implement DP and TPS. It also provides with a well-structured process for planning and implementation of TPS.

As per the act, the process of TPS is divided in to 3 stages. Draft Stage, Preliminary Stage and Final Stage. Where draft stage deals with the planning part, and preliminary scheme deals with the implementation and financial aspects of the TPS.

2.1.1 Draft Stage

- The contents of Draft Scheme as per the act are as below. Area, Ownership and tenure of each OP.
- Details of reserved land for public purpose.
- An estimate of the net cost of the scheme as well as total cost of scheme.
- Preparation of draft TPS map.
- Preparation of F-Form for each OP

When the authority wants to make a TPS, it has to follow the process mentioned in the act. The very first part of the process is the consultation u/s 41 where the authority consults the CTP and makes a resolution to prepare a TPS for the decided area. Then the intention to prepare a TPS for that area is to be declared in the Official Gazette. Once the intention to prepare a TPS is declared, the authority must publish the Draft TPS plan in the Gazette within 12 months. However, the authority may apply for time extension for up to additional 6 months. If the authority fails to finish the task after the extended time period, a special officer is appointed by State Government who then takes charge of preparation of TPS and is given 9 months' time period. Even after that, if the special officer fails to do so, the TPS gets lapse and a TPS cannot be declared for that area for 3 years. However, the time frames have been revised to 9+3+9 in

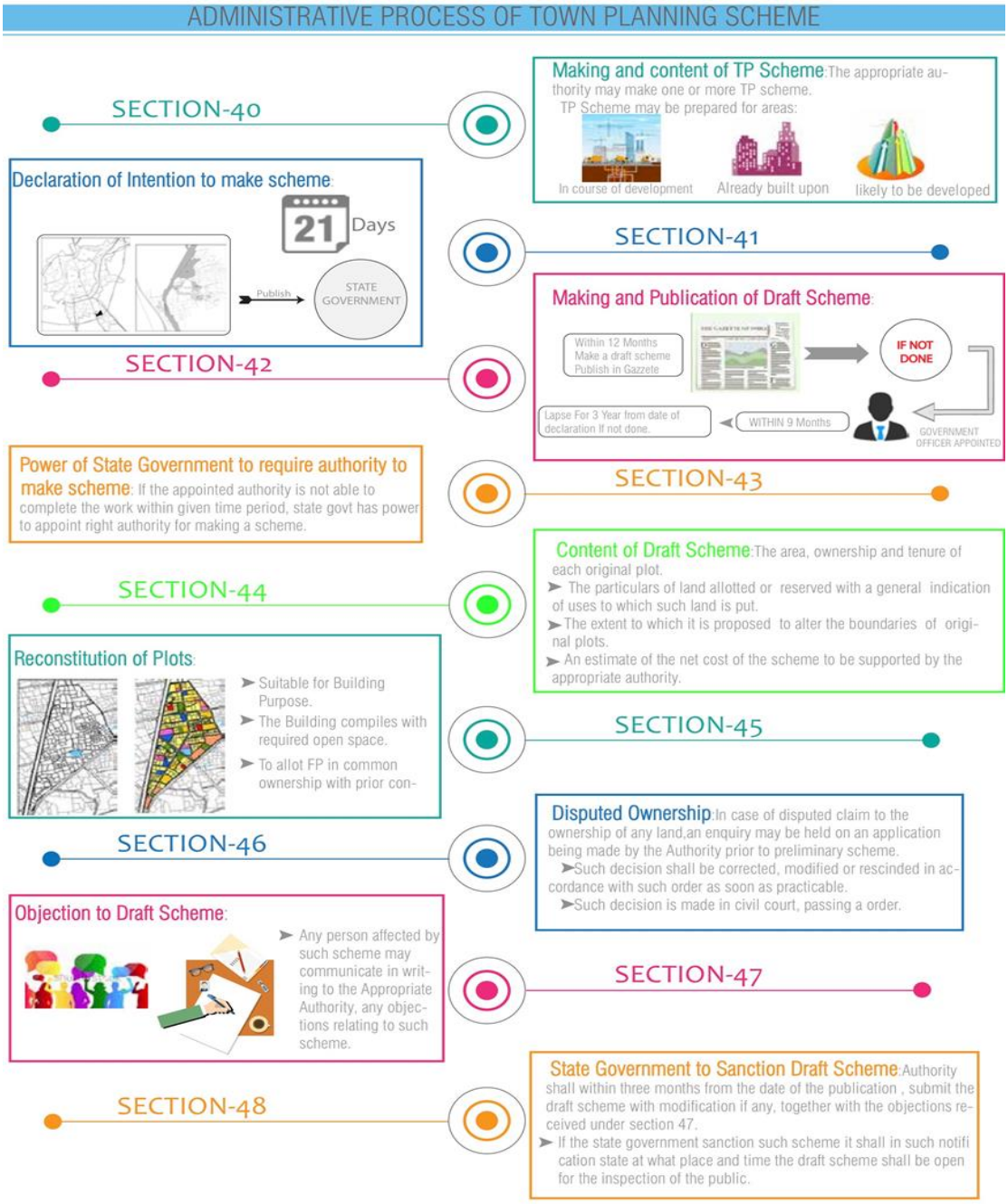
the 1999 Amendment. Previously it was 12+6+9. Before publishing the draft, the authority must conduct owners meeting and invite objections/suggestions.

Once the Draft is published, within 4 months of Date of Publication, the Draft must be submitted to State Government for sanctioning. This time was also reduced to 3 months in 1999. Once received for sanctioning, the state government can either accept the TPS and sanction without modifications, or suggest modifications or can also reject the TPS. However, the time limit for state government to take action is 6 months, which was revised to 3 months in 1999.

Table 2:1 Time frame for Draft Stage as per GTPUD Act.

Act	From declaration of intention to Publication of Draft	From publication to submission to state govt.	From submission to Draft Sanction	Total ideal time for Draft Stage
Time limit as per 1976 Act	12+6+9	4	6	37
Time limit as per revised 1999 amendment	9+3+9	3	3	27

Figure 2:1 Image shows Process of Draft Stage of TPS.



2.1.2 Preliminary and Final Stage

The process of Preliminary and Final stage of Town Planning Scheme happens at the same time and goes hand in hand. The main difference between preliminary and final TPS is that the preliminary stage of the TPS is concerned with the handing over of the possession of FP and physical planning like development of road. Whereas, the Final stage deals with the financial part of the scheme.

For the preliminary and final scheme, a TPO is appointed by the State Government. The TPO is responsible for the tasks of preliminary and final scheme. The TPO once appointed, verifies all the documents, if needed collects additional records and serves notice to each land owner in the area of TPS. Each land owner is given the opportunity to be heard once again by TPO. If needed, he makes changes to the scheme and submits to State Govt. for sanctioning. In the preliminary scheme, every land owner is shown his FP on site. Possession of OP is taken and possession of FP is granted to the owner. Once accepted, he is provided with 'Kabja Pavati' which is a record of transfer of land. The same process is to be done for all the land owners in order to completely implement and sanction the preliminary scheme.

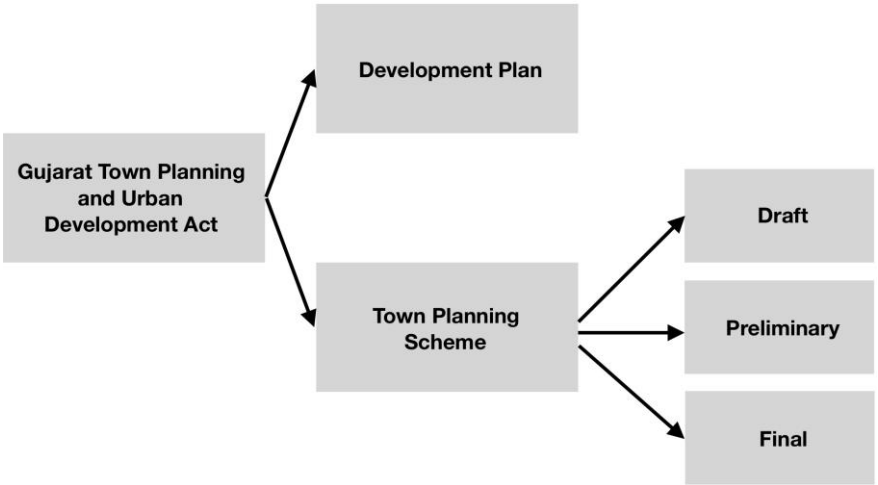
For the final stage of TPS, the TPO verifies all the financial details worked out by the authority. Objections related to value of original plot, semi-final plot and final plot, compensation, net contribution are invited. The land owners are given an opportunity to question the financial calculations of the TPS. Once reviewed, the financials are then finalized and sent to the state government for sanctioning. Once the Final TPS gets approved, the TPS is referred to as Final TPS and the authority can now pay or collect the money to/from plot owners.

2.2 Urban Planning process practiced in Gujarat.

Gujarat has a two-stage planning process for planning of urban areas. All the urban planning process in Gujarat is practiced under the legal provision of GTPUDA. A development area is notified around the city and an ADA/UDA is formed for that area. Once the authority is in place, a development plan for the notified area is prepared. The development plan is a macro level planning document. A development plan is a zoning document which shows the direction of growth of a city. It envisions the future infrastructure requirements like road network, water supply, sewerage, environmental aspects and others for the whole development area. The development plan is revised every 10 years.

For the implementation of DP, the second level of planning tool which is practiced is known as Town Planning Scheme, which is a micro level planning document. TPS is generally made for smaller areas of around 100-200 hectares or 100-250 land owners. Once the area for a TPS is marked, a draft plan is made. That plan is called the Draft Town Planning Scheme. This map shows the road layout for that area including the DP roads as well as roads of lower hierarchy that are planned in TPS. Plots for public purpose are reserved, and the rest of the land is given back to the original land owners in the form of FP after deducting some amount of land from every plot. In this way, all the land owners get regular shaped plots and access to infrastructure services like road, water supply, street light and other basic infrastructure.

Figure 2:2 Image shows Urban Planning process in Gujarat



2.3 Increasing Urban Land rates

Land scarcity is the main problem faced by today's metropolitan cities. Making land available for housing developments is a major challenge faced by planning authorities. With rapid urbanization migration rate to cities have been increasing in a fast rate. This resulted in growing demand of housing from different economic sectors. Lands in the city areas are already developed. Land scarcity resulted in escalating land prices in most of the cities. Land prices are directly proportional to housing demand in different areas.

Increasing urban land rates became a key reason making housing unaffordable to common man. There is a strong need of policy to control land rates minimizing the problem of housing affordability.

2.4 Housing

2.4.1 Housing for all by 2022

In India housing and indeed all affordable housing has been the exclusive preserve of public sector entities such as Housing Boards or Development Authorities. Private sector real estate developers have been historically prohibited from affordable housing both structurally and at the level of policy. Developing affordable housing in Indian cities faces significant challenges due to several economic, regulatory and urban issues. Whilst the lack of availability of urban land, rising construction costs and regulatory issues are supply-side constraints, lack of access to home finance is a serious demand-side constraint, which impacts the ability of low-income groups to buy housing. Although some of these are gradually being mitigated, efforts are required by multiple institutions to facilitate mass development in this sector.

The Pradhan Mantri Awas Yojana (PMAY) launched in 2015 provides a fresh impetus – the PMAY-Urban (PMAY-U) subsumes all the previous urban housing schemes and aims at housing for all to be achieved by the year 2022. The total housing shortage envisaged to be addressed through the PMAY-U is 20 million.

Pradhan Mantri Awas Yojana – Housing for All (Urban) was launched by the Central Government to achieve the objective of providing every family a pucca house with water connection, toilet facilities, 24x7 electricity supply, etc. The Mission would be implemented between the year 2015 and 2022, and is expected to provide central assistance to implementing agencies through States and Union Territories for providing houses to all eligible

families/beneficiaries by 2022. All statutory towns as per Census 2011 and towns notified subsequently are eligible for coverage under the Mission.

Regulatory Constraints

There are severe regulatory constraints to real estate development in Indian cities, which range from lengthy approval processes to lack of clarity in urban planning. According to the new government in the Indian central power, it has a vision to provide housing to all its citizens by the year 2022.

Housing for all by 2022 presents a dramatically different opportunities and requirements in front of the stakeholder. Housing in India varies significantly and can reflect the socio- economic mix of its vast population. In the last decade, there has been tremendous growth in the country's housing sector, along with demographic changes, rise in income, growth in the number of nuclear families, and urbanization.

Key factors considered in the scheme are - Absence of an effective policy framework for Economically Weaker Section (EWS) and Lower Income Group (LIG) housing, long gestation period of six to eight years of housing projects, inadequate long-term funding across the project life cycle, rational multiple fees and taxes across project stages, reassessment of development norms, high urbanization rate, need to focus on urban housing; especially on affordable housing.

The Government would soon roll out Sardar Patel Urban Housing Mission, which will ensure 30 million houses by 2022, mostly for the economically weaker sections and low-income groups. This Mission is in pursuit of the provision of massive housing goal and 30 million houses would be built by 2022, mostly for the economically weaker sections and low-income groups, through public-private-partnership, interest subsidy and increased flow of resources to housing sector.

Development of large-scale affordable housing is the greatest necessity of urban India today. Indian cities lack them, and this has resulted in the proliferation of slums and unorganized real estate across the landscape. This is detrimental to the planned growth of cities.

Large-scale urban developments are becoming increasingly difficult due to lack of land parcels, congested transit routes, lack of finance, rising input costs and regulatory hurdles. However, it is vital that these issues are addressed urgently so that a comprehensive framework can be established in ensuring the development of affordable housing.

2.4.2 "Affordable Housing Shortage in India: - A Case Study of Surat" - Shah Yash Sanjaykumar

2.4.2.1 Government Policy for Affordable Housing

First National Housing Policy in India was formulated in 1988, followed by a new National Housing Policy in August 1994. Further, in July, 1998, another National Housing & Habitat Policy was announced with some landmark initiatives like involvement of multi-stakeholders, repeal of Urban Land Ceiling Act, permitting Foreign Direct Investment in housing and real estate sector, etc.

However, all these policies were generic and applicable to both rural and urban areas. Taking into account emerging challenges of required shelter and growth of slums, the first ever urban areas specific National Urban Housing and Habitat Policy, 2007 was announced in December 2007.

A. **The National Urban Housing & Habitat Policy, 2007** has sought to earmark land for EWS/LIG groups in new housing projects for provision of affordable housing for this segment of the population. To prevent frauds in loan cases involving multiple lending from different banks/HFCs on the same immovable property, the Government has facilitated setting up of Central Electronic Registry under the SARFAESI Act, 2002. This Registry has become operational with effect from March 31, 2011.

B. **The Jawaharlal Nehru National Urban Renewal Mission (JNNURM)** was launched in December 2005 with aim to cover construction of 1.5 m houses for urban poor during the Mission period (2005- 2012).

It has two Sub-Missions:

I. Basic Services for the Urban Poor (BSUP) seeks to provide seven entitlements/ services - security of tenure, affordable housing, water, sanitation, health, education and social security in low income segments in the 65 Mission Cities.

II. The Integrated Housing and Slum Development Programme (IHSDP) seeks to provide the above mentioned 7 entitlements, services in towns/cities other than the Mission Cities.

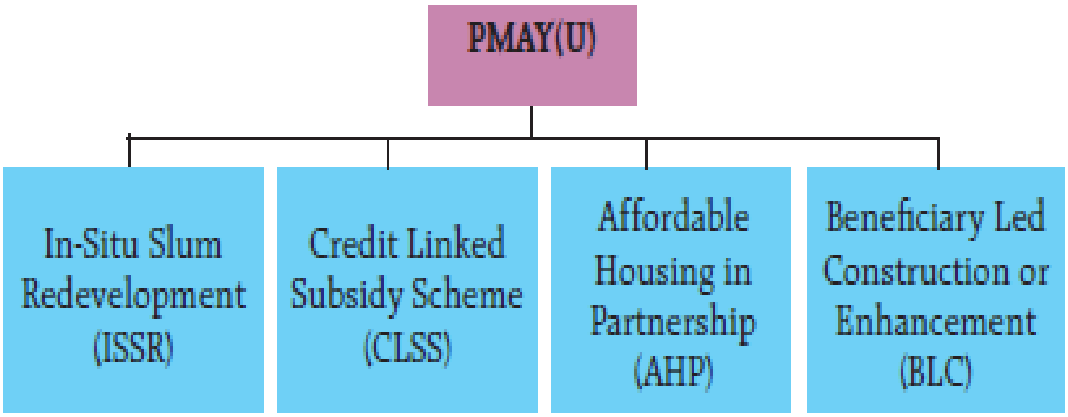
C. **The Indira Awas Yojana (IAY)** has been focused on the provision of cash subsidy scheme to rural BPL families for construction of dwelling units using their own design and technology. The funding under the Scheme is provided by the Centre and State in the ratio of 75:25 respectively. The Two Million Housing Programme, launched in 1998-99 is a loan-based Scheme and seeks to facilitate the construction of 20 lakh additional houses per annum of which 7 lakhs are targeted in urban areas and 13 lakhs in rural areas.

D. **Interest Subsidy Scheme for Housing the Urban Poor (ISHUP)** has sought to enhance affordability of the urban poor through the provision of an interest subsidy of five per cent per annum on a loan amount of up to 1 lakh for the economically weaker sections and lower income groups in the urban areas for acquisition/construction of houses. The Government has also launched a scheme of Affordable Housing in Partnership with an outlay of 5,000 crore for construction of one million houses for EWS/LIG/MIG with at least 25 per cent for EWS category. The Scheme aims at partnership between various agencies/ Government/parastatals/ Urban Local Bodies/ developers for realizing the goal of affordable housing for all.

E. **Rajiv Awas Yojana (RAY)** aims to create a Mortgage Risk Guarantee Fund to enable provision of credit to Economically Weaker Sections (EWS) and LIG households and to encourage the States to adopt policies that will create a slum free India on 'whole City approach.

F. **Pradhan Mantri Awas Yojana (PMAY)** launched in 2015 provides a fresh impetus the PMAY-Urban (PMAY-U) subsumes all the previous urban housing schemes and aims at 'Housing for All' to be achieved by the year 2022. The total housing shortage envisaged to be addressed through the PMAY-U is 20 million. The mission has four components:

Figure 2:3 Pradhan Mantri Awas Yojana



I. **In-situ slum redevelopment (ISSR):** using land as resource, the scheme aims to provide houses to eligible slum dwellers by redeveloping the existing slums on public/ private land. Under this scheme, a grant of `1 lakh per house is provided by the central government to the planning and implementing authorities of the states/UTs.

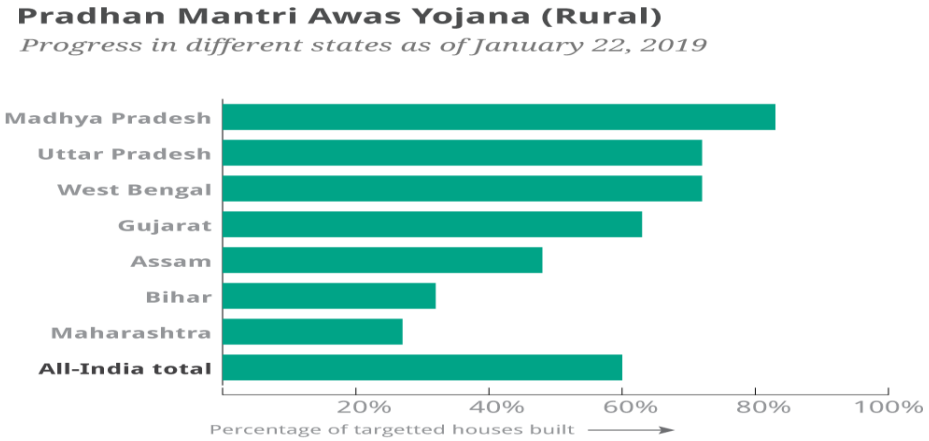
II. **Credit-linked subsidy scheme (CLSS):** under this scheme, easy institutional credit is provided to EWS, LIG and MIG households for purchase of homes with interest subsidy credited upfront to the borrower's account through primary lending institutions (PLIs), effectively reducing housing loan and equated monthly instalments (EMI).

III. **Affordable housing in partnership (AHP):** it aims to provide financial assistance to private developers to boost private participation in affordable housing projects; central assistance is provided at the rate of 1.5 lakh per EWS house in private projects where at least 35 per cent of the houses are constructed for the EWS category.

IV. **Beneficiary-led construction or enhancement (BLC):** this scheme involves central assistance of 1.5 lakh per family for new construction or extension of existing houses for the EWS/LIG.

A. Pradhan Mantri Awas Yojana (RURAL)

Figure 2:4 Pradhan Mantri Awas Yojana (RURAL)

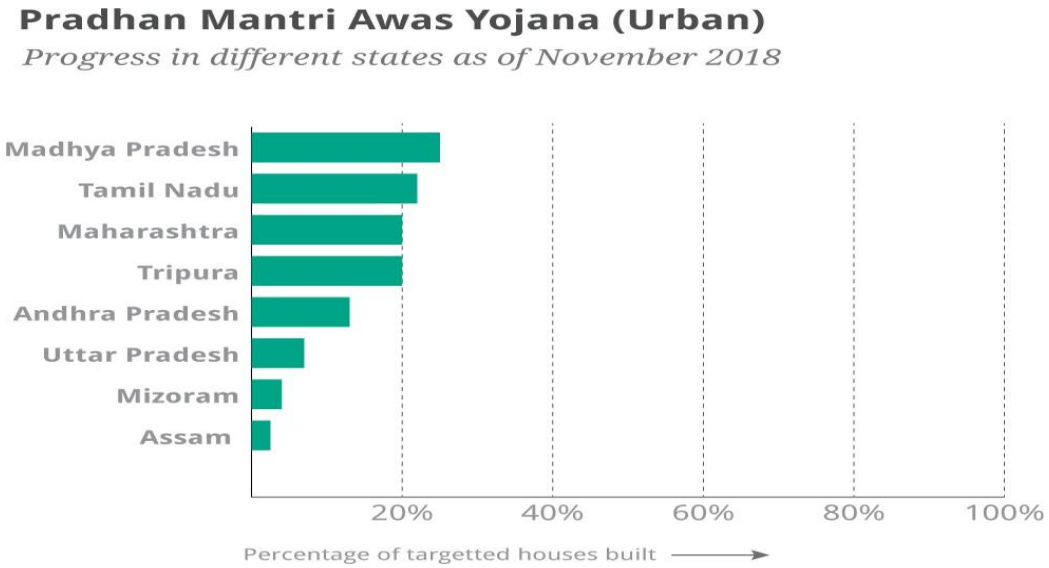


Source: www.pmayg.nic.in

PMAY in the rural areas is to address the homelessness and the dilapidated condition of houses. The beneficiaries are selected through an objective process with the help of the Gram Sabha and data from the Socio-Economic and Caste Census. The government provides an assistance of Rs 1.20 lakhs in plain areas and Rs 1.30 lakhs in hilly areas to selected beneficiaries.

B. Pradhan Mantri Awas Yojana (Urban)

Figure 2:5 Pradhan Mantri Awas Yojana (Urban)



Source: - www.pmayg.nic.in

In urban areas, the urban affairs minister Hardeep Singh Puri claimed in September that 50% of the target had been met. But the government's website shows of the 1.2 crore urban houses it aims to build, 68.5 lakh houses have been sanctioned, and just 18% of the sanctioned houses have been built. With house completion taking an average of two or three years, the government needs to finish sanctioning all homes by 2020 in order to finish all construction by 2022, the report states. The report estimates the government will need Rs 1.5 lakh crore to meet the target of building 1.2 crore urban houses by 2022. Only 22% – around Rs 33,000 crore – has been disbursed so far.

2.4.3 Need of Policy Framework and Guidelines

Worldwide the role of government is being reconsidered and reconfirmed to strengthen its essential functions of facilitating markets and correcting market failures, promoting economic and social stability, and ensuring distributional equity. Certain issues such as high degree of control on land market, lock-up of land parcels by government agencies, insufficient spatial planning and improper development of urban peripheries seems to have led to artificial scarcity of developable urban land. The shortage of land may have resulted in inflating land prices which affected the development of formal affordable housing sector. Additionally, lack of formal rental housing market resulted in development of slums across the state. Rental housing stock is an essential part of housing in a city as it helps to accommodate new migrant population, temporary workers or low-income population, who are unable to or do not require a permanent house.

As public sector is not capable of taking role as a provider in real estate sector, it should have a strong role as a facilitator. A strong regulatory framework and guidelines are needed to be formed for increasing formal housing supply and also making it affordable to major percentage of society. Today result of market-oriented policies and rapid urbanization have resulted in higher prices. Increased privatization of the housing market has created inequalities and available capabilities in the people's ability to purchase houses based on their income groups. Low income groups which are largely composed of floating population are unable to own necessary housing along with the provision of amenities. This housing problem must be solved on priority basis.

Government has to come with strong policies to curtail rising house prices, as well as to strengthen ability for more and more citizens to obtain bank loans, show the increasing ability in the average citizen to fulfill their aspirations of obtaining a house despite the high real estate prices.

In China, government made policies to curtail housing prices as well as to upgrade ability of more and more people to own house. In India, the government of West Bengal has taken important steps to not only meet demands in housing but also give access to the poor for adequate housing as well, which ultimately resulted in positive housing change for lower income group.

2.4.4 Defining affordable housing

The term 'affordability' is considered as a relative term which has different meanings depending on the stakeholders. However, 'Affordable Housing' has been categorised based on certain criteria set by the government to accommodate housing for every household in India. According to the RICS report, 'Making Affordable Housing Work in India', affordability in the context of urban housing would mean provision of 'adequate shelter' on a sustained basis ensuring security of tenure within the means of the common urban household. As per 'Taskforce on promoting Affordable Housing' with respect to LIG and EWS, area of the dwelling unit, income level and EMI repayment capability were considered as a benchmark for defining the affordability as mentioned below:

- Carpet area of the dwelling unit should not exceed 300 sq ft for EWS and 600 sq ft for LIG.
- For both EWS and LIG, cost of the dwelling unit should not exceed four times of the household's gross annual income.
- For both EWS and LIG, monthly repayment obligation/EMI should not exceed 30 per cent of the household's gross monthly income.

As per the 'Affordable Housing in Partnership' scheme launched in 2009 by the Ministry of Housing and Urban Poverty Alleviation, criterion for EWS and LIG was categorized in terms of unit area and repayment capability as defined in the following points:

- In terms of built-up area, EWS and LIG category units should not exceed 300 sq ft and 500 sq ft, respectively

- In terms of carpet area, EWS and LIG category units should not exceed 25 sq m and 48 sq m, respectively
- Monthly repayment obligation / EMI for housing loan should not exceed 30 per cent to 40 per cent of monthly income of the buyer.

As per 'Pradhan Mantri Awas Yojana', housing for all by 2022 scheme launched in 2015 by the Ministry of Housing and Urban Poverty Alleviation, criteria for EWS and LIG was categorised in terms of income level and unit area as defined below:

- In terms of income level for EWS, annual household income should not exceed 'Rupees three lakhs' (0.3 million) per annum.
- In terms of unit area for EWS, carpet area of the dwelling unit should not exceed 30 sq m.
- In terms of income level for LIG, annual household income should range from 'Rupees three lakhs to Rupees six lakhs' (INR 0.3 - 0.6 million)
- In terms of unit area for LIG, carpet area of the dwelling unit should not exceed 60 sq m.

2.4.5 Housing scenario in India

India's urban housing shortage is being primarily driven by the Economically Weaker Section (EWS) and Lower Income Group (LIG) categories. However, majority of real estate private players have traditionally focused on premium housing owing to its higher returns. This has led to a build-up of huge unsold inventory that has brought the residential real estate market to a near standstill.

The impetus to the residential market has come due to the government's focused attention on the affordable housing segment. Over the last few years, the government has announced a series of measures to bring a fresh lease of life into this segment of the market.

As a supply-side intervention, the government launched the 'Affordable Housing in Partnership' under the Pradhan Mantri Awas Yojana (Urban) Programme. Under this mission, the government provides financial assistance at the rate of INR 1.5 lakh per EWS house being built under 5 these different partnerships.

Post the launch of the policy, right sizing and right-pricing of new residential product and improving home-buyer sentiment have led to a steady increase in supply. As per Knight

Frank Research, the residential market of the top eight cities in India – Mumbai, NCR, Bangalore, Pune, Chennai, Hyderabad, Kolkata and Ahmedabad witnessed an infusion of 0.57 million units in the since 2016. Also given the push in the affordable housing sector, the private sector players have participated in the development of the affordable housing programme, which is visible from the latest set of numbers that indicate a consistent high share of less than INR 2.5 Mn ticket size since 2016.

2.5 Research Paper

2.5.1 TP Scheme

2.5.1.1 "Study of Urban Land Management Techniques Followed in India"-Avinash Satashia

Land could also be a resource and at the same time, it's non-renewable. So, it should utilize very carefully. The constitution of India grants the right to accumulate hold and eliminate property to every Indian citizen. It, however, allows the state to impose restrictions on property and its acquisition publicly interest. Different states like Haryana, M.P., U.P., Punjab and Tamilnadu have formulated Land Supply Models Keeping focused the land requirements for urban poor. during this paper, different urban land management techniques utilized in several region of India are study by urban land management models.

Conclusion:

- From the study of national ULM models, it's concluded that each one national urban land management models are satisfied in some proportion consistent with their local, environmental & political situation. In CIDCO model supported TDR (Transferable Development Rights) mechanism is additionally used for metro cities existing in India.
- For mega cities & for those cities, which is in under, develop conditions, which have a sufficient land than T.P. Scheme mechanism is additionally good in present condition. Haryana model & Madras model also are satisfying all urban development condition for fast growing cities. TDR model is typically used when land availability is extremely less and city development exhausted vertical direction.

Case Study:

2.5.1.2 "Ahmedabad: Town Planning Schemes for Equitable Development- Glass Half Full or Half Empty?" -Darshini Mahadevia, Madhav Pai, and Anjali Mahendra –August-2018.

Obtaining land for planned urbanization hinges on whether land is available to the public planning authority that is responsible for providing roads and other core infrastructure and services, such as trunk water and sewerage lines, public amenities such as green spaces, and education and health facilities. Equitable urbanization necessitates the redistribution of urban land by ensuring its availability for social housing. Different approaches to generating land for urban development in the peri-urban areas also called urban extension areas have been tried in different locations in India, with mixed success. Land for urbanization is not readily available because of the need to appropriate it from farmers whose livelihoods depend on the land. The TPS mechanism in Ahmedabad is widely considered as relatively more successful in these endeavors because it produces more equitable outcomes. The TPSs have been prepared for all of AUDA's developable area, which makes up 42.8 percent of the AUDA area of 1,866 sq km, while the remaining 57.2 percent is the agricultural zone.

Ahmedabad has effectively implemented the TPS mechanism because the city has been able to appropriate lands from private landowners and allocate them for public and equity purposes; this process has been helped by undertaking negotiations with landowners to readjust plot boundaries and accommodating existing informal settlements. For example, when the Danilimda TPS was being finalized at the preliminary stage (i.e., after the draft scheme was prepared and the TPO had pursued hearings with landowners and site inspection), major differences emerged between the draft plan and the reality on the ground.

We have heard from the TPOs, also together AMC engineer that in finalizing one among the TPSs for the Bombay Hotel area, the understanding was "not to demolish housing of the poor; but to adopt a humanitarian approach." The TPS thus allows for substantive planning but remains a flexible and accommodating tool that's in tune with the concepts of accommodative policymaking and "flexible planning."

The question, then, is why Ahmedabad has been successful when this mechanism, although available in other states such as Maharashtra, has not had similar outcomes. Ahmedabad is known for early philanthropic capitalism, an example of which is when the city's

industrialists invited Mahatma Gandhi to start the nationalist independence movement from the city. It has also been the center of negotiated pro-poor urban development projects such as the Slum Networking Program (SNP). The city is also home to India's longest BRTS, which is an attempt to improve public transit for all, though with limited success (as neither the rich nor the poor used the system). Although the city has a long history of communal violence, the large informal settlements in the Bombay Hotel area, which have a significant Muslim population, have gained visibility and hence political importance, leading to a negotiated accommodation. So, the canvas of urban planning is neither black (demolishing the informal settlement) nor white (not touching the informal settlement), but somewhere in the middle, in sync with the character of the city.

The TPS mechanism alone wouldn't have contributed to the city's transformation. Financing from the national government has also contributed to the development of social amenities.

Furthermore, the city's desire to extend basic services to the entire population, including the informal settlements and also those displaced due to communal riots, has prevented a mechanical application of the TPS. If the TPS mechanism is strictly implemented, it can also result in the eviction of those who live in informally constructed dwellings. This is not to say that no evictions have occurred in Ahmedabad City; however, a significant proportion of those evicted have been resettled. Nonetheless, the TPS mechanism has played an important role in the city's transformation, particularly when it has been used judiciously and flexibly.

This case study also shows that no planning intervention, even with the best available land management tools, can ensure equitable outcomes under all conditions. Despite the advantages of the TPS mechanism, it's fallen in need of addressing the structural inequalities within the city in terms of segmentation along class, caste, and non-secular lines. It has not always provided infrastructure and amenities in areas with large informal settlements. Nor has it completely avoided the process of pushing low-income groups out to cheaper land parcels on the urban periphery. The TPS mechanism is probably not meant to completely address limitations imposed on planned urbanization thanks to existing structural inequalities. This mechanism has also not worked in complete greenfield sites, nor has it worked in fully developed (dense brownfield) sites. It has worked well in greenfield urban extension areas—i.e., areas within the city's immediate periphery that see appreciation in land values within the short term. Ahmedabad's transformative change thus has its limitations. The TPS mechanism,

like the city's development path, has both inclusive as well as exclusive aspects, allowing stakeholders to negotiate solutions that are middle of the road and perhaps more achievable.

Through this work, we find that the TPS mechanism can be made more equitable and effective by gathering healthy land ownership data, conducting detailed surveys of existing locations before preparing draft plans, and streamlining approval processes to reduce delays in implementation. Ahmedabad's experience with this mechanism offers important lessons for other Indian cities striving to acquire land for impending urban growth in a practical and equitable manner, although with the caution that equitable outcomes are triggered by multiple development processes and not just one mechanism.

2.5.2 EWS Housing

2.5.2.1 Paradigm of EWS housing allotment – urban poor relocation in Surat": Avaniben Rakeshkumar Gandhi, Bhasker Vijaykumar Bhatt

Exercise of the up-gradation or relocation of slum dwellers is carried out with a view to improve the quality of life of economically poor citizens of the society. These residents live in unhygienic and filthy hutments called slums though in the urban area. The success of relocation of slum is always a challenge for any Urban Local Body (ULB). Indirectly linked factors affecting successful relocation are, the distance from original slum establishment; transportation cost; social cohesion with and within the community, post-relocation earning potential and so on. In addition, availability of physical infrastructure facilities like water supply, drainage, solid waste disposal and such also impact. Importantly the effect of social infrastructure facilities like school, hospitals, community hall also depend on the success of a relocation. In general, the important reason of failure of relocation of slum is identified as lack of social cohesion in the community and neighbors. This paper explores about the applied method of the allotment of EWS houses in different schemes including the recommendation for the allotment of houses in Surat as a result of slum relocation.

The Surat Municipal Corporation (SMC) is the ULB in Surat, Gujarat, India and follows provision to reserve EWS Housing land in TP Schemes through implementation of The GTPUD Act, 1976. Earlier, SMC experienced mass relocation of dwellers from slum pockets spread geographically in various parts of the city. The relocated sites were in Kosad and Bhestan area with mass EWS housing constructed. Present paper encompasses details on the developed EWS housing schemes.

However, in the absence of any uniform allocation mechanism or policy, the SMC allocates houses on (lottery type) draw bases. A rapid small-sample survey was taken up in Kosad EWS housing packages to understand first-hand understanding of satisfaction for the allocation process from the relocated dwellers. It was with a focus to have the insights in Surat with vision to have detailed survey later based on results obtained through analysis of these samples. Initial rounds of consultation with SMC officials and primary data collection has helped understanding the un-attempted situation well and demanded an extensive study. Paper reviews provisions for EWS projects under different Government schemes (JnNURM, GRUH and so on) have varying guidelines regarding house allocation. Preliminary results are showing that the distance of relocation is the most neglected parameter in the allocation process.

Also, the dwellers have to lose their routine economic attachments in search of new due to increased travel time and cost if they wish to continue adhering to the old one. Towards future consideration, suggestive early attempt policy modifications are proposed. However, the same require validation through considerable and extensive exploration by the officials and authority.

Conclusion:

- Relocation of Slum dwellers is very challenging task and it requires consideration on involving social aspects for it to be successful.
- It is imperative to understand the need of space considering the family size. If family size is more than 5 persons and married couple are two or more, one flat is not sufficient. Principle of equality shall be applied while allocating DU considering a base of HH size also.
- Prior to propose a relocation site, an exploration survey on present involvement in economic activities of the people is essential. Keeping in view of transportation costs after relocation without disturbing economic activity involvement, the relocation site shall be proposed.
- Integrated planning and its implementation shall be assured to reduce additional costs of all kinds.

- Relocation associates with additional financial burden in terms of facilities like electricity, cooking fuel and taxes or charges whereas scope for additional income to match theses expenses needs to be explored. It may lead to create opportunities in terms of skill development programs and capacity building towards poverty alleviation measures.

2.5.3 Residential Location

2.5.3.1 "Residential Location Preferences"- (Petkar Aarti, 2013)

A residential location preference in urban areas is an important subject of research. In all cities, residential land use makes a prominent land use. These residential areas are divided into various zones depending upon various characteristics such as connectivity, surroundings, facilities and amenities available, distance from work place etc. Depending upon these characteristics, different zones in residential land uses observe different scale and pace of development and different property values.

Various parameters for residential location preferences include affordability, work place distance, cost of building or land, distance from city center/ market place, community preference, distance from school, facilities and amenities available, development trend, travel cost, travel time, surrounding environment, development plan proposals, population density, population of neighbourhood, local governing body etc.

Above factors decide growth corridors of the city also make a residential fabric of the city which accommodates various communities, cultures and income groups.

2.5.3.2 "Transitions in residential Neighbourhoods"- (B. Shankar, May-2013)

The rising land costs are making the construction of reasonably priced. Local and Planning Authorities are encouraging to transition to commercial retail establishments or higher-density residential uses that supports the need to supply housing apartments by designating streets and areas. Many streets in residential areas have altered into commercial, public and semi-public activity and apartments. Transition of land uses is inevitable in large cities. Thus, the residential areas are affected greatly in terms of increasing density and overloading the existing infrastructure facilities by changing dynamics of land use. With a result of this, the residential areas are transforming into mixed land use which is the scenario in most of the core city areas in India.

Core areas of the city are getting their face more commercial and residential community developments are up-coming in the sub urban areas of the city.

2.5.4 Urbanization

2.5.4.2 Urbanization – A Process of Transition of Urban Areas (Cities in Transition - World Bank Urban and Local Government Strategy)

Urbanization is more than a demographic phenomenon. It is a societal transformation along a rural-urban continuum. It is also concerned with ensuring that in every developing country this transformation leads to a higher quality of life for all, and to more sustainable national development. Urbanization is characterized and even defined by fundamental changes in the physical concentration of population, in the nature and scale of economic production, in land use, and in social structures and patterns of interaction. The growth of cities and towns expands opportunity to all citizens, and the urban built environment can enrich a nation's cultural identity. In many countries, poorly managed urbanization results into significant social and environmental loss.

The core problem of India's urbanization lies in the fact that it has barely paid attention to urban transformation so far. Urbanization has taken place in a largely unplanned fashion. Urbanization in India reveal alarming facts evidences which exemplify the truth that (Shipra, 2007)India must now wake up and take measured steps towards sustainable urban development.

Changes in all of these dimensions affect the lives of individuals and the requirements for resources and governance.

Densification of settlement directs land and wealth into housing and related infrastructure and increases the need for complex systems to provide water and energy, market food, transport goods and people, remove wastes, and protect public health and safety. Land becomes more intensively developed, and the resulting spatial layout affects accessibility, physical contacts among communities, interaction with the surrounding natural environment (encompassing agricultural land at the urban periphery), and the costs of fixed infrastructure networks.

The process and factors governing the transformation has been the major concern of studies. The factors governing are more than the physical transformation which include social, cultural, economic and political changes. Study pertaining to understanding 'transformation' begins with the study of process of change and what factors had been changed. In order to comprehensively analyze the factors that have conditioned and influenced process of housing

transformations, a study of urban housing of a rapidly developing city is essential. A growing, historical metropolitan city presents an opportunity to study the housing changes over a wider temporal and spatial canvas.

- Urbanization is broadly defined as a growth of towns and increasing ratio of urban to rural population of a country. This results in pressure on the cities. Fringe areas and nearby villages start to merge and become part of the city due to the process of suburbanization. Descent land and housing have become expensive for the urban poor. Inadequate urban planning, poor management and a series of inefficient land regulations have been pointed out as factors responsible for massive housing issues in mega cities.

2.5.4.3 The Challenges of India's Urban Transformation (Making Indian cities livable: the challenges of India's urban transformation)

Since independence, most towns and cities rely on inflexible master plans which are more often outdated by the time they are implemented. Rigid development control norms which are flouted at every step and a weak governance system which can neither guide nor enforced, completes the picture of bad state of housing. Recent policy innovations such as the National Urban Renewal mission presented using a wide range of illustrations and examples is a good initiative.

The challenges of urban housing, especially for low-income populations, infrastructure provisions and delivery of urban services are main critical factors in many Indian growing cities. In terms of infrastructure and services Indian cities lag behind on almost all counts. Poor urban planning framework and ineffective local governance are key factors of challenges faced by Indian cities today.

While dealing with the process of urban transformations these all key factors need to be addressed to form a proper policy framework and urban planning guidelines for making the cities sustainable. Our cities have grown in an unplanned and haphazard manner due to rapid urbanization and lack of planning. Cities are overcrowded because of natural population growth and migration of countryside population to industrialized cities in search for employment opportunities. This has put pressure on the natural resources of cities; hence, more consistent efforts have to be made to replenish resources so that people can meet basic standards of living. In absence of habitation, the poor are driven by necessity to live on footpaths or in slums having unhygienic sanitary conditions. The pressure of increasing population has led to construction

of sky-scrapers to accommodate maximum number of people within minimum space. This has created other issues such as fire hazard, lack of civic amenities such as parks, open spaces and playgrounds.

The urban housing shortage is closely linked to the creation of slums in each major metropolitan city in India, which is detrimental for the urbanization agenda.

2.5.5 Public private partnership

2.5.5.2 Public private partnership (Sengupta, June 24-27,2004)

Last decade saw an emergence of a new wave of Public Private Partnerships (PPP) in the urban housing sector in India. The concept of Public Private Partnerships (PPP) in India has been widely recognized as a natural response to meet the colossal demand for housing, government's dwindling budgetary capacity, massive demand coming from a section of the society for better quality of services and a need for a catalyst to boost macro-economic conditions.

The Kolkata city has been in the forefront of housing market revival. Prime government agencies have, under the Public Private Partnerships (PPP) framework, assumed a unique facilitating role without undermining the pervasive influence of the regulatory ideology. This paper investigates the dynamics of the public private interplay that has resulted from the West Bengal Government's Public Private Partnership policy in supplying affordable housing in Kolkata.

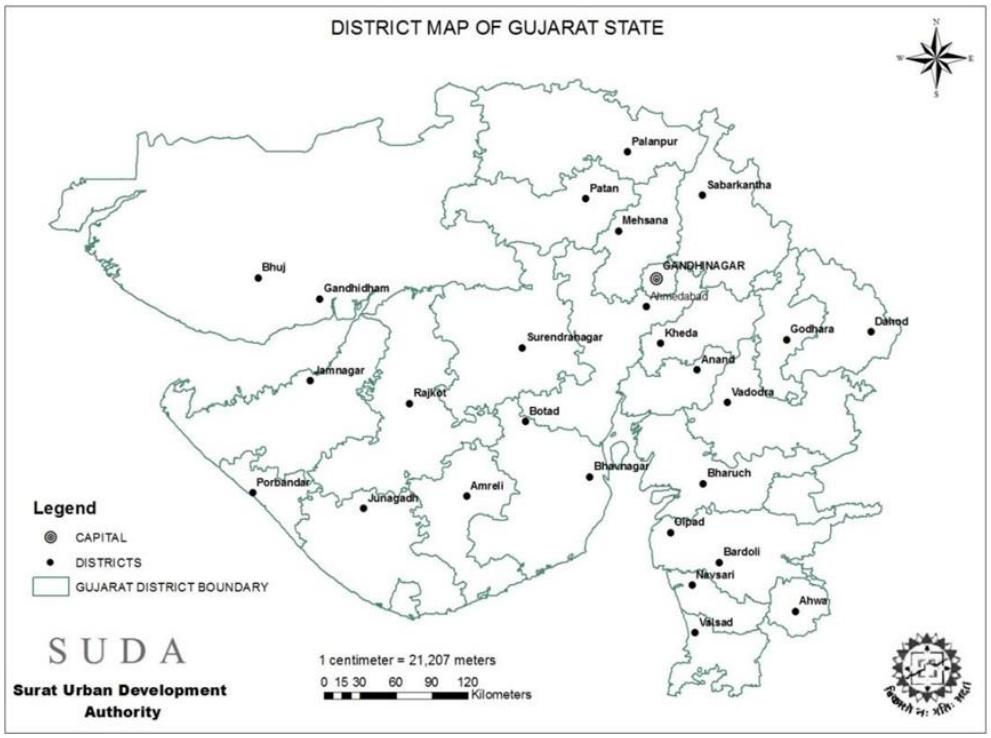
The supply of land is the key for an adequate and affordable housing for all. Urban land has been a principal tool for West Bengal Government's policy to maximize real estate activities and an incentive to encourage the private enterprises. In recent years, the state government has started playing a far more aggressive role in the urban land market by developing and allocating land through townships, so that housing development initiatives are not constrained owing to scarcity of land. Another important factor is state government promulgated West Bengal Building Act in 1993 to initiate and regulate privatization. This act meant to control the building activities of the private promoters and protect the interest of property buyers.

3. Overview of the study area

3.1 Urbanization in Gujarat

Urbanization in Gujarat has been on the rise ever since Gujarat was declared as a separate state in 1960, about 55 years ago. As per 1961 census, only 25.77% of the population was living in the urban areas of Gujarat which rose to 42.6% as per the recent census of 2011. Only two states, Tamilnadu (46%) and Maharashtra (45%) are more urbanized than Gujarat.

Map 1 District Map of Gujarat state



About 75% of the total urban population of the State is living in the 8 Municipal Corporations. Surat Municipal Corporation (SMC from here on) is the second largest Municipal Corporation in the State after Ahmedabad.

Figure 3:1 Urbanization in Gujarat from 1961 to 2011

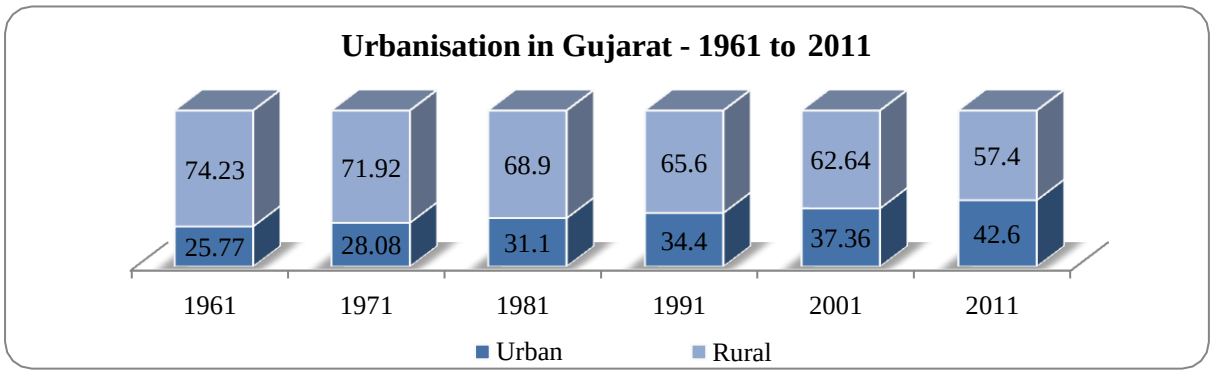


Table 3:1 Population of 8 cities (municipal corporation limit) of Gujarat-2011

Sr. No.	Municipal Corporation	Population
1	Ahmedabad	**55,70,585**
2	Surat	**44,67,797**
3	Vadodara	**16,66,703**
4	Rajkot	**12,86,995**
5	Bhavnagar	**5,93,768**
6	Jamnagar	**5,29,308**
7	Junagadh	**3,20,250**
8	Gandhinagar	**2,92,752**
	Total	**1,47,28,158 (Total urban population of the state 2,57,45,083) (57% of the total urban population of the State)**

3.2 Introduction

Surat is a city located on the western part of India in the state of Gujarat. It is one of the most dynamic city of India with one of the fastest growth rate due to immigration from various part of Gujarat and other states of India. Surat is Located at the mouth of the Tapti River, it used to be a large seaport and is now the commercial and economic center in South Gujarat, which is famous for its diamonds and textile industries; and as a shopping center for apparels and accessories. It is the eighth largest city by population and ninth largest urban agglomeration in India. It is the administrative capital of the Surat district. The city is located 284 kilometers (176 mi) south of the state capital, Gandhinagar; 265 kilometers (165 mi) south of Ahmedabad; and 289 kilometers (180 mi) north of Mumbai. The city center is located on the Tapti River, close to Arabian Sea.

Surat is one of the cleanest city of India and is also known by several other names like "THE SILK CITY", "THE DIAMOND CITY", "THE GREEN CITY", etc. It has the most vibrant present and an equally varied heritage of the past. It is the city where the British first land in India. The Dutch and the Portuguese also established their business centers in Surat, the remnants of which are still preserved in the modern-day Surat. In past this was a glorious port with ships of more than 84 countries anchored in its harbor at any time.

Still today, Surat continues the same tradition as people from all around the country flock in for business and jobs. Surat has practically zero percent unemployment rate and jobs are easier to get here due to very fast development of various industries in and around Surat City.

Surat will be the world's fastest growing city from 2019 to 2035, according to a study conducted by Economic Times. The city registered an annualized GDP growth rate of 11.5% over the seven fiscal years between 2001 and 2008. Surat was awarded "best city" by the Annual Survey of India's City-Systems (ASICS) in 2013. Surat is selected as the first smart IT city in India which is being constituted by the Microsoft CityNext Initiative tied up with IT services majors Tata Consultancy Services and Wipro. The city has 2.97 million internet users, about 65% of total population. Surat was selected in 2015 for an IBM Smarter Cities Challenge grant. Surat has been selected as one of twenty Indian cities to be developed as a smart city under PM Narendra Modi's flagship Smart Cities Mission.

Surat is listed as the second cleanest city of India as of 21 August 2020 according to the Swachh Survekshan 2020 on 20 August. It suffered a major pipeline fire which caused some damage.

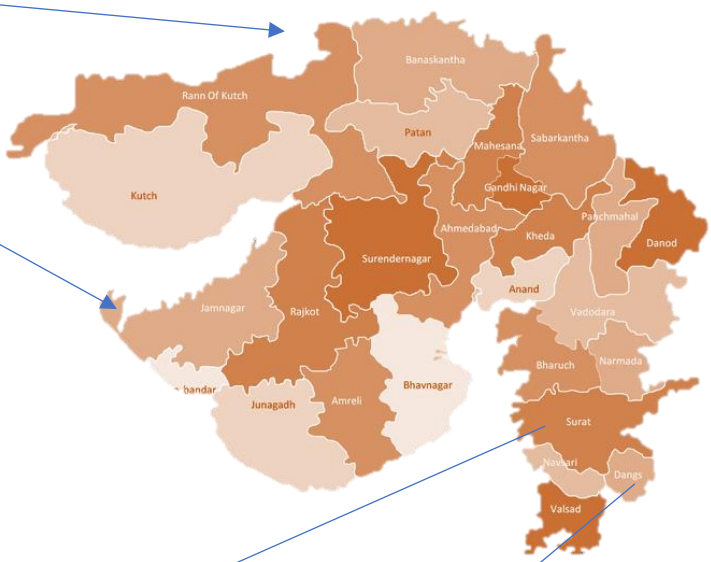
Surat, famous for its diamond cutting and polishing, is known as the Diamond City of India.

It has various engineering plants like Essar, Larsen and Toubro and RIL.

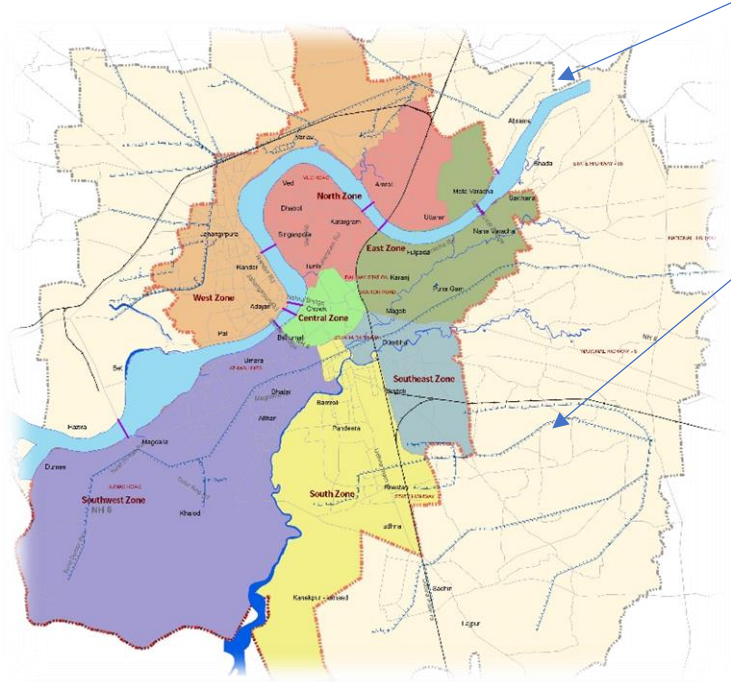
Surat won the Netexplo Smart Cities Award 2019 with UNESCO in the resilience category. Surat's mayor will receive the award at the UNESCO House in Paris, France in March next year.

3.3 Study Area Location

Map 2 India



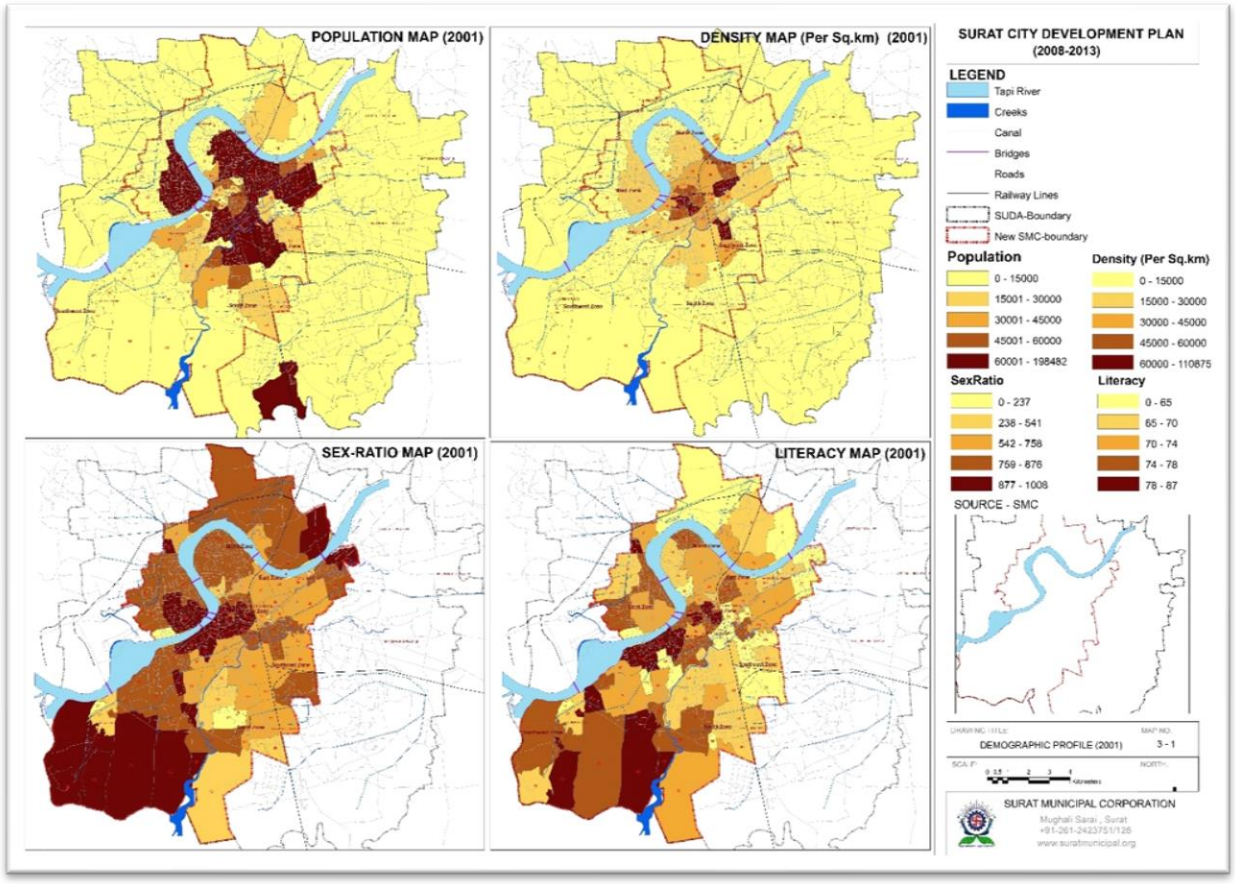
Map 3 Gujarat



Map 4 Surat

3.4 Surat city Population, Density, Sex-ratio, Literacy Map

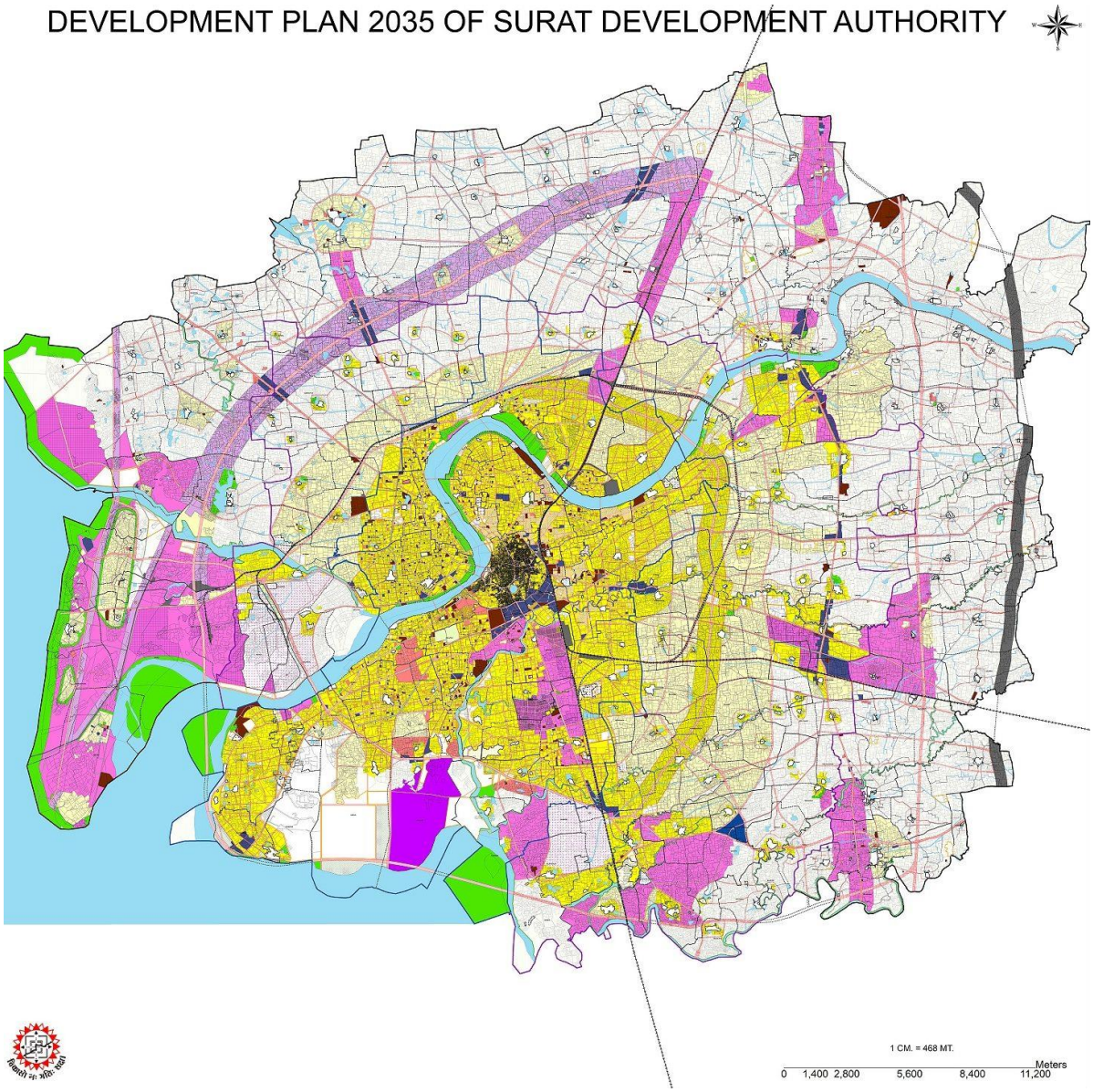
Map 5 Surat city Population, Density, Sex-ratio, Literacy Map



Source: Source: Surat Municipal Corporation

3.5 Surat Development Plan 2035

Map 6 Surat Development Plan-2035



Source: Surat Urban Development Authority

Table 3:2 Surat city details

Surat City	2nd largest city of Gujarat in terms of Area and Population
Area	326.515 sq.km.
Population	44,66,826 (Census 2011)
Density	13680 Persons/Sq.Km. (Census -2011)
Location	Latitude:21.112°N Longitude: 72.814°E
Municipality Established	1852 AD
Corporation Established	1966.

3.6 Historical background of Surat

Surat - an important industrial hub and commercial center of the country today boasts of a great historical and cultural heritage. The city of Surat has glorious history that dates back to 300 BC. The history of Surat takes us back to the epic age of Mahabharata and Ramayana. According to mythological beliefs, Lord Krishna stopped in the city during his journey from Mathura to Dwarka. According to The Editors of Encyclopedia Britannica (Last Updated 13.12.2013), the great explorer Hiuen Tsang referred the Surat City as 'Sowrata' and described it as a business town on the shore of Arabian Sea near Gujarat. The Brahmin Pundits of the 13th century called the city as 'Suryapur'.

The city is believed to have been founded by a Brahmin named Gopi, who built the Gopi Tank (water reservoir) in 1516 and named the area 'Surajpur' or 'Suryapur'. He developed and improved the city with the establishment of place called 'Gopipura'. During this period Surat was described as city of great trade. The city was divided into two parts, old and new. The old city pattern developed with administrative center at Chowk on bank of river Tapi. Trade and business were concentrated in Chowk bazaar and Mulla chowk. The inner wall city was mostly developed as an administrative center and as a specialize market.

In 1520, it was named 'Surat'. It was plundered by Muslims in the 12th and 15th centuries. In 16th century, Surat become a victim of various raids. In 1514 the Portuguese traveler Duarte Barbosa described Surat as a leading port. The Portuguese raided Rander and

Surat between 1530 and 1535 and burnt the port. On account of these raids, King Akbar build the fort of Surat in 1540-46; evidence of which can be found even today. Surat regained its prosperity as a modern city during the later part of the sixteenth century. The Surat Port was considered important by the European traders. The British and the Portuguese waged battles against each other to gain supreme control over the trading route. The French and the Dutch also arrived in the city with merchandising objectives. In past this was a glorious port with ships of more than 84 countries anchored in its harbor at any time. Surat thereafter became the emporium of India, exporting cloth and gold. Its major industries were textile manufacture and shipbuilding. The British established their first Indian factory (trading post) at Surat (1612). The city gradually declined throughout the 18th century. The British and Dutch both claimed controls, but in 1800 its administration was passed to the British. It prospered again with the opening of India's railways. The ancient art of manufacturing fine muslin was revived, and Surat's cottons, silks, brocades, and objects of gold and silver became famous. The Tapi River grew into a major port for exports and as an important stopover for Muslim pilgrims bound for Mecca. By the early years of the 18th century, Surat had become a prosperous city with many weavings and spinning mills, textile and paper factories. Surat was also a flourishing center for ship building activities. The whole coast of Tapi between current locations of Athwalines and Dumas was specially meant for ship builders. As the British developed Mumbai into a major port and administrative center, Surat faced a severe blow and its ship building industry also declined. By the mid-19th century Surat was a stagnant city of 80,000 inhabitants. During the post-independence period, Surat has experienced considerable growth in industrial activities (especially textiles) along with trading activities. Concentration of these activities combined with residential developments has resulted in considerable expansion of the city limits. Modern Surat's main claim to fame is its position as the center of diamond processing for the world diamond industry.

Surat is now considered one of the cleanest city of India and is also known by several other names like 'The Silk City', 'The Diamond City', 'The Green City', etc. It has the most vibrant present and an equally varied heritage of the past. Some of the important historical events related to the present SMC is tabulated below.

Table 3:3 History of SMC

YEAR	EVENTS
1850	The Government enacted an Act for the development of the city. The Govt. was empowered to open a Department related to Municipality, on the request of the eminent citizens to effectuate the said Act. The Govt. appointed a committee called 'The Municipal Committee', which consisted of its officers and the eminent citizens to run the said Department
1852	The Municipality came into existence, legally, and its first meeting was held on 15.8.1852
1860	Erection of Surat Railway Station
1867	Municipality's Office was shifted to its existing building
1898	Water supply began through Municipal Water Works (1.1.1898)
1901	New Act of Municipality came into force
1946	The Municipality was re-established on 8th February, 1946
1966	Conversion of Municipality into Municipal Corporation on 1st October, 1966

3.7 Historical Timeline of The City

Figure 3:2 Historical Timeline

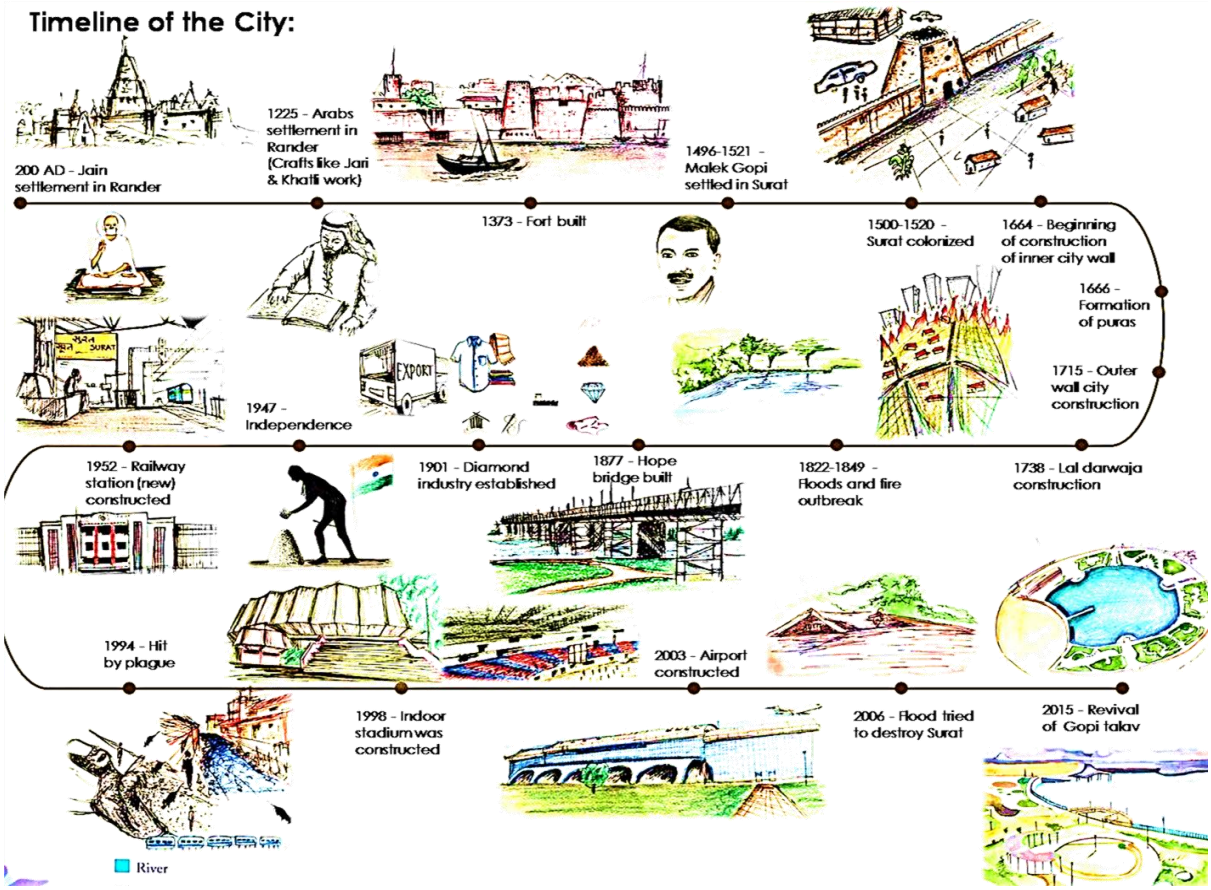
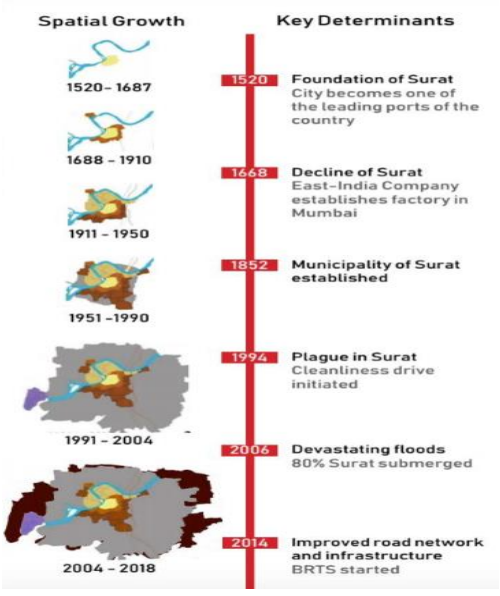


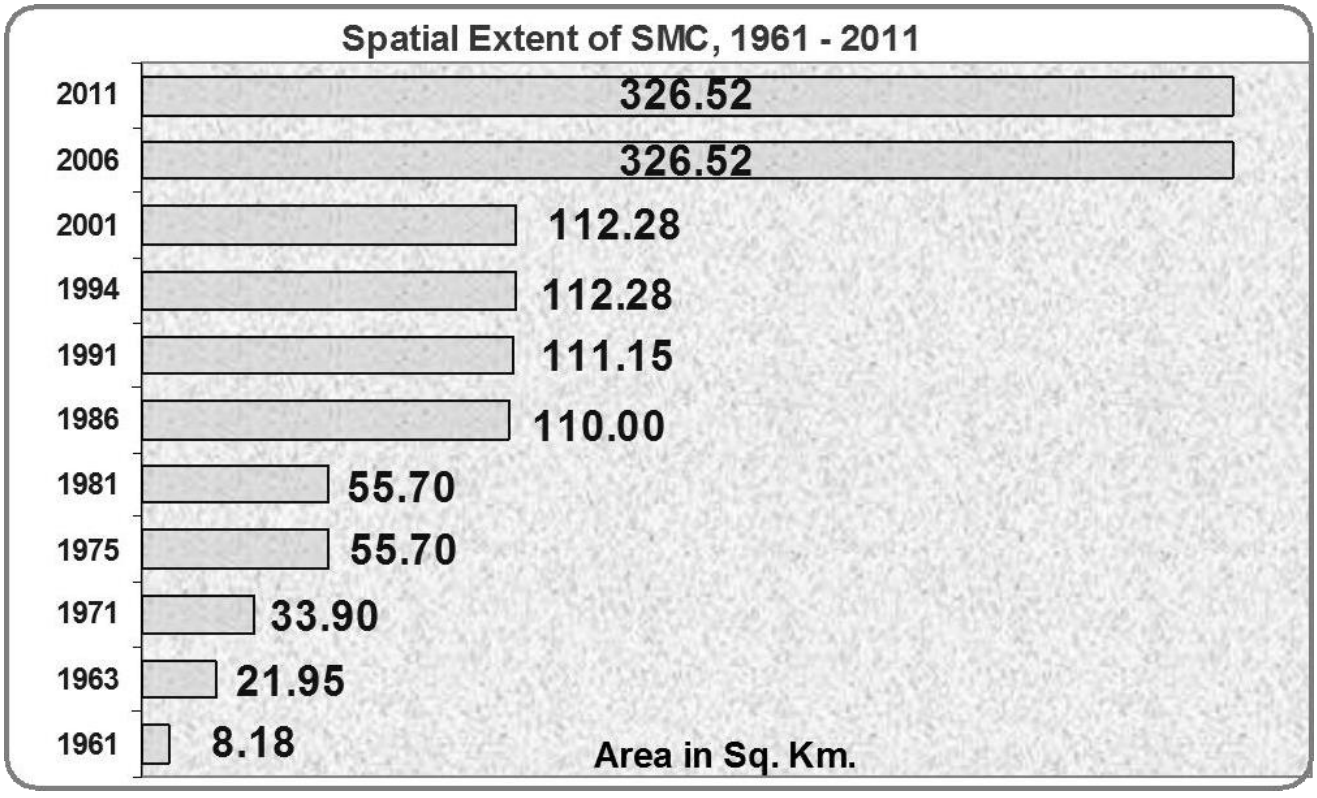
Figure 3:3 Spatial Growth of City



3.8 Spatial Extent & Growth of SMC

On 1st October, 1966; when the Surat Municipality got the status of Municipal Corporation, it was only 8.18 sq.km. By 1971, the SMC area increased to 33.90 sq.km. After four years in 1975, the northern area at Ved, Dhabholi and Singhanpore were included in the SMC area, increasing the SMC area to 55.70 sq.km. After 11 years, in 1986 the SMC area was again expanded by including the area of Nana Varachha, Majura, Bhatar, Althan, Umra, Piplod, Jahangirabad, Jahangirpura. The area of SMC was 110 sq. km. in 1986. In 1994 its jurisdiction was extended to cover 112.28 sq.km. In 2006, the state Government in a major decision extended the jurisdiction of SMC by almost 3 times.Today, SMC cover an area of 326.52 sq.km.

Figure 3:4 Spatial Extent of SMC



3.9 Glance at Surat city

8th Largest in India as per population

4th fastest growing city globally

Termed as Economic Capital of Gujarat

9/10 Diamonds in the world are cut and polished here

Smart City
MISSION TRANSFORM-NATION

Ranked #4 under the Smart City Mission

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Ranked #2 Swachh Survekshan 2020

40% of nations total man-made fabric & 28% of nation's total man-made fiber production

3.10 Administration

Table 3:4 Administration data

Title	Surat City
OLDEST MUNICIPALITY	1852 AD
AREA	326.515 Sq. Km.
POPULATION	44,66,826 (as per Census -2011)
DENSITY	13680 Persons/Sq.Km. (as per Census -2011)
NO. OF SLUM POCKETS	334 (as per Census -2011)
ZONES	8
NO. OF ELECTION WARDS	30
NO. OF COUNCILLORS	120 (60 Male, 60 Female)
NO. OF EMPLOYESS	18,369
SEX RATIO	756/1000 Male
CRUDE BIRTH RATE	14.67%
CRUDE DEATH RATE	4.14%
INFANT MORTALITY RATE	17.98%
MATERNAL MORTALITY RATE	0.46%
LITERACY RATE	87.89%
MALE	91.22%
FEMALE	83.44%
DECADAL GROWTH RATE	55.29% (as per Census -2011)

Source: Surat Municipal Corporation

3.11 Demographic Data Surat

Table 3:5 Demographic Data Surat

Description		Total Population	Number of Children in age Group 0-6	Number of Literates (% literates)	Decennial Growth in % age (Population in 2001)	Density (Per Sq.km.)
Surat Municipal Corporation	Total	4466826	549810	3442541(87.89%)	55.29 % (2876374)	13680
	Male	2543145	304122	2042459(91.22%)		
	Female	1923681	245688	1400082(83.44%)		
Surat City: Out Growth Area	Total	34784	3893	26018(84.23%)	40.24 % (24804)	649
	Male	22658	2143	18113(88.29%)		
	Female	12126	1750	7905(76.19%)		
Surat City: Urban Agglomeration	Total	89636	11155	67991(86.63%)	91.66 % (46768)	N.A.
	Male	53570	5982	43021(90.40%)		
	Female	36066	5173	24970(80.83%)		
Total Surat City Urban Agglomeration	Total	4591246	564858	3536550(87.83%)	55.74 % (2947946)	N. A.
	Male	2619373	312247	2103593(91.18%)		
	Female	1971873	252611	1432957(83.35%)		

Source: Surat Municipal Corporation

3.12 Demographics of Surat city

Table 3:6 Demographics details

Title	Surat City
OLDEST MUNICIPALITY	1852 AD
AREA	326.515 Sq. Km.
POPULATION	44,66,826 (as per Census -2011)
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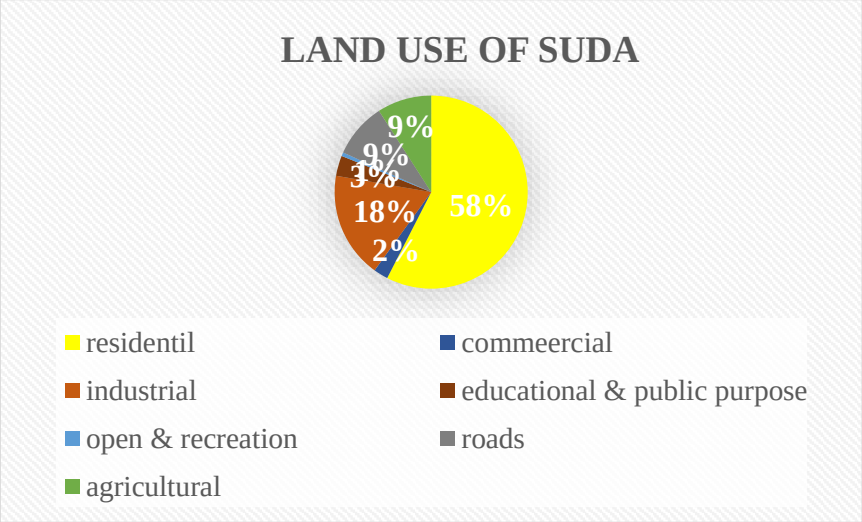
FEMALE	83.44%
DECADAL GROWTH RATE	55.29% (as per Census -2011)

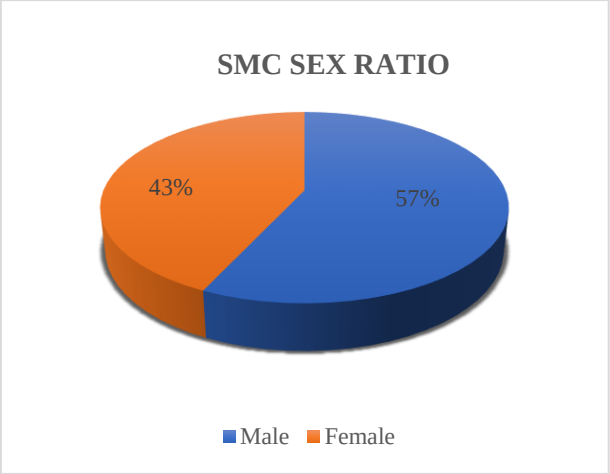
Source: Census of India-2011

Figure 3:5 SUDA Land Use



Land use of SUDA area 58% Residential, 18% Industrial, 9%Agricultural, 9%Roads, 3% Educational & Public Purpose, 2% Commercial, 1% Open & Recreational.

Figure 3:6 SMC Sex Ratio



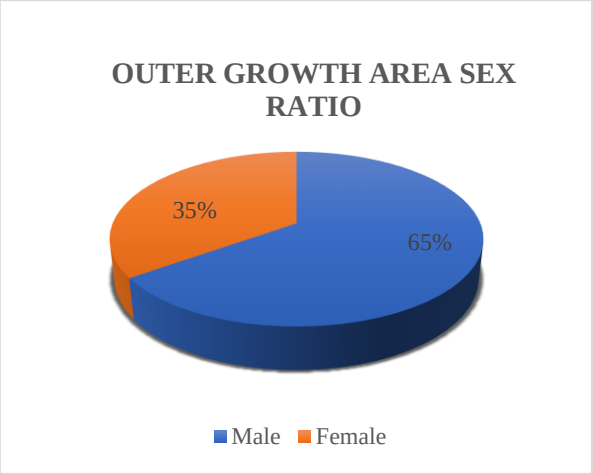
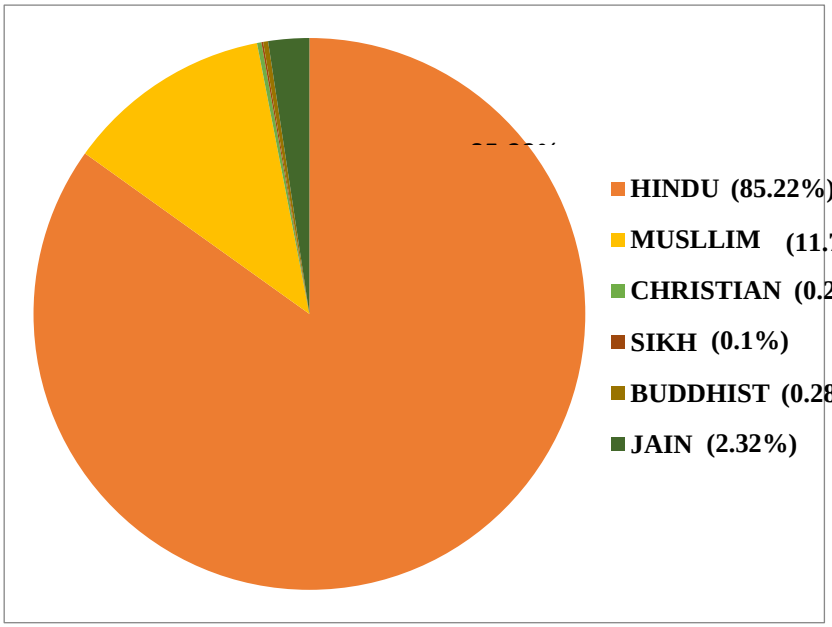


Figure 3:7 Outer Area Sex Ratio

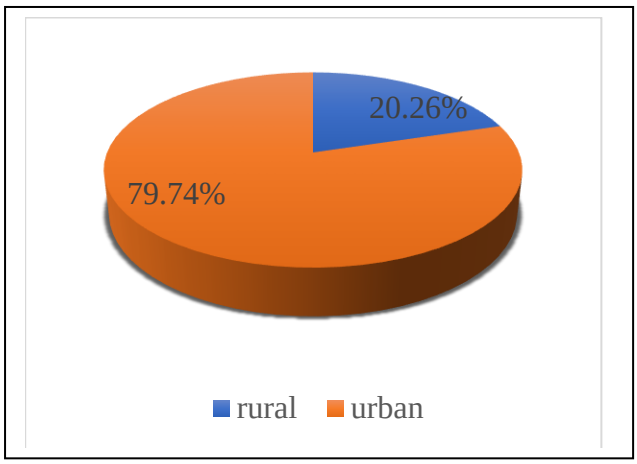
SMC sex ratio male 57% and female 43%, Outer growth area sex ratio 65% male and 35% female.

Figure 3:8 Religion Wise Population



Religion wise population Hindu 85.22%, Muslim 11.7%, Christian 0.25%, Sikh 0.1%, Buddhist 0.28%, Jain 2.32%.

Figure 3:9 Rural Urban Surat Population



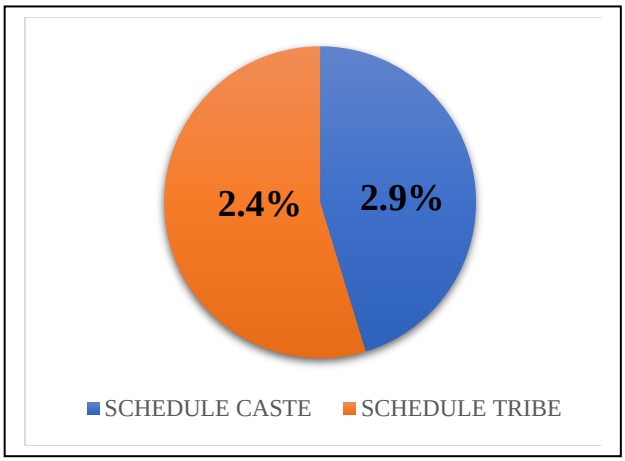
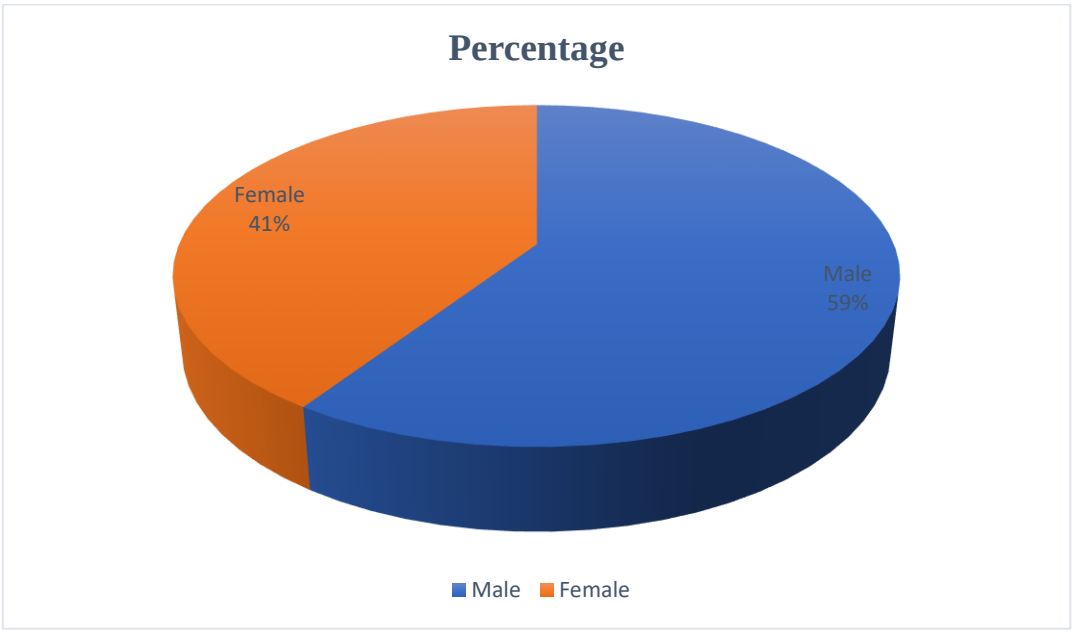


Figure 3:10 Cast Wise Population

Surat Urban area Population 79.74% and Rural area population is 20.26%,

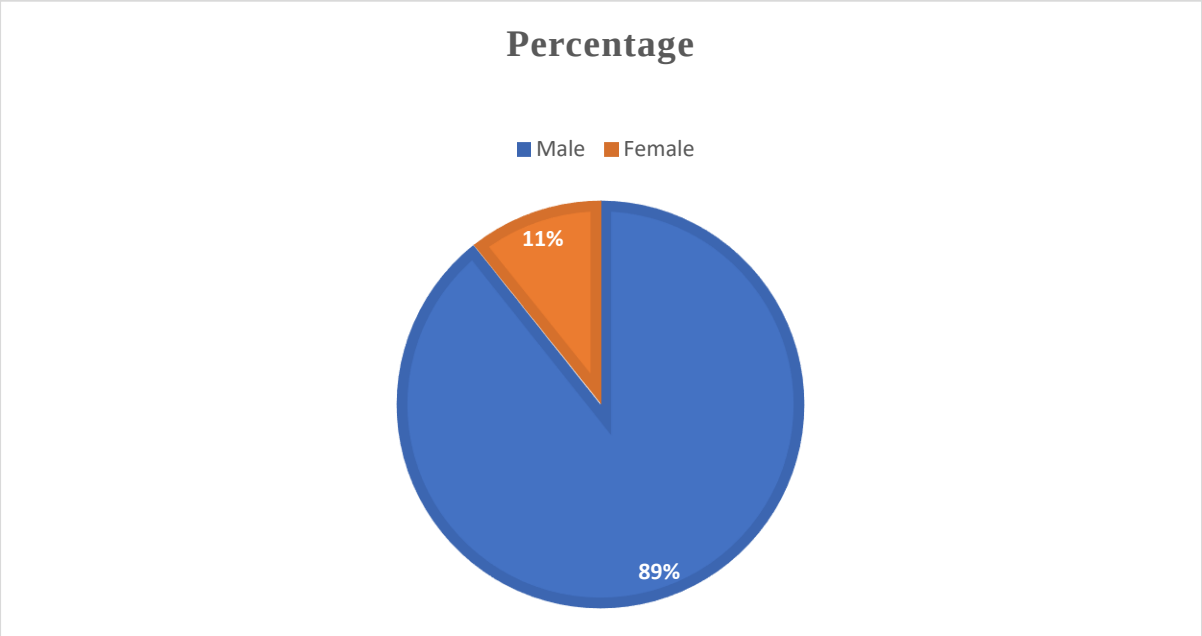
Schedule caste population is 2.4% and schedule tribe population is 2.9%.

Figure 3:11 Male/Female Literacy Ratio of Surat City



59% Male are literate and 41% female are literate in Surat city

Figure 3:12 Male/Female Employment Ratio of Surat City



89% Male are employed and 11% female are employed in Surat city.

3.13 Economy

Surat city is one of the most important city on the industrial map of the country with many large industries developed over here. The economic base of Surat consists of textile manufacturing, trade, diamond cutting and polishing industries, intricate Zari works, chemical industries and the petrochemical and natural gas-based industries at Hazira established by leading industry houses such as ONGC, Reliance, ESSAR, and Shell.

The City accounts for:

- 42% of the world's total rough diamond cutting and polishing,
- 70% of the nation's total rough diamond cutting and polishing,
- 40% of the nation's total diamond exports,
- 40% of the nation's total man-made fabric production,
- 28% of the nation's total man-made fiber production
- 18% of the nation's total man-made fiber export, and
- 12% of the nation's total fabric production.

The region is one of the leading city-regions in the country that has attracted massive investments of which substantial proportion is under implementation. According to CMIE 2002, the Surat City region has a proposed investment of about Rs. 11,817 Crores. In addition,

projects worth Rs. 2,022 Crores are under implementation. Hazira and SEZ are major focal points for growth. Given these, the prospects of rapid growth continuing is bright.

3.14 Location and linkages

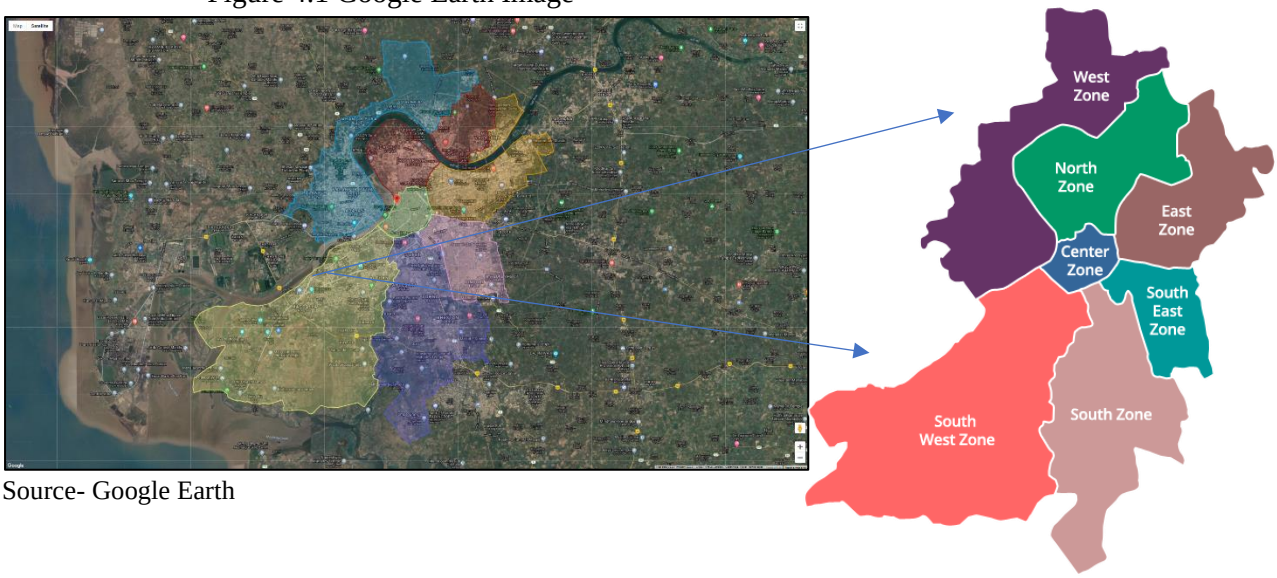
Surat city is located on the southern part of Gujarat state in the western India. It lies near the mouth of the Tapti River at the Gulf of Khambhat (Cambay). It is one of the most dynamic city of India with one of the fastest growth rate due to immigration from various part of Gujarat and other states of India. It is major urban center on the Ahmedabad-Mumbai regional corridor. The city has grown on both the sides of river Tapi.

Surat is well connected by road and rail with major cities and town of the states as well as neighboring states of Maharashtra and Madhya Pradesh. Surat is well connected to one of the busiest Delhi – Mumbai National Highway No. 48. It is located on the western side of this National Highway No. 48. It is approximately 300 km in south from the State capital Gandhinagar and about 250 km from Ahmedabad. Vadodara is 170 km north of Surat. Mumbai is 260 km in south.

4. Data Collection and Data Analysis

4.1 Study Area Details (Zone wise details)

Figure 4:1 Google Earth Image



Source- Google Earth

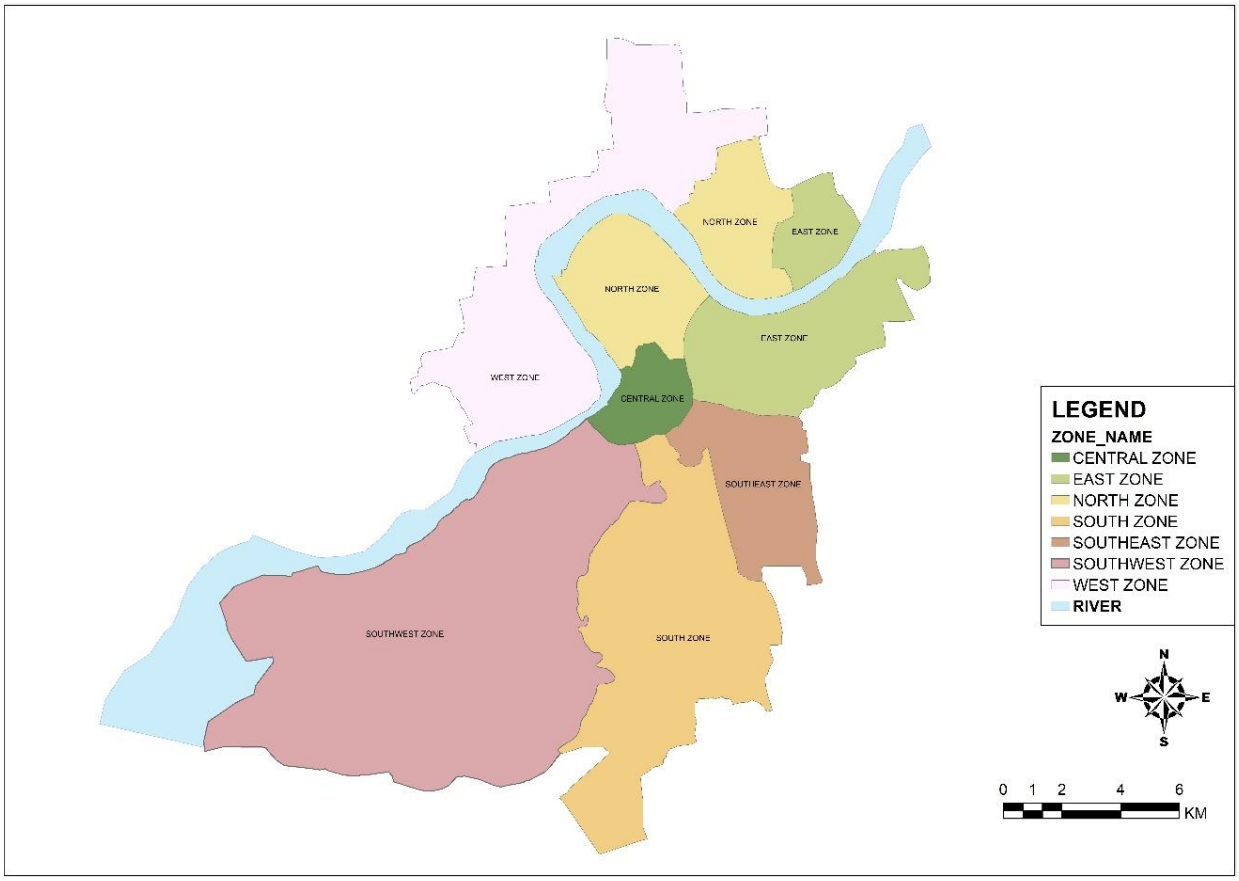
Table 4:1 Zone Details

ZONES	AREA IN SQ. KM	POPULATION (IN LAKHS)	DENSITY PER SQ. KM	DECADE GROWTH (2001-2011) (%)
Central	8.18	4.08	49971	**-1.18**
South-West	**111.91**	**3.47**	**3105**	**43.30**
South	61.76	6.95	11253	**70.36**
South-East	19.49	7.48	38390	**88.37**
East	37.52	11.37	30303	**59.82**
North	36.36	7.05	19392	**69.36**
West	**51.28**	**4.24**	**8288**	**48**

Source: Surat Municipal Corporation

4.2 Surat city zone map

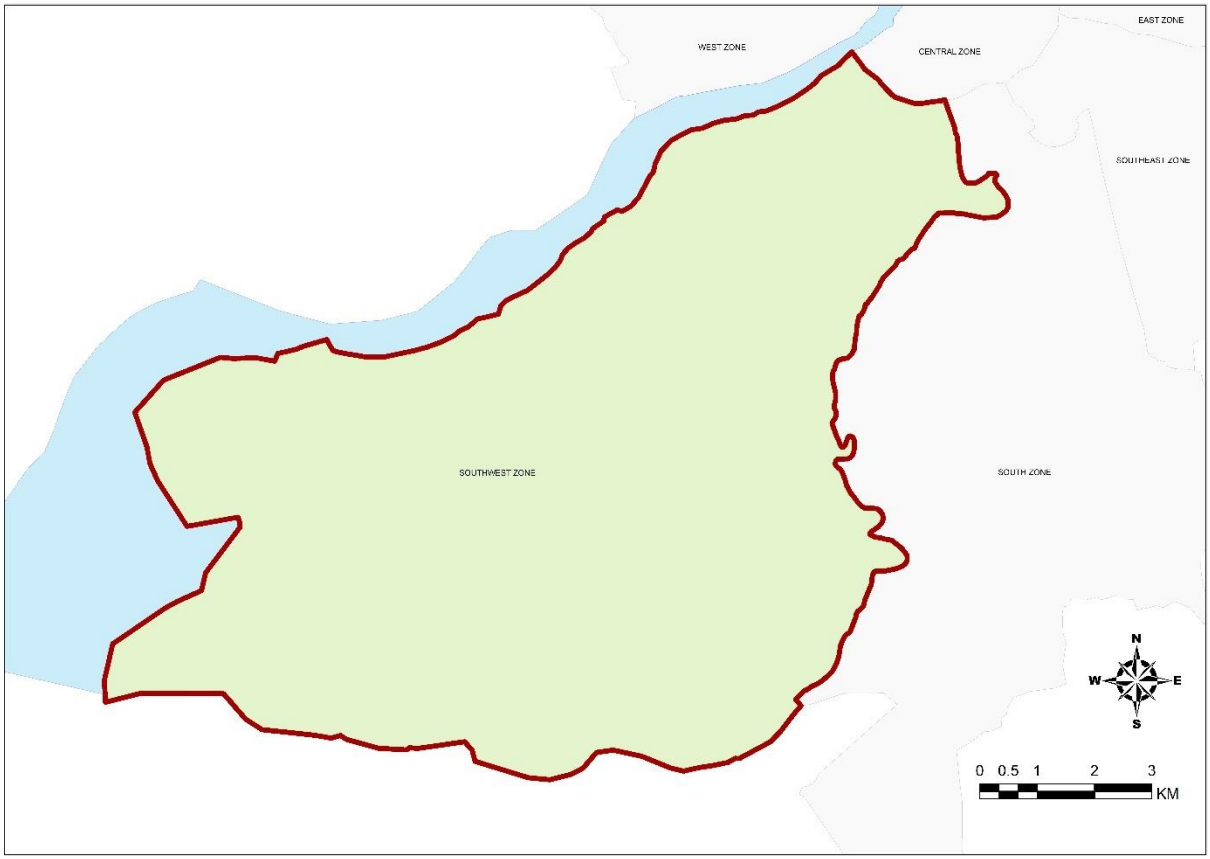
Map 7 Zone Map



4.3 South west zone

- South west area of Surat is named as Athwa zone by Surat municipal corporation which is covering 111.912 SQ.KM area of Surat.
- According to census 2011 it caters around 347447of population and consists of total 72437 households.
- Density and decade growth (2001-2011) of this area is 3105 per SQKM and 43.30% respectively.

Map 8 South west zone boundary



4.4 Zone Wise Area, Population, Density, Growth Rate, Slum House Hold & Population

Table 4:2 Area, Population, Density, Growth Rate, Slum House Hold & Population

Sr. No.	Zone	Area Sq. Km.	Population		Density per Sq. Km.	Decade Growth 2001-2011 (% age)	As per House listing - CENSUS: 2010							
							Details of Slum		Total No. of census Houses	Wholly residentials	Partly residential	Vacant Houses	Census houses put to other uses	Total num. of House Hold
			2001 Census	*2011 Census			Slum House Hold	Slum Population						
1	Central	8.18	413641	408760	49971	-1.18	9889	49323	153638	77666	4574	21171	50227	80939
2	**South West**	**111.912**	**242466**	**347447**	**3105**	**43.30**	**7502**	**33982**	**114734**	**71119**	**1162**	**25996**	**16457**	**72437**
3	South	61.764	407980	695028	11253	70.36	17887	76025	251079	165162	2738	48001	35178	167629
4	South East	19.492	397257	748304	38390	88.37	30051	147050	221643	152624	3257	26773	38989	155732
5	East	37.525	711516	1137138	30303	59.82	21334	90992	313105	233164	1785	27853	50303	234327

6	North	36.363	416370	705163	19392	69.36	13541	58293	201978	140743	1190	34940	25105	141898
7	West	51.279	287144	424986	8288	48.00	5665	25993	130068	91695	1166	24772	12435	93344
TOTAL		326.515	2876374	4466826	13680	55.29	105869	481658	1386245	932173	15872	209506	228694	946306

Source: Surat Municipal Corporation

4.5 South West Zone Ward Wise (Population, Density, Growth Rate Details)

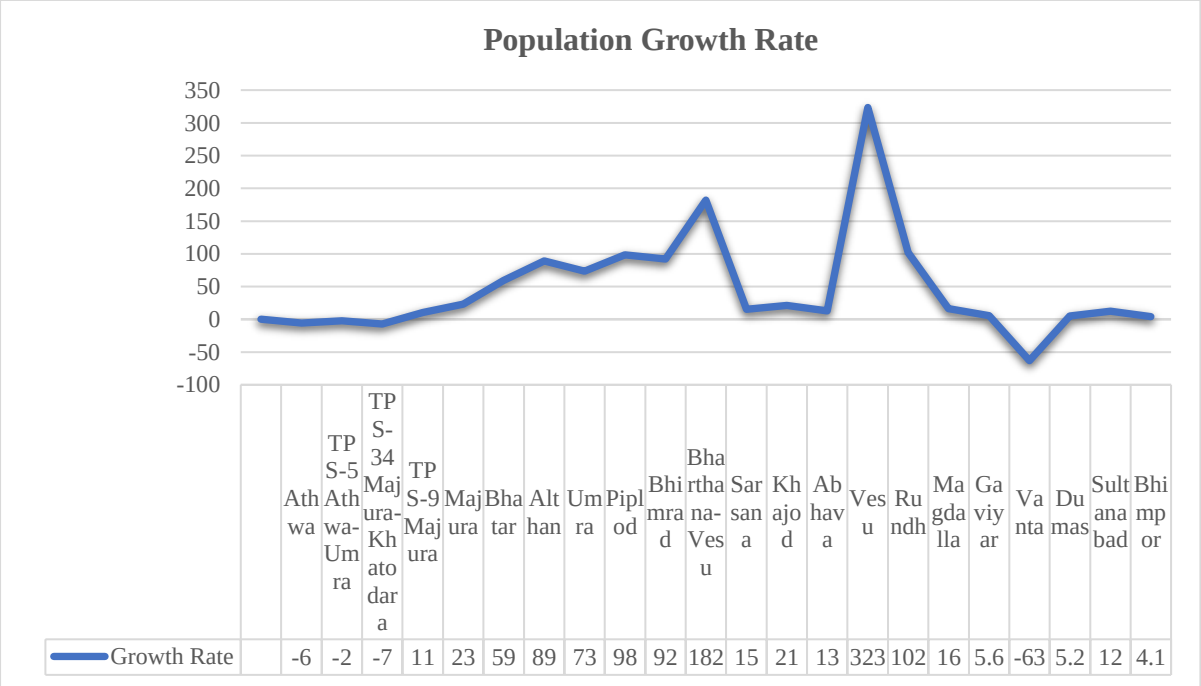
Table 4:3 South west zone ward wise details

Ward No	Ward Name	Area in Sq.km	Total Population		Density		Growth Rate
			2001	2011	2001	2011	
13	Athwa	0.72	7726	7298	10730.6	10136.1	-5.54
33	TPS-5 Athwa-Umra	1.7	31365	30601	18450	18000.6	-2.44
34	TPS-34 Majura-Khatodara	2.32	63217	58564	27248.7	25243.1	-7.36
37	TPS-9 Majura	1.1	21960	24275	19963.6	22068.2	10.54
58	Majura	1.25	10140	12491	8112	9992.8	23.19
59	Bhatar	2.3	28622	45628	12444.4	19838.3	59.42
60	Althan	3.23	28510	53960	8826.63	16705.9	89.27
61	Umra	4.56	31212	54106	6844.74	11865.4	73.35
62	Piplod	1.92	8871	17595	4620.31	9164.06	98.34
89	Bhimrad	2.402	1257	2415	523.31	1005.41	92.12
90	Bharthana-Vesu	2.194	1920	5414	875.11	2467.64	181.98
91	Sarsana	2.014	849	979	421.55	486.1	15.31
92	Khajod	16.392	1434	1737	87.48	105.97	21.13
93	Abhava	21.96	2881	3249	131.19	147.95	12.77
94	Vesu	8.99	6251	26471	695.33	2944.49	323.47
95	Rundh	3.652	2155	4355	590.09	1192.5	102.09

96	Magdalla	2.299	5257	6104	2286.65	2655.07	16.11
97	Gaviyar	4.061	2449	2585	603.05	636.54	5.55
98	Vanta	1.531	661	244	431.74	159.37	-63.09
99	Dumas	20.577	6868	7224	333.77	351.07	5.18
100	Sultanabad	4.491	3263	3661	726.56	815.19	12.2
101	Bhimpor	6.389	7553	7862	1182.19	1230.55	4.09

Source: Surat Municipal Corporation

Figure 4:2 South West Zone Ward Wise Population Growth Rate



Source: Surat Municipal Corporation

4.6 Surat City and South West Zone TP Scheme Details

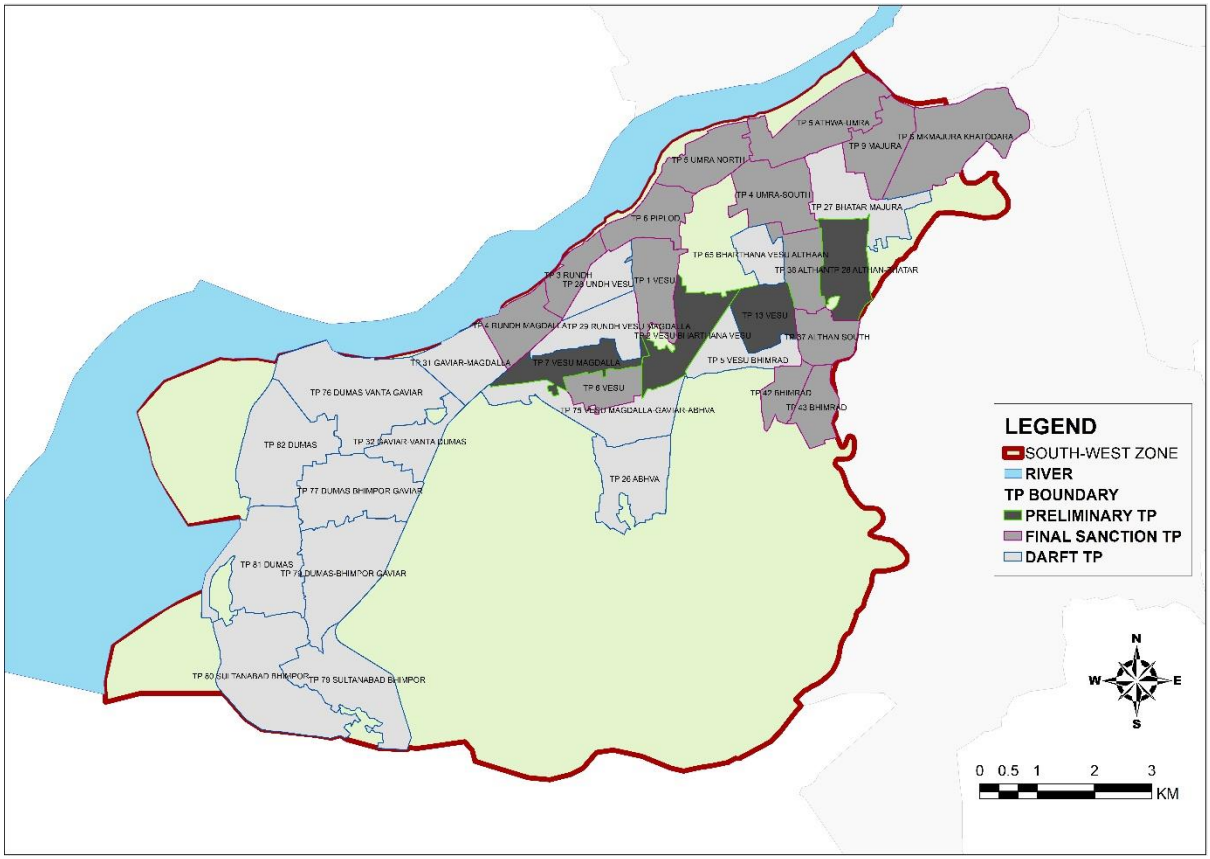
Table 4:4 TP Scheme Details

Sr. No.	T.P. Scheme Details	No. of Schemes	Total Scheme Area (Hectare)	South-west zone no of schemes
1.	Sanctioned Final Schemes	55	6144.19	14
2.	Sanctioned Preliminary Schemes	19	2119.93	4
3.	Sanctioned Draft Schemes	54	9474.09	16
4.	Draft Scheme submitted to Govt. for sanction	0	0	0
5.	Proposed Town Planning Schemes	0	0	0
	Total	128	17738.21	34

Source: Surat Municipal Corporation (Note: Data Updated till 16th December 2020)

- SUDA had also taken initiatives of preparing town planning schemes in the outgrowth of the city outside SMC limits.
- total 68 town planning schemes SUDA are at various stages of completion covering about 6,348 hectares of areas.

Map 9 South West Zone TP



4.7 Reservations under various categories in T.P. Schemes

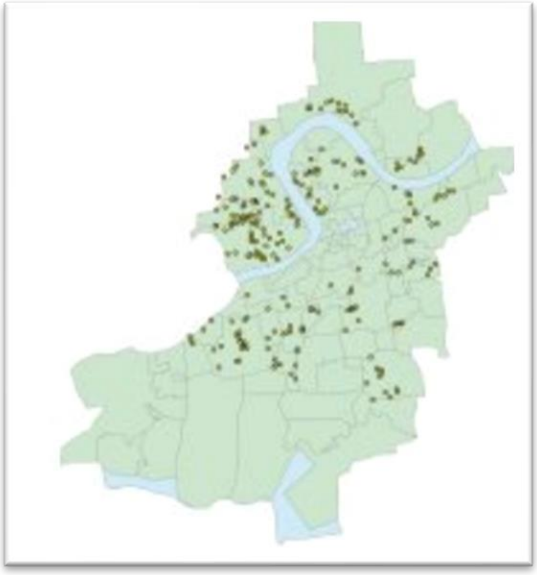
Table 4:5 Reservation Details as Per GTP&UD Act

Reservation of Land to the extent of (%)	Purpose
10	**Housing accommodation for SEWS**
15	Roads
5	Parks, Playgrounds, Garden Open space
5	Social Infrastructure such as School, Dispensary, Fire Station, Public Utility
15	For Sale by appropriate authority for Residential, Commercial, Industrial use depending upon the nature of development

(Source: Section 40, of the Gujarat Town Planning and Urban Development Act, 1976 (GTPUD Act))

4.8 EWS Reservation- Surat city

Map 10 Surat city EWS Reservation Locations



- Area under EWS Reservation =22% of SMC Owned land
- 243 Locations in within SMC area
- 1,54,000sq.mt Approx.

Source: Elezebeth baiju- housing strategy studio cept portfolio's 2020

4.9 List of EWS Projects of within SMC area

Table 4:6 Surat city EWS Projects Details

S. N	Zone	Site Name	Project Name	Project Address	PMAY / Smart city	Approved Dus	Tender Amount (In Lacs)	Progress Remarks
1	WZ	T.P.S. 9 (Palanpore-Bhesan) F.P.S. 164	SUMAN JYOT		PMAY	300	1999.70	Completed
2	SWZ	T.P.S. 28 (Althan-Bhatar) F.P.S. 152	SUMAN ASHISH		PMAY	272	1648.87	Completed
3	NZ	T.P.S. 26 (Singanpore) F.P.S. 129	SUMAN KUNJ		PMAY	276	1581.66	Completed
4	SZ	T.P.S. 22 (Bhestan) F.P.S. 62	SUMAN SMRUTI		PMAY	192	1124.60	Completed

5	SZ	T.P.S. 48 (Bhestan) F.P.S. 69-P1	SUMAN SHAKTI		PMAY	216	3333.58	Completed
6	SZ	T.P.S. 48 (Bhestan) F.P.S. 69-P2	SUMAN SHAKTI		PMAY	336		Completed
7	SEZ	T.P.S. 41 (Dindoli) F.P.S. 29 R-8/2	SUMAN SWAPNA		PMAY	128	829.17	Completed
8	SEZ	T.P.S. 69 (Godadara-Dindoli) F.P.S. 183 (R/9)- P1	SUMAN SHRUTI		PMAY	320	3684.92	Completed
9	SEZ	T.P.S. 69 (Godadara-Dindoli) F.P.S. 183 (R/9)- P2	SUMAN SHRUTI		PMAY	256		Completed
1	EZ	T.P.S. 25 (Mota Varachha) F.P.S. 147	SUMAN NIWAS	BESIDE SANSKRUTI RESI., BEHIND MAHARAJA FARM, MOTA VARACHHA, SURAT.	SMART CITY	560	3243.80	Completed
2	NZ	T.P.S. 27 (Utran-Kosad) F.P.S. 190	SUMAN MANDIR	BEHIND GOLDEN HEAVEN, OPP. UTRAN POWER HOUSE, UTRAN.	PMAY	760	4506.80	Completed
3	NZ	T.P.S. 35 (Katargam) F.P.S. 120	SUMAN PRATIK	BESIDE SUMAN KUNJ, OPP. VRUNDAVAN PARTY PLOT, OPP. SMVS TEMPLE ROAD, DABHOLI ROAD.	PMAY	660	3900.60	Completed

4	EZ	T.P.S. 25 (Mota Varachha) F.P.S. 165	SUMAN SAHKAR	BESIDE AASTHA SQUARE, ABRAMA ROAD, MOTA VARACHHA, SURAT.	PMAY	752	4587.20	Completed
5	EZ	T.P.S. 68 (Puna-Simada) F.P.S. R-11	SUMAN PRABHA	YOGI CHOWK, BEHIND COMMUNITY HALL, BESIDE SAVALIYA CIRCLE, SIMADA JUNCTION, SURAT.	PMAY	80	557.60	Completed
6	NZ	T.P.S. 19 (Katargam) F.P.S. 180	SUMAN NIKETAN	OPP. SHANKARNA GAR HOUSING SOC., LALITA CHOKDI, KATARGAM.	SMART CITY	112	800.57	Completed
7	NZ	T.P.S. 25 (Singanpore-Tunki) F.P.S. 74	SUMAN NISARG	NR. SINGANPOR SUAZ TREATMENT PLANT, SINGANPOR,	PMAY	260	1858.48	Completed
8	NZ	T.P.S. 25 (Singanpore-Tunki) F.P.S. 97	SUMAN MANGAL	NR. SINGANPOR BHARIMATA TEMPLE, SINGANPOR COZWAY ROAD, SINGANPOR, SURAT.	SMART CITY	192	1372.41	Completed
9	NZ	T.P.S. 27 (Utran-Kosad) F.P.S. 167	SUMAN SWARG	OPP. KRUSHNAKU NJ RESI., NR. AMBEY VALLY, UTTRAN.	PMAY	528	3220.80	Completed

10	NZ	T.P.S. 27 (Utran-Kosad) F.P.S. 180	SUMAN SATH	BEHIND AMBEY VALLY, NR. MANISHA GARNALA, UTTRAN.	PMAY	512	6197.60	Completed
11	NZ	T.P.S. 27 (Utran-Kosad) F.P.S. 191	SUMAN SANGATH	BEHIND GOLDEN HEAVEN, OPP. UTTRAN POWER HOUSE, UTTRAN.	PMAY	504		Completed
12	SWZ	T.P.S. 28 (Rundh-Vesu) F.P.S. 32-Sub Plot-3	SUMAN MALHAR	BEHIND RAHUL RAJ MALL, SURAT DUMAS ROAD, SURAT	PMAY	96	669.85	Completed
13	SEZ	T.P.S. 41 (Dindoli) F.P.S. 29	SUMAN DHAM	BESIDE RUSHIKESH APPT. & HETVI RESI., NR. KAILASHNAGAR, NAVAGAM, DINDOLI	SMART CITY	160	3311.87	Completed
14	SEZ	T.P.S. 19 (Parvat-Magob) F.P.S. 100	SUMAN SANGIT	BESIDE VRAJBHUMI APPT., PARVAT MAGOB, SURAT.	SMART CITY	408		Completed
15	SEZ	T.P.S. 19 (Parvat-Magob) F.P.S. 111/1	SUMAN PRAHAR	NR. CAPITAL SUARE, OPP. SEPHIRE SQUARE-8, PARVAT MAGOB, SURAT.	SMART CITY	570	3277.50	Completed
16	SEZ	T.P.S. 19 (Parvat-Magob) F.P.S. 112	SUMAN PRABHAT	BEHIND MIDAS SQUARE, OLD PARVAT-DEVADH ROAD,	SMART CITY	208	1560.16	Completed

				PARVAT, SURAT.				
17	EZ	T.P.S. 53 (Magob-Dumbhal) F.P.S. 82	SUMAN SANGINI	BEHIND AMAZIYA WATER PARK, NR. SURAT MAHANAGAR PALIKA CENTRAL STORE, PARVAT PATIYA, SURAT	SMART CITY	1088	7071.47	Completed
18	SWZ	T.P.S. 28 (Rundh-Vesu) F.P.S. 32-Sub Plot-2	SUMAN MALHAR	BEHIND RAHUL RAJ MALL, SURAT DUMAS ROAD, SURAT	SMART CITY	660	4265.15	Work In Progress.
1	EZ	T.P.S. 24 (Mota Varachha) F.P.S. 177 R-26	SUMAN SURAJ		PMAY	520	3673.80	Completed
2	NZ	T.P.S. 35 (Katargam) F.P.S. 134	SUMAN SARTHI		PMAY	273	1932.02	Completed
3	SEZ	T.P.S. 19 (Parvat-Magob) F.P.S. 110/3	SUMAN GANGA		PMAY	528	3744.58	W.I. P
4	SEZ	T.P.S. 62 (Bhedvad) F.P.S. 194	SUMAN KESHAV		PMAY	660	4684.02	W.I. P
5	SEZ	T.P.S. 61 (Parvat-Godadra) F.P.S. 227	SUMAN SANKALP		PMAY	56	386.12	Dropped
6	SWZ	T.P.S. 28 (Althan) F.P.S. 136	SUMAN PARTH		PMAY	300	2205.00	W.I. P
7	SWZ	T.P.S. 13 (Bharthana-	SUMAN BHARGAV		PMAY	1148	8354.23	W.I. P

		Vesu) F.P.S. 169						
8	SWZ	T.P.S. 42 (Bhimrad) F.P.S. 61	SUMAN SANJIVINI		PMAY	360	2519.64	W.I. P
9	SWZ	T.P.S. 42 (Bhimrad) F.P.S. 75	SUMAN AASTHA		PMAY	304	2157.49	Completed
10	WZ	T.P.S. 37 (Variyav) F.P.S. 99	SUMAN SADHANA		PMAY	518	3676.25	Completed
11	WZ	T.P.S. 36 (Variyav) F.P.S. 90	SUMAN VAIBHAV		PMAY	682	4773.80	W.I. P
1	WZ	T.P.S. 45 (Jahagirpura) F.P.S. 117-P1	SUMAN VANDAN		PMAY	1290	9249.30	W.I. P
2	WZ	T.P.S. 45 (Jahagirpura) F.P.S. 117-P2	SUMAN VANDAN		PMAY	1534	10998.78	W.I. P
3	WZ	T.P.S. 46 (Jahagirpura) F.P.S. 97	SUMAN SATHI		PMAY	196	1489.60	W.I. P
4	WZ	T.P.S. 44 (Jahagirpura) F.P.S. 6	SUMAN VANI		PMAY	984	6904.74	W.I. P
5	EZ	T.P.S. 24 (Mota Varachha-Utran) F.P.S. 181	SUMAN ARTH		PMAY	504	3843.00	W.I. P
6	EZ	T.P.S. 24 (Mota Varachha-Utran) F.P.S. 180	SUMAN PRAYAG		PMAY	556	3752.78	W.I. P
7	SWZ	T.P.S. 28 (Rundh-Vesu) F.P.S. 32-Sub Plot-1	SUMAN KAVYA		PMAY	450	3199.50	W.I. P

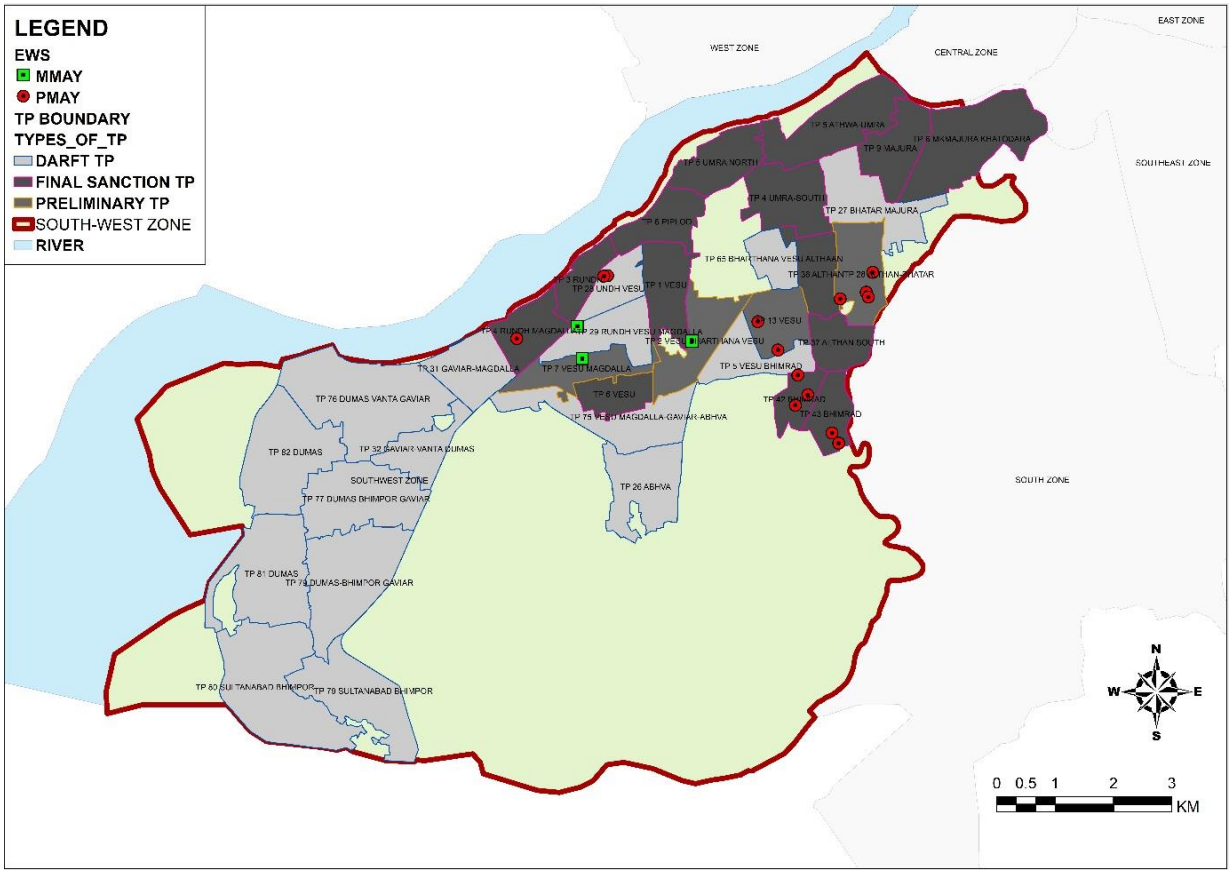
1	SWZ	T.P.S. 42 (Bhimrad) F.P.S. 67	SUMAN TAPI		PMAY	322	2245.95	W.I. P
2	SWZ	T.P.S. 43 (Bhimrad) F.P.S. 109	SUMAN SMIT		PMAY	928	6765.11	Work Order Given
3	SWZ	T.P.S. 43 (Bhimrad) F.P.S. 110	SUMAN ARADHANA		PMAY	132	988.34	W.I. P
4	WZ	T.P.S. 8 (Palanpore) F.P.S. 106	SUMAN POOJA		PMAY	1328	0.00	Change of site
5	WZ	T.P.S. 9 (Palanpore-Bhesan) F.P.S. 152	SUMAN CHANDAN		PMAY	420	3158.30	W.I. P
6	WZ	T.P.S. 16 (Pal) F.P.S. 113	SUMAN MUDRA		PMAY	1231	8887.82	W.I. P
7	WZ	T.P.S. 16 (Pal) F.P.S. 114	SUMAN SNEH		PMAY	832	5935.44	W.I. P
1	WZ	T.P.S. 36 (Variyav) F.P.S. 104	SUMAN HARSH		PMAY	1504	0.00	Dropped
2	SEZ	T.P.S. 62 (Dindoli-Bhestan-Bhedvad) F.P.S. 173 R-5	SUMAN NUPUR		PMAY	336	2449.44	Work Order Given
3	SZ	T.P.S. 48 (Bhestan) F.P.S. 85	SUMAN TRUPTI		PMAY	332	2448.58	W.I. P
1	WZ	T.P.S. 8 (Palanpore) F.P.S. 131	SUMAN LIPI		PMAY	670	4957.99	Work Order Given
2	WZ	T.P.S. 10 (Adajan) F.P.S. 17	SUMAN ADARSH		PMAY	408	2974.32	Work Order Given

3	NZ	T.P.S. 27 (Utran-Kosad) F.P.S. 178	SUMAN UTKARSH		PMAY	324	2361.96	Work Order Given
1	WZ	T.P.S. 9 (Palanpore-Bhesan) F.P.S. 174			PMAY	588		Consultant Sthapati Designers & Consultants Pvt. Ltd.Navsari appointed for preparing detail estimate.
2	WZ	T.P.S. 46 (Jahangirpura) F.P.S. 103			PMAY	808		
3	SEZ	T.P.S. 48 (Bhestan) F.P.S. 89			PMAY	792		
4	SWZ	T.P.S. 13 (Vesu-Bharthana) F.P.S. 165,166			PMAY	540		
5	WZ	T.P.S. 14 (Pal) F.P.S. 160/1			PMAY	63		

Source: Surat Municipal Corporation (Slum rehabitation department)

4.10 South West Zone EWS Site Locations

Map 11 South West Zone EWS Reservation Locations



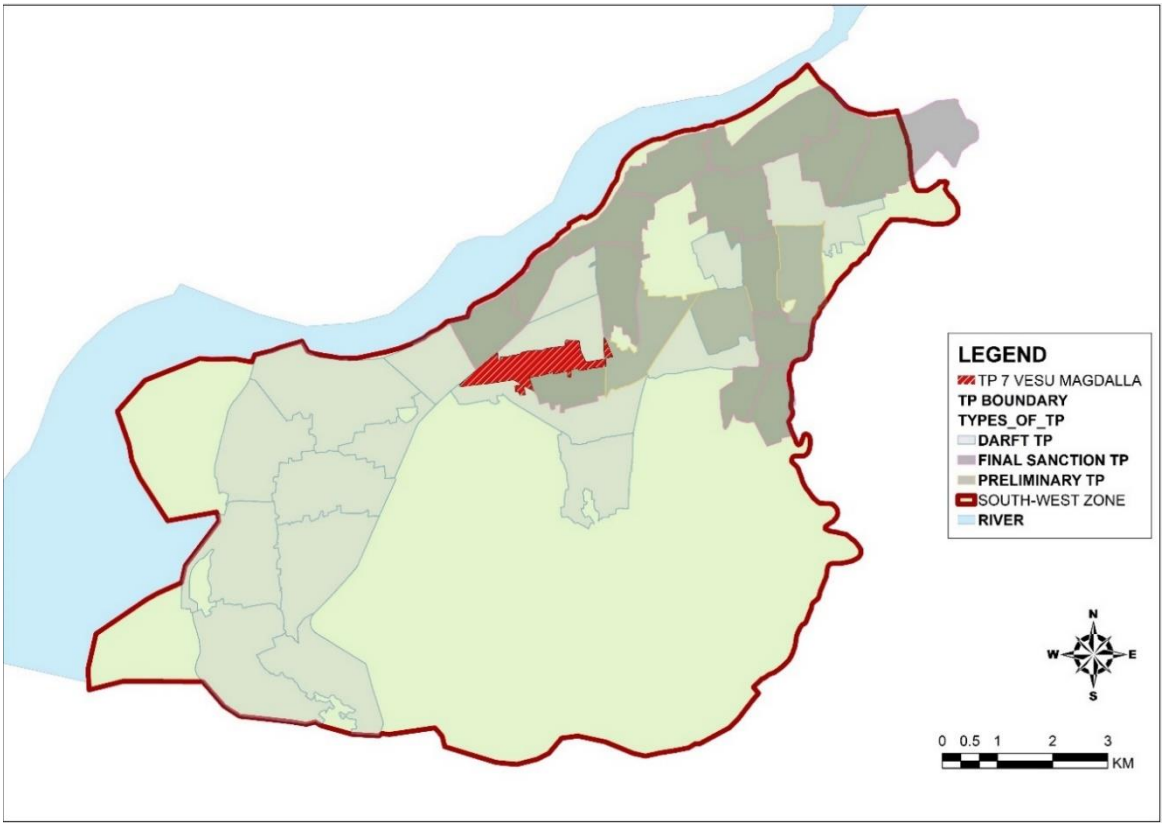
❖ EWS Projects under PMAY

- T.P.S. 28 (Althan-Bhatar) F.P.S. 152- SUMAN ASHISH
- T.P.S. 28 (Rundh-Vesu) F.P.S. 32-Sub Plot-3- SUMAN MALHAR
- T.P.S. 28 (Rundh-Vesu) F.P.S. 32-Sub Plot-2- SUMAN MALHAR
- T.P.S. 28 (Althan) F.P.S. 136- SUMAN PARTH
- T.P.S. 13 (Bharthana-Vesu) F.P.S. 169- SUMAN BHARGAV
- T.P.S. 42 (Bhimrad) F.P.S. 61- SUMAN SANJIVINI
- T.P.S. 42 (Bhimrad) F.P.S. 75- SUMAN AASTHA
- T.P.S. 28 (Rundh-Vesu) F.P.S. 32-Sub Plot-1- SUMAN KAVYA
- T.P.S. 42 (Bhimrad) F.P.S. 67- SUMAN TAPI
- T.P.S. 43 (Bhimrad) F.P.S. 109- SUMAN SMIT
- T.P.S. 43 (Bhimrad) F.P.S. 110- SUMAN ARADHANA
- T.P.S. 13 (Vesu-Bharthana) F.P.S. 165,166

4.11 Study Area

4.11.1 Study of EWS Project-1 (TP-7 Vesu- Magdalla (South west zone))

Map 12 TP-7 Location

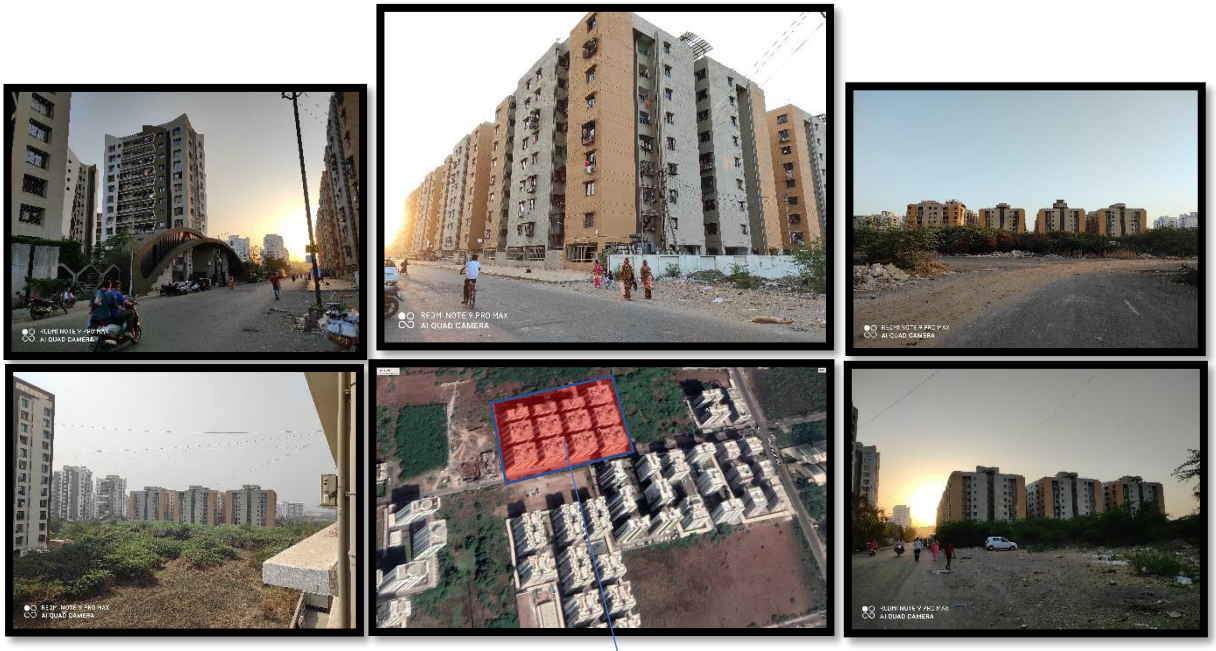


- Total TP area 10,57,125sqmt
- Provided EWS Reservation land-34,400sqmt
- As Per Gujarat Town Planning and Urban Development Act 10% (105712sqmt) Required
- 71,312sqmt Gap of EWS Reservation in TP-7 Vesu

- Project details: Suman sagar, MMGY, TP-7- Vesu, F.P- 131

Location: Besides, NM Mavani Rd, Vesu, Surat.

Figure 4:3 TP-7 Site Photographs



Date of site visit: 19th February 2021

Map 13 TP-7 Plan

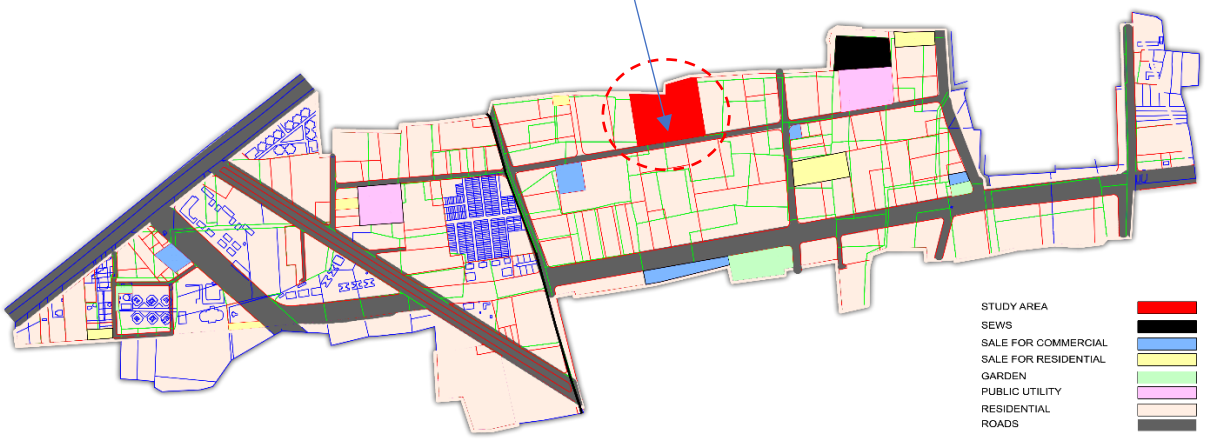
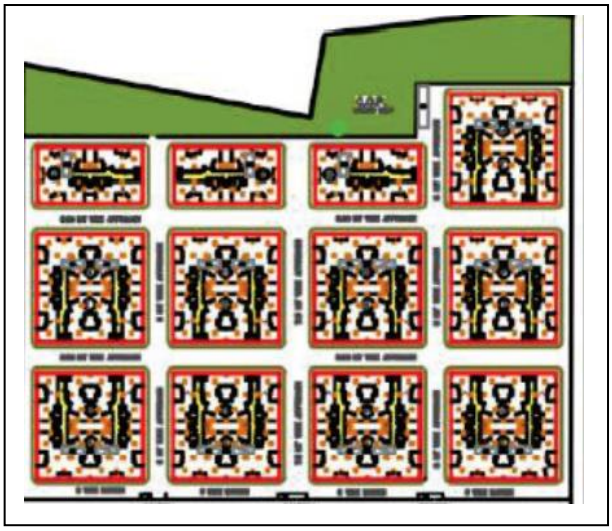


Figure 4:4 Site Layout



- Proposed total unit- 1344

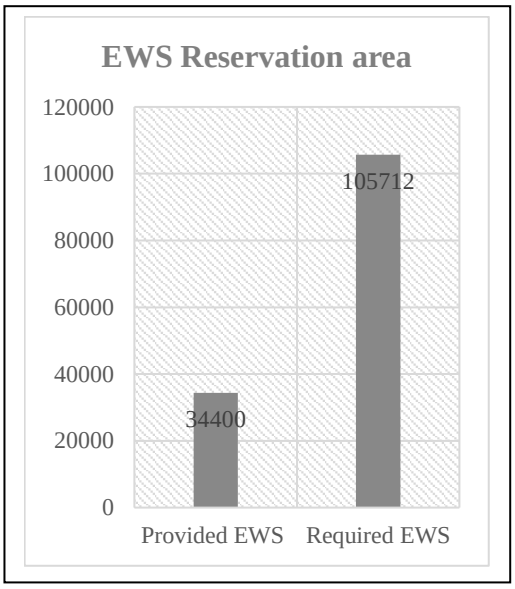


Figure 4:5 TP-7 EWS Reservation Gap Analysis

Figure 4:6 TP-7 Reservations

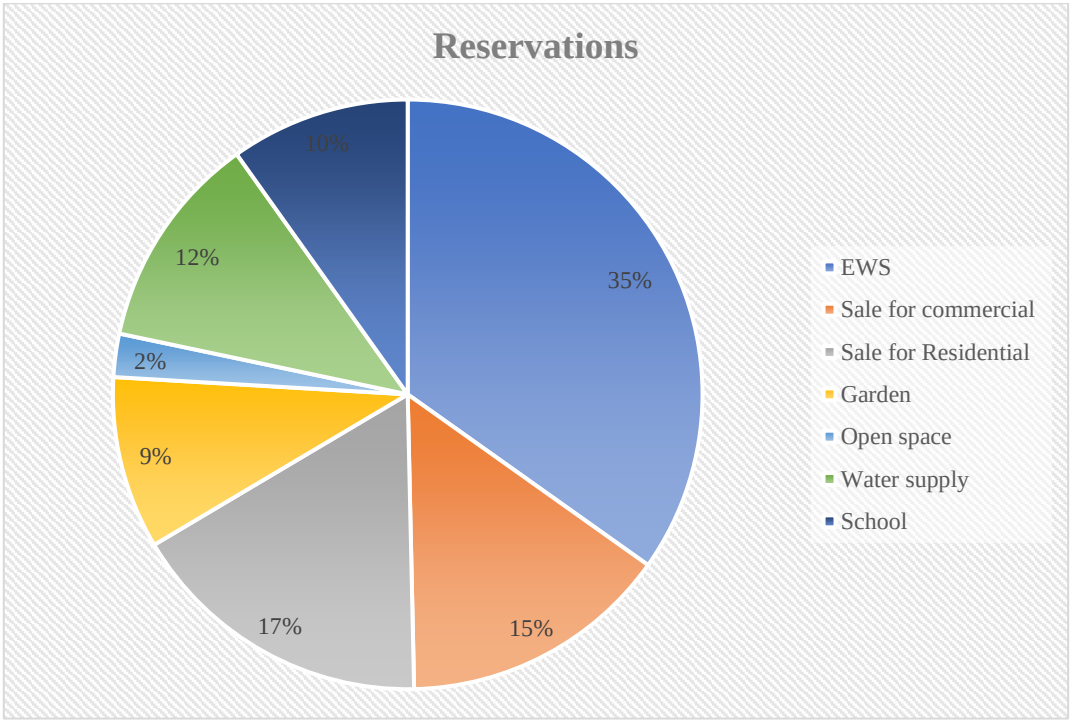


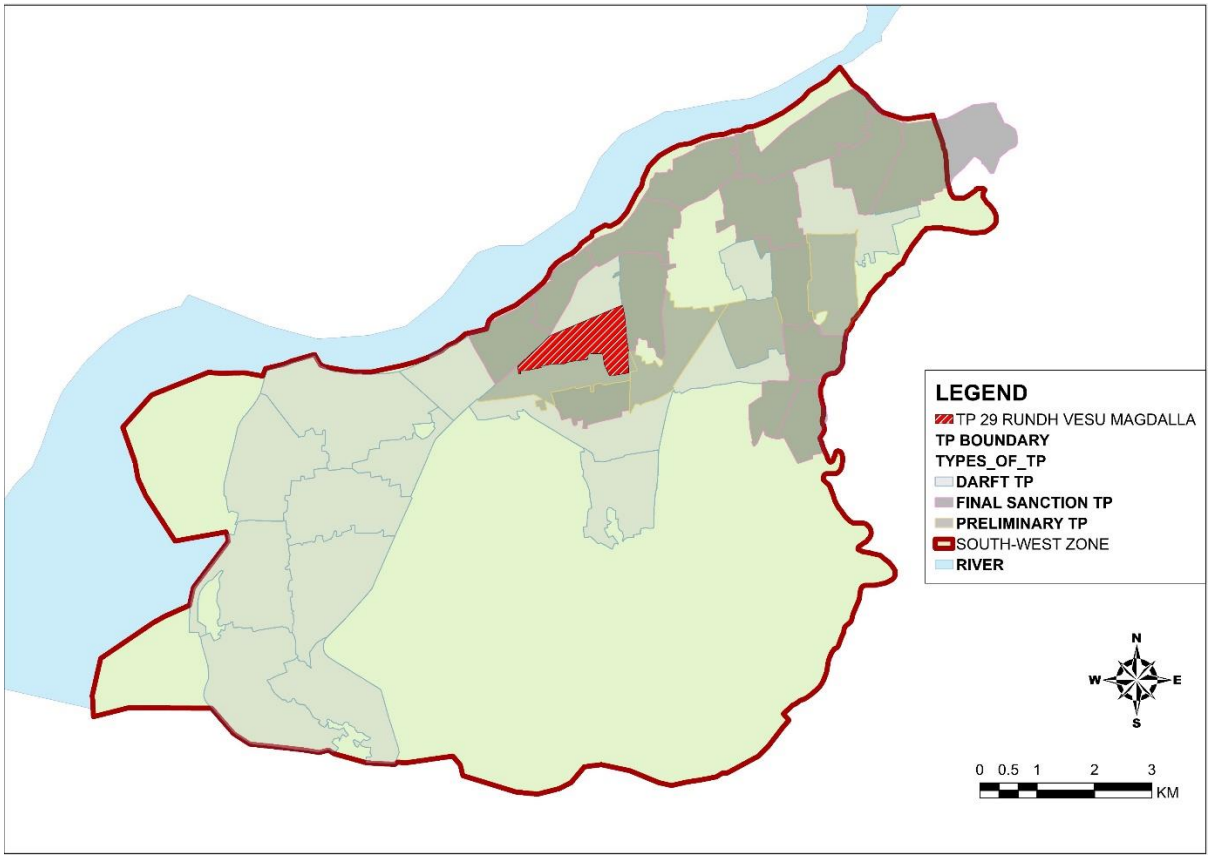
Table 4:7 TP-7 F-Form Reservation data

Reservation	**F.P. No.**	**F.P AREA (sqmt)**
Housing for Socially and Economically Weaker Section	125	13704
	131	20696
	TOTAL	**34400**
Sale for commercial	123	1162
	127	969
	130	5407
	132	4500
	141	2604
	TOTAL	**14642**
Sale for Residential	124	3103
	128	7789
	133	462
	134	666
	136	1397
	137	1175
	139	1613
	144	410

	TOTAL	**16615**
Garden	129	**9345**
Open space	122,140,142,143	**2342**
Water supply and pumping station	126	**11697**
School	135	**9728**

4.11.2 Study of EWS Project-2 (TP-29 Rundh-Vesu-Magdalla (South west zone))

Map 14 TP-29 Location



- Total TP area 12,37,900sqmt
    - Provided EWS Reservation land- 51,879sqmt

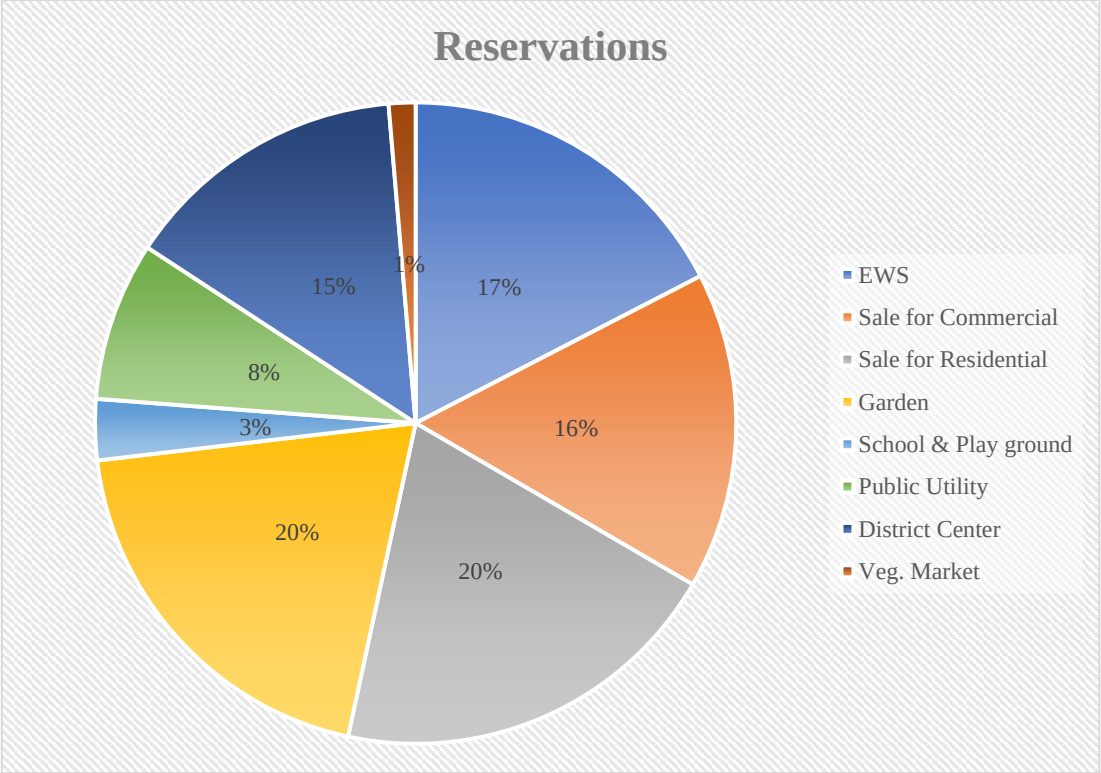
- As Per Gujarat Town Planning and Urban Development Act 10% (1,23,790sqmt) Required

- 71,911sqmt Gap of EWS Reservation in TP-7 Vesu

❖ Project details: MMGY-EWS-SUDA, TP-29 Rundh-Vesu-Magdalla, FP-105/3

Location: Nr. Y-junction (University- Magdalla road, Surat)

Figure 4:7 TP-29 Reservations



Map 15 TP-29 Plan

Date of site visit: 19th February 2021

Figure 4:8 TP-29 Site Photographs

Figure 4:9 TP-29 EWS Reservation Gap Analysis

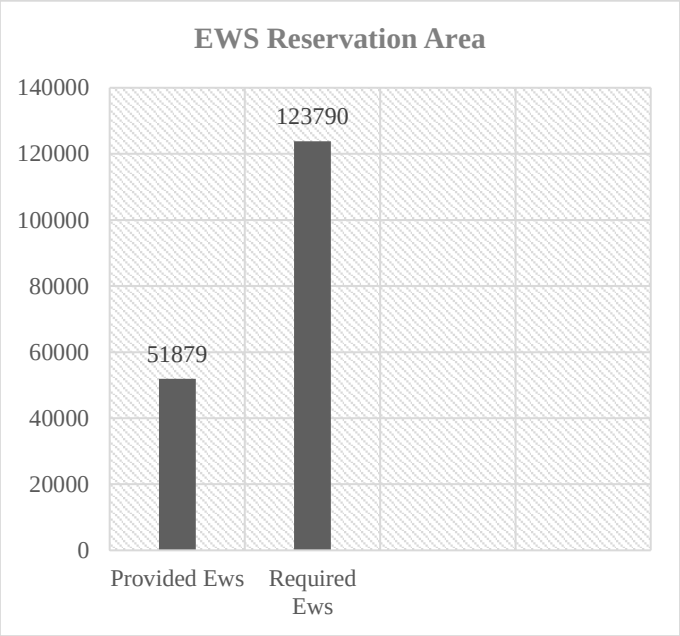


Table 4:8 TP-29- F-form Reservation data

Reservation	F.P. No.	F.P AREA (sqmt)
Housing for Socially and Economically Weaker Section	113	13601
	117	14840
	126	19648
	138	3790
	TOTAL	**51,879**
Sale for commercial	120	8100
	127	14851
	131	7316

	133	13591
	137	3743
	TOTAL	**47,601**
Sale for Residential	114	2714
	115	2275
	119	15126
	122	20216
	124	6859
	128	5936
	132	4349
	142	2080
	TOTAL	**59,555**
Garden	112,116,123,125,135	**58,856**
School & Play ground	118	**9151**
Public Utility	121,129,130,134,139,140	**23,884**
District Center	136	**42,968**
Veg. Market	141	**4022**

4.12 Primary Data Collection

- Primary data is collect when we collecting information for the specific purposes of the study.
- Primary survey samples are divided into two parts.
- Part I is about newly developed Vesu area survey.
- Part II is old area survey Althan-bhatar.

- The sample size is decided as per "YAMENE'S FORMULA"

- SAMPLE SIZE CALCULATION

- Total number of EWS population in South West Zone =11,456
- Sample size as per YAMENE'S FORMULA is 99

- Sample collected for the study is 100 that includes both parts.

$$n = \frac{N}{1 + N(e^2)}$$

where, n = sample size

N = Population Size, e = desired level of precision

(+- 10%) = 0.010 Confidence level = 95%

4.13 Professionals Interview

❖ **List of Interviewer:**

(ULB officers, Professionals)

1) D. B. Mistry

(Deputy town planner- Town planner & Town development officer)

(Town Development department- SMC)

2) Manish m. Doctor

(Town development officer- Town planner (Town planning department- SMC))

3) T.N. Kalathia

(Apelet officer- Executive engineer (Slum upgradation cell-SMC)

4.13.1 Inferences /Conclusion of Expert Survey:

➢ **Procedure for earmarking of EWS land reservation in TP scheme:**

- Under the Town Planning Scheme, EWS Housing land reservation is determined in accordance with the as per Gujarat Town Planning and Urban Development Act.
- Urban local body (ULB) are prepare town planning schemes and decide the locations of various reservation based on population of particular area, need of reservations, site context, site suitability, etc.
- There is not any specific written document of procedure to follow earmarking of EWS reservation land parcels planning. also, ULB's are not prepare any feasibility report for reservation plots provisions and planning.
- Gujarat government prepare a guideline for reservations provisions as per Gujarat Town Planning and Urban Development Act.
- Earmark of reservation land is determined only after Land Pooling and Land Adjustment.
- ULB are consider some parameters to determine the location of the EWS reservation.
- Parameters eg. Try to locate EWS housing near Industrial area to provide opportunity to easily accessible to work place from home, there are no any proper method to earmark of EWS housing.

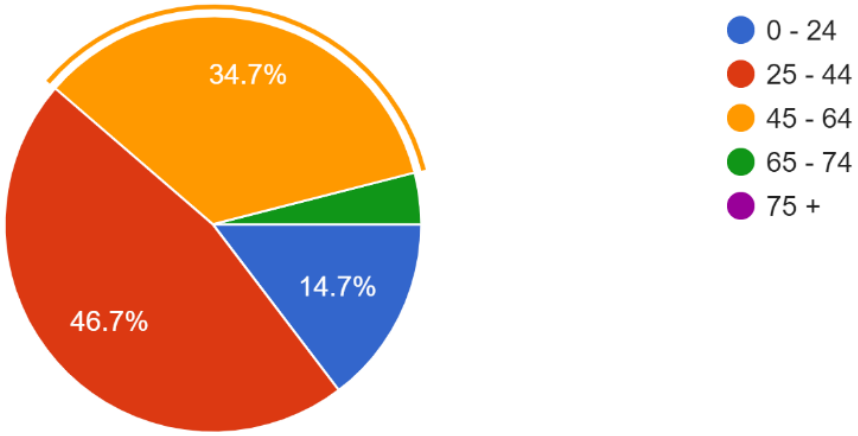
➢ Conclusion:

- Not any such guideline or parameters in the act for earmarking of EWS reservation.
- It should be in provision to prepare feasibility report and sample survey before draft TP scheme are send to government for approvals.
- Based on survey getting the issues related urban poor and neighborhood area of EWS reservation ULB has to be consider all valid reason and then provide reservations for better use of society, and achieve maximum goal of TP scheme planning.

4.14 Sample survey

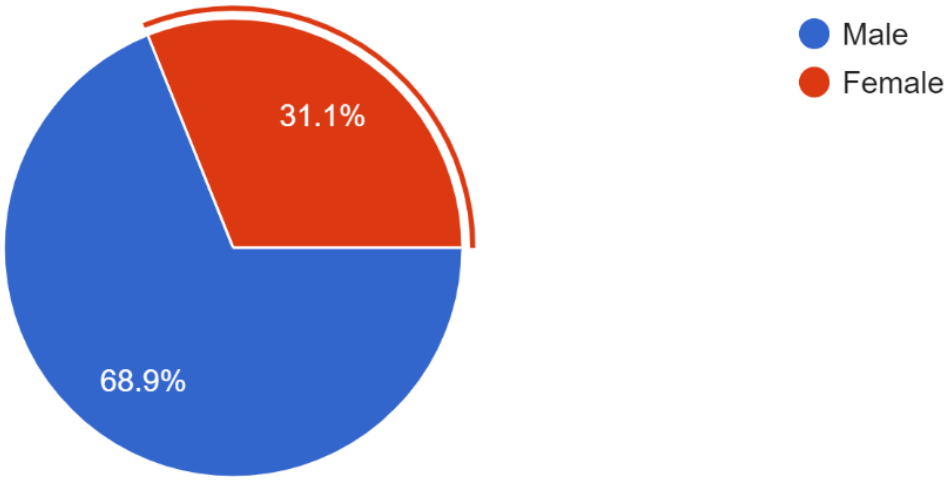
4.14.1 Respondents Age

Figure 4:10 Respondents Age



- Respondents age is 46% are between 25years to 44years, 34% is 45years to 64years and 14% is below 24years age

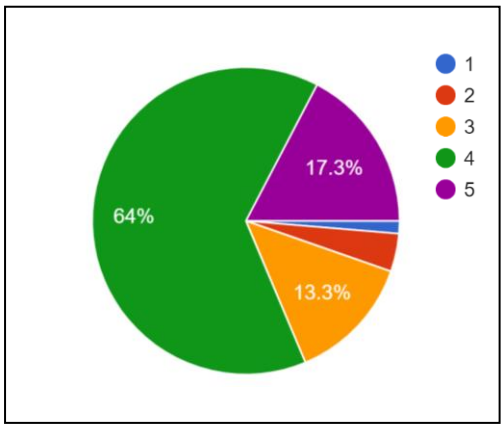
4.14.2 Respondents Gender



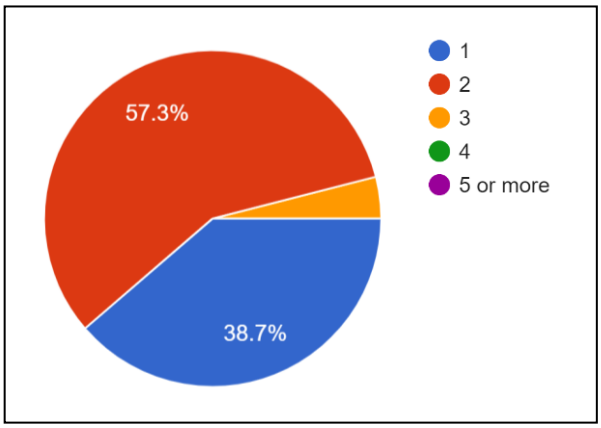
- Respondents gender is 69% are male and 31% female

4.14.3 Section: 1 Your home and your household

How many people are there in your household?



How many members work in your household?

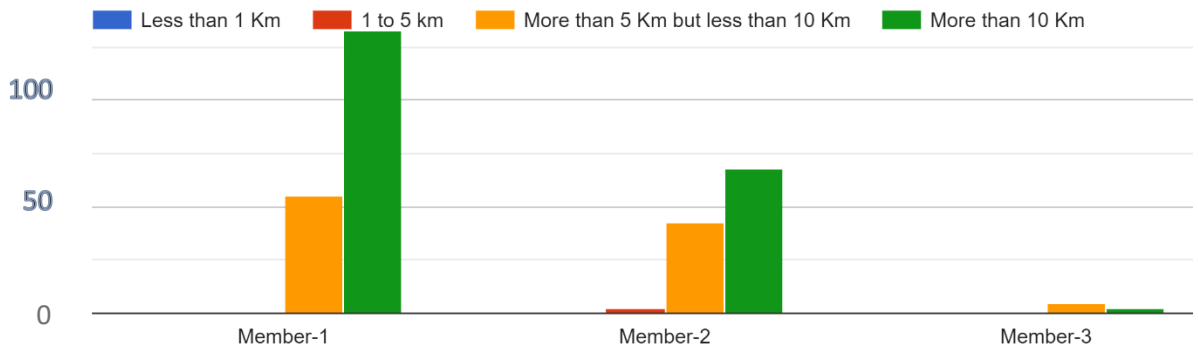


- As per survey 57% has 2 working person and 39% have 3 working persons in their

How long have you lived in?

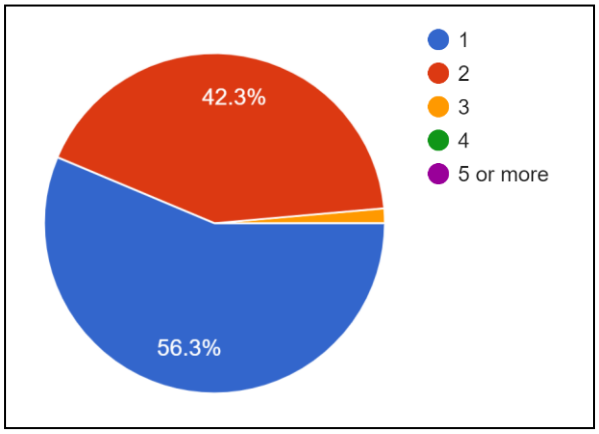
- More than 3 years 56% lives in survey project, 31% 1to3 year and 13% people are live there less than 1 year.

How far your work places from your home?

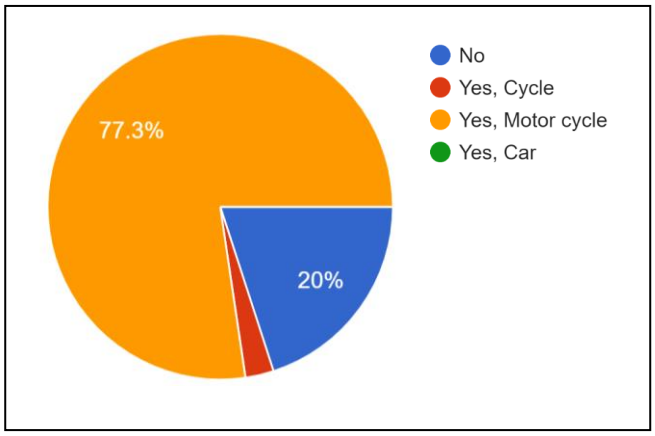


4.14.4 Section: 2 Travel time and cost

How many children in your household go to school/collage?

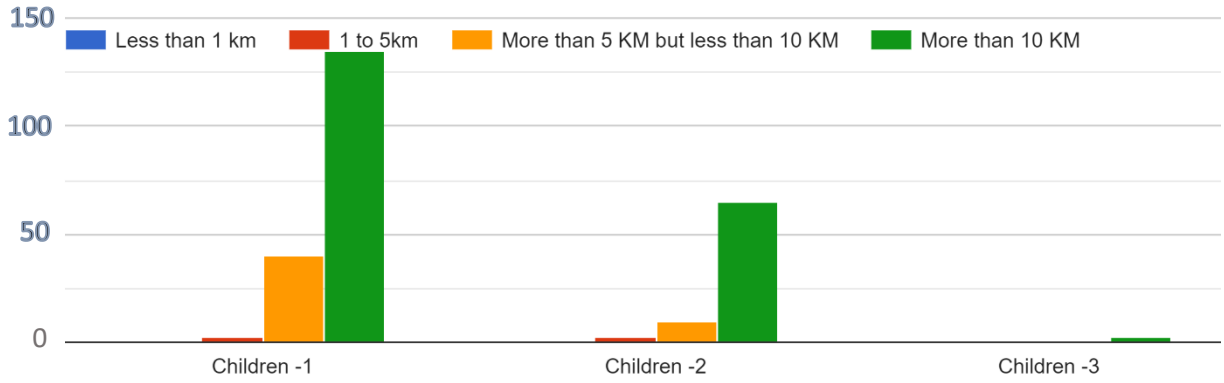


Do you have private vehicles?

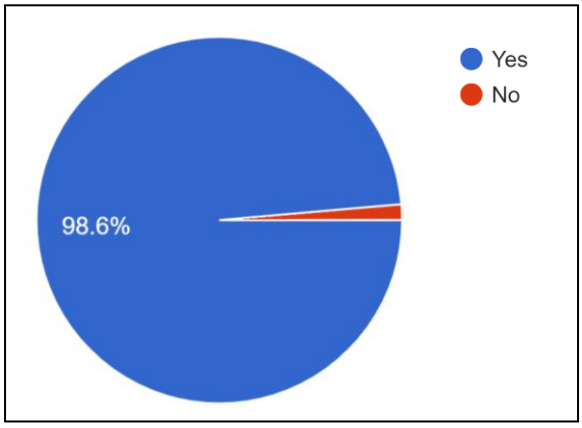


As per survey 77% has Motor cycle and 20% doesn't have any vehicle.

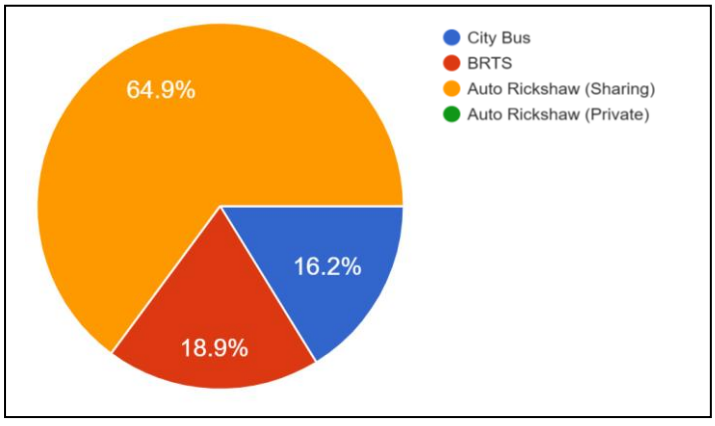
How far their school/collage from your home?



You and your household use public transport service?

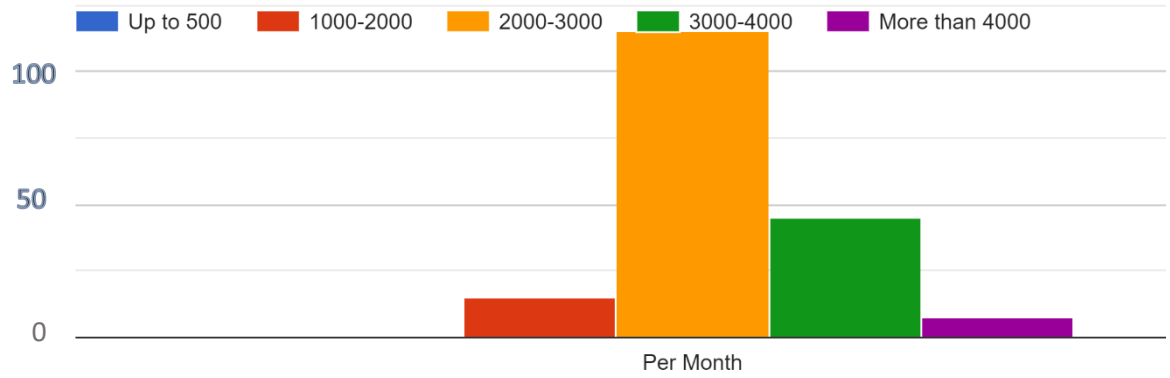


Which public transport service do you and your household use?



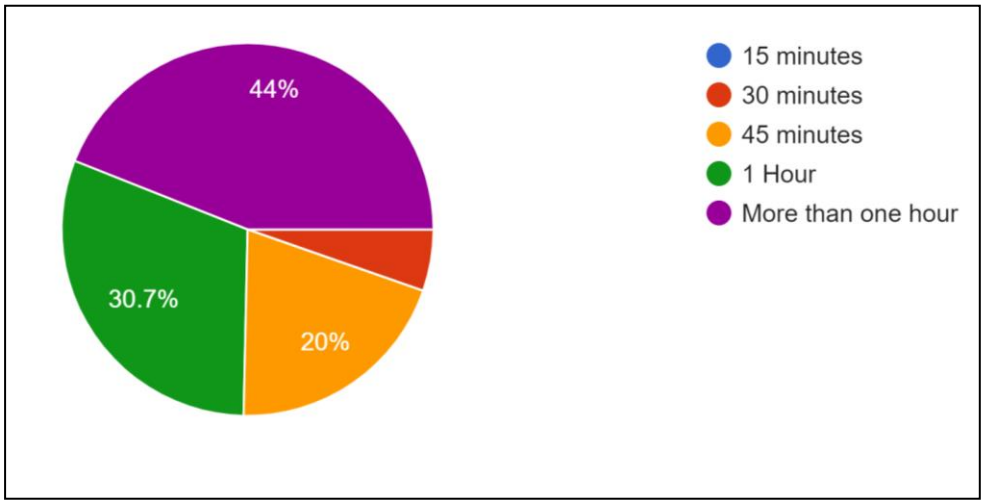
- As per survey 98% public are using different mode of public transport 65% Public using auto rickshaw, 19% are using BRTS 16% are using city bus.

How much do you spend per month on public transport?



- Most of the people 2000 to 4000 Rupees spent on public transport to travel work place.

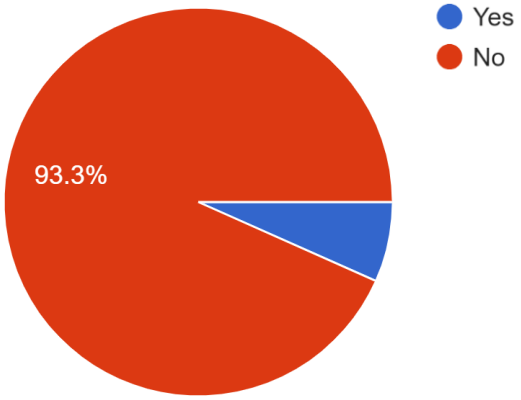
How long does it take you travel to your work place?



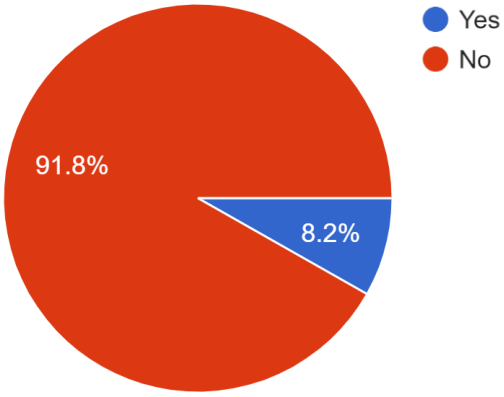
- 44% Public spent more than one hour to travel to reach their work place, 30% take one hour to reach their work place and 20% take 45 minutes take to reach their work place.

4.14.5 Section-3: Social and Economical

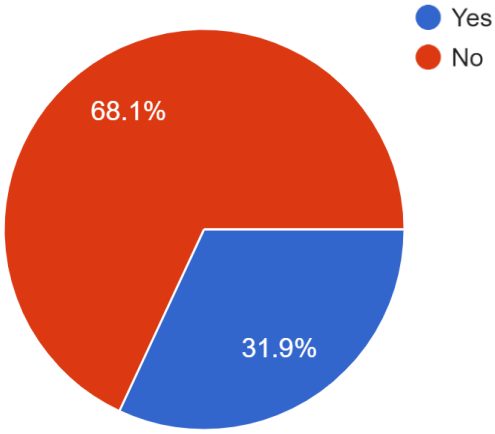
Neighbors near your home (beside society) greet you?



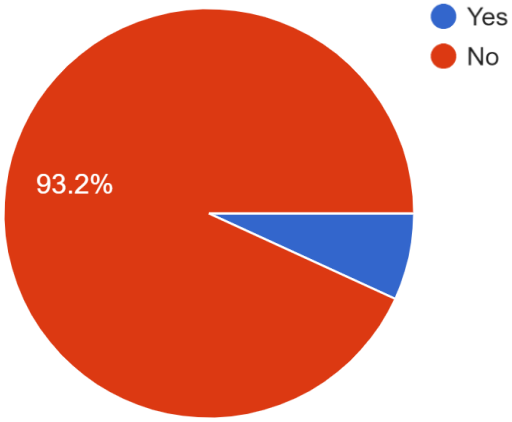
Do your kids go to play with the kids from your besides society?



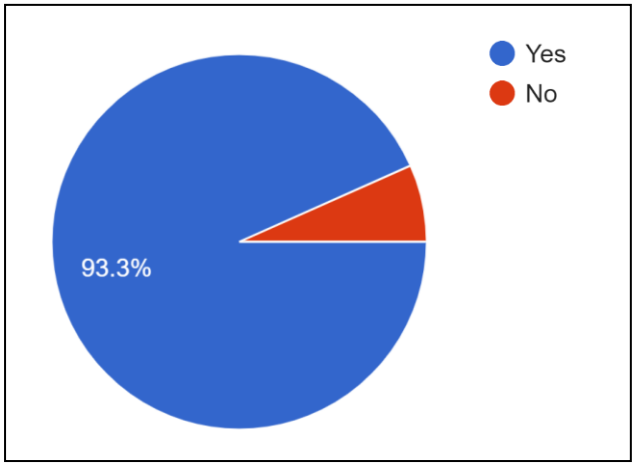
Do your children go to play in the public garden?



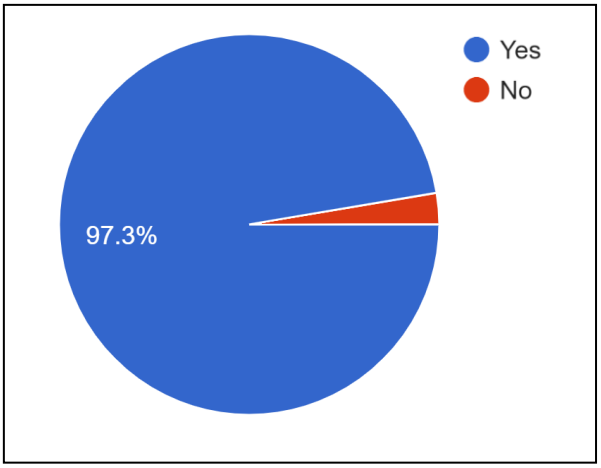
Do your children go to play in the public garden with the children from the surrounding society?



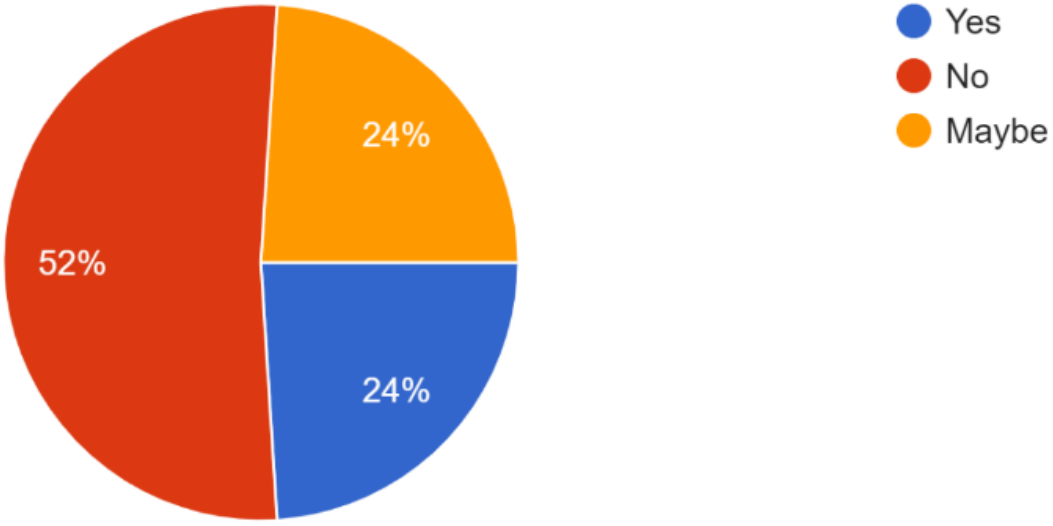
Are the necessities of life more expensive here than where you used to live?



Do you have to travel far from home to get your necessities?



Are you satisfied with the location you have been given for your residence?



- As per EWS project sample survey 52% people are not satisfied with the location of their home and project, 24% are satisfied and 24% people are neutral.

4.14.6 Inferences based on survey:

Got it some important points for survey questionnaire

- Getting a house in a pose area is one of the disadvantages, it makes the necessities of life very expensive for urban poor.
- So, they have to travel 8-10km for getting things
- Their work place distance is very long from their home
- Also, their children's school collages far away from their home
- So, Travel time and travel cost increase
- Lack of social cohesion in the community and neighbors
- Lack of green space, recreational space

4.14.7 Consider various parameters for EWS Housing schemes location selection based on data analysis

- Affordability
- Work place distance
- Distance from city center/ market place
- Social cohesion in the community and neighbors
- Distance from school
- Facilities and amenities available
- Development trend
- Less travel cost
- Less travel times
- Surrounding environment
- Population density
- Population of neighborhood

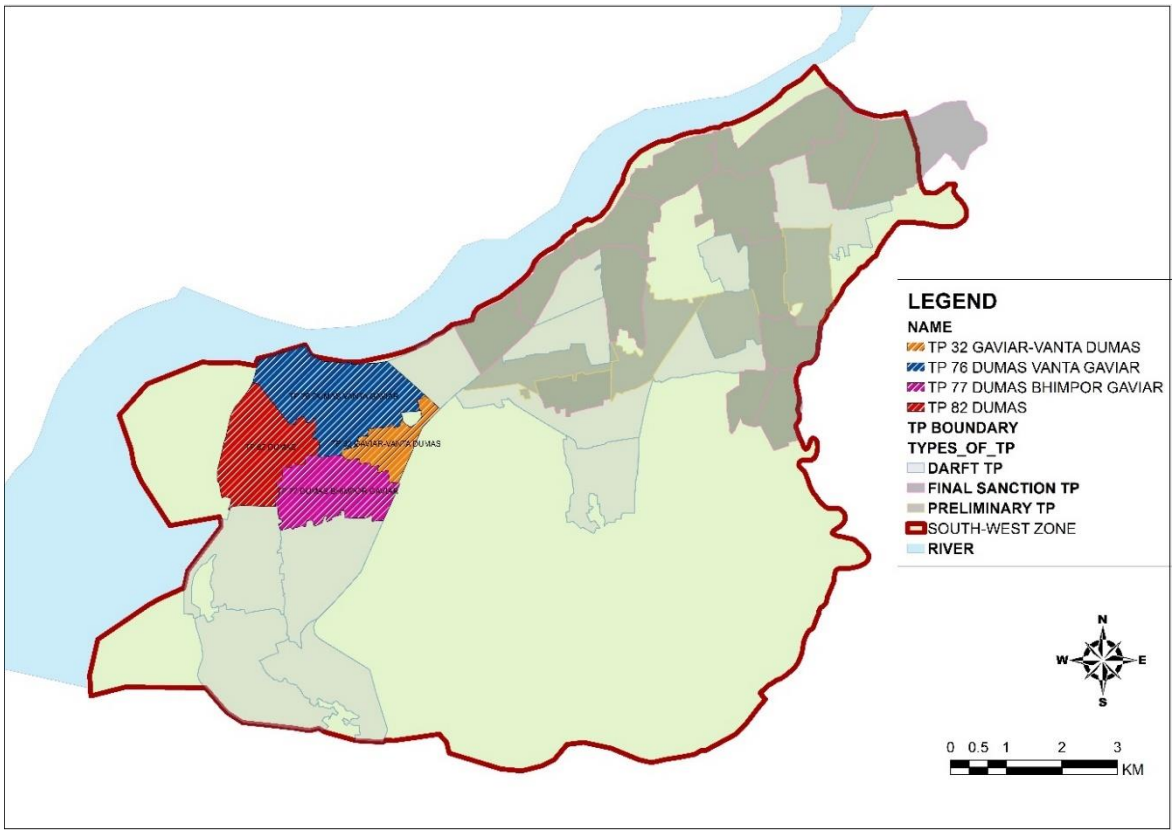
5. FINDINGS, INFRENCES AND PROPOSAL

5.1 Demonstration site (Proposal)

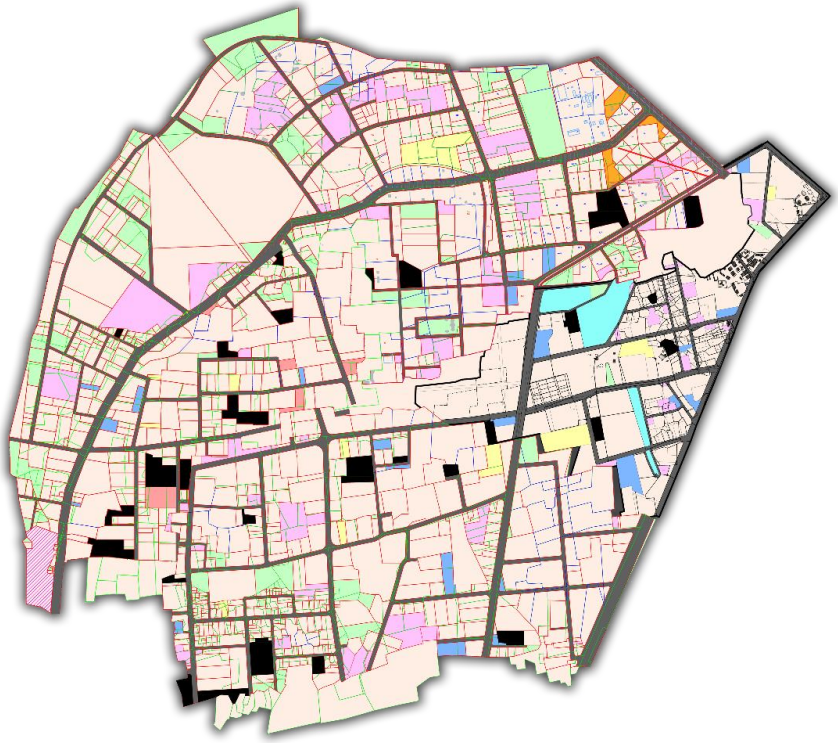
Selected draft TP Scheme for planning Proposal

1. TP-32- (Gaviar-Vanta-Dumas)
2. TP-77 (Dumas-Bhimpor- Gavior)
3. TP-76 (Dumas-Vanta-Gavior)
4. TP-82- (Dumas)

Map 16 Selected Demonstration Site



Map 17 Selected Four draft TP Scheme Plan



- Select four TP Scheme (Draft level scheme) in south west zone for prepare planning proposal as demonstration.
  TP-32- (Gaviar-Vanta-Dumas), TP-77- (Dumas-Bhimpor-Gavior), TP-76- (Dumas-vanta-gavior), TP-82- (Dumas)

Figure 5:1 Year 2010 Satellite Image of Site

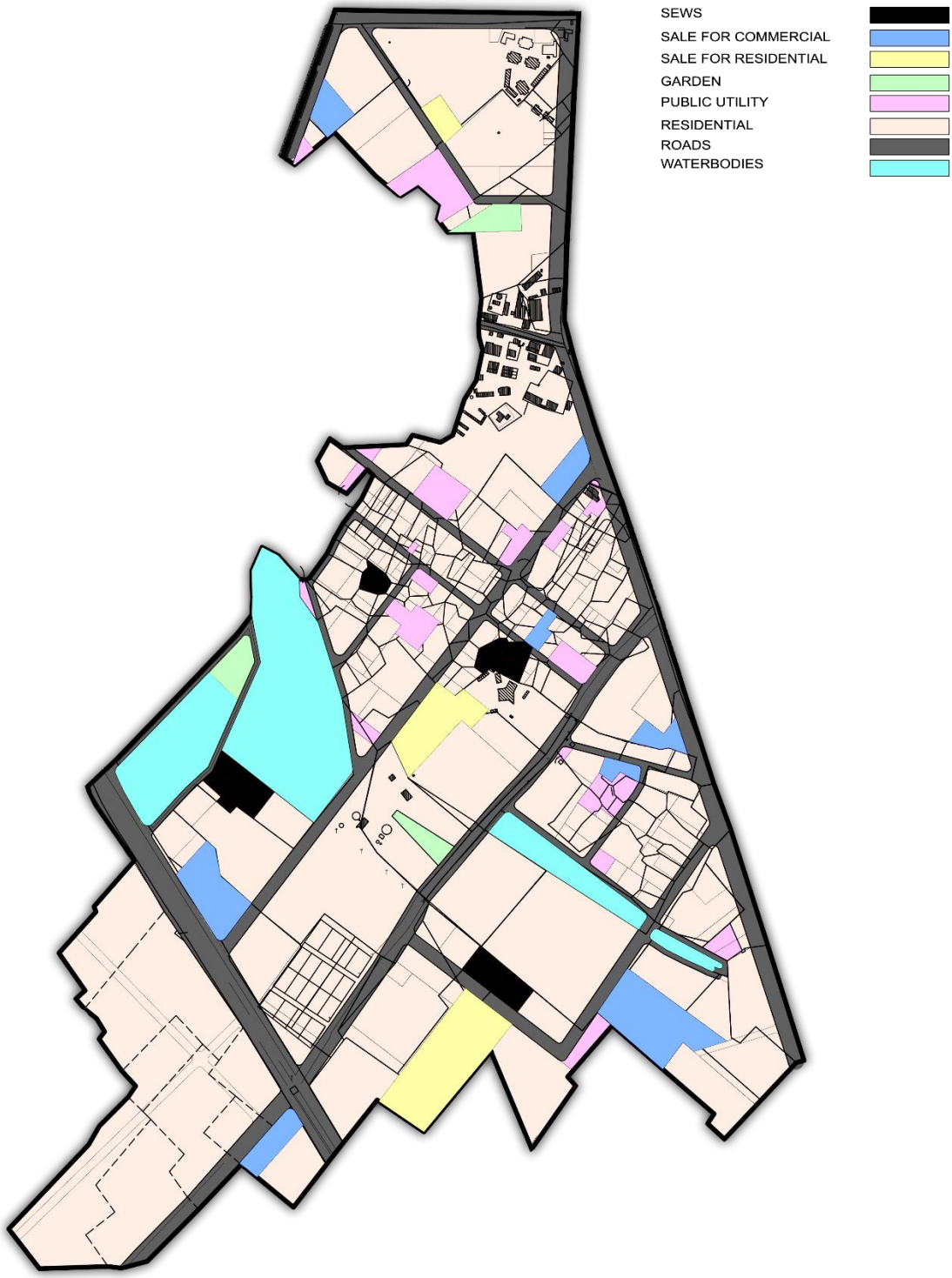
(Source: Google earth)

Figure 5:2 Year 2020 Satellite Image of Site

(Source: Google earth)

5.2 TP-32- Gaviar-Vanta-Dumas (Draft TP)

Map 18 TP-32 Plan



- Total TP area 9,40,000sqmt
- Provided EWS-15,189sqmt
- As per Gujarat Town Planning and Urban Development Act 10% (94,000sqmt) Required
- 78,811sqmt Gap of EWS Reservation in TP-32 Vesu

Figure 5:3 TP-32 Site Photographs

Date of site visit: 20th February 2021

Table 5:1 TP-32 F-form Reservation data

Reservation	F.P. No.	F.P AREA (sqmt)
Housing for Socially and Economically Weaker Section	187	3563
	191	5060
	199	2358
	205	4208
	Total	**15,189**
Sale for commercial	170	2758
	176	2877
	185	1225
	193	7139
	195	3382
	201	2221
	207	11754
	Total	**31,356**
Sale for Residential	171	1988
	196	16600
	198	8147
	Total	**26,735**
Public Utility	172,177,178,179,180,182,183,186,189,200,202,203,204,206,208	**22,258**
Garden	173,192,197	**8,242**
Open space & Parking	169,181,184,194	**1,829**
Space for dustbin	174,190	**1,059**
School & Playground	175,188	**6,258**

Figure 5:4 TP 32 Reservation

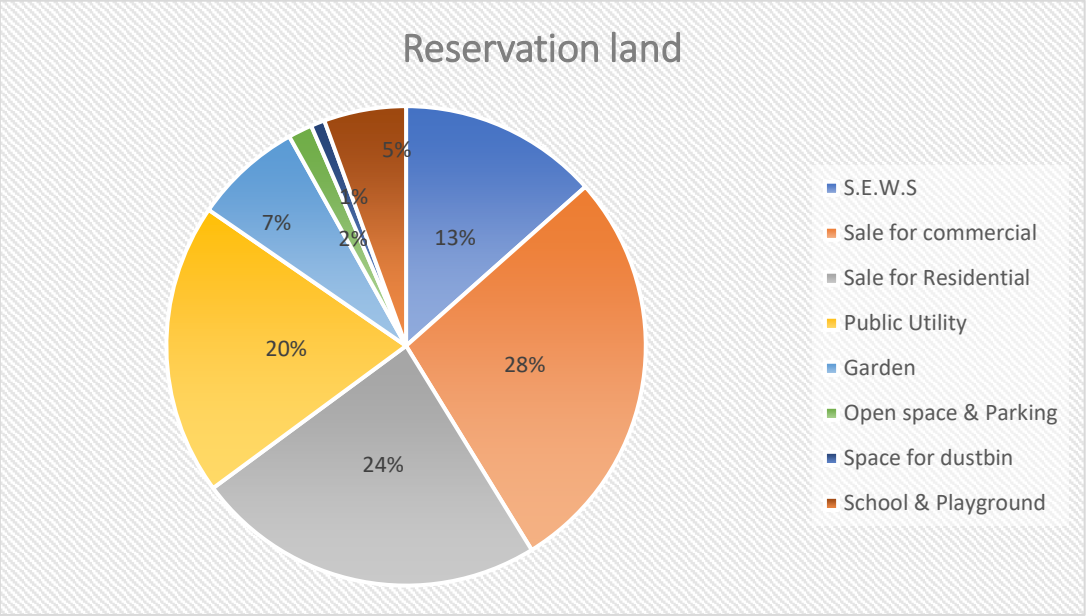
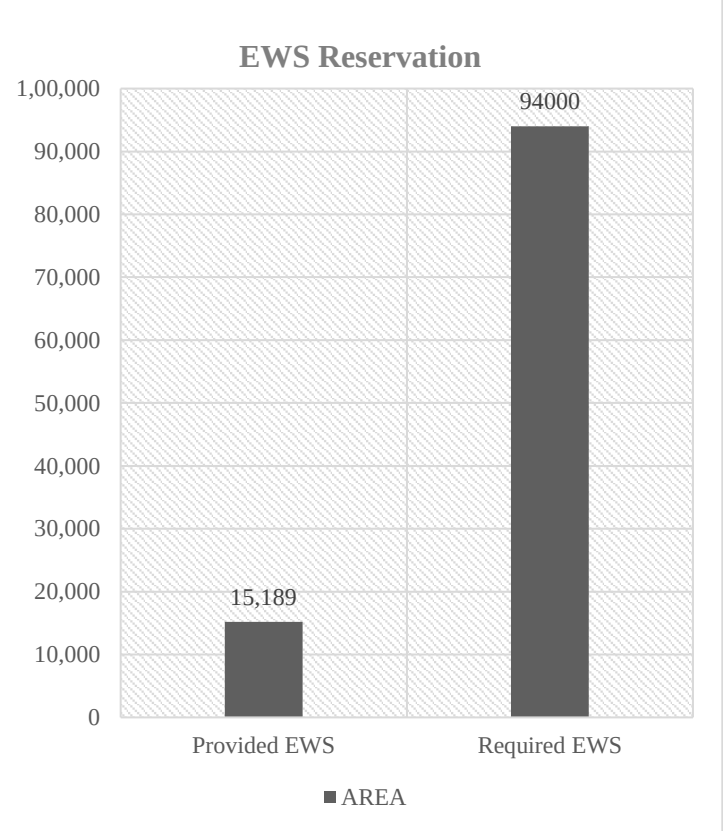
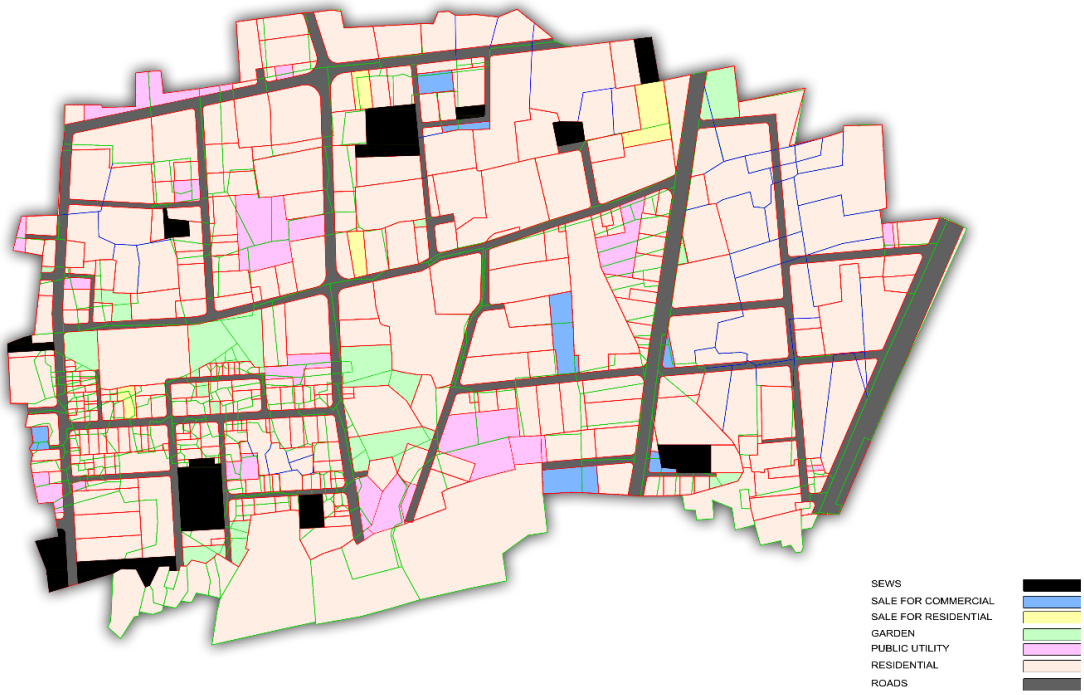


Figure 5:5 TP 32 EWS Reservation Gap Analysis



5.3 TP-77 (Dumas-Bhimpor- Gavior)

Map 19 TP-77 Plan



- Total TP area- 21,96,000sqmt
- Provided EWS- 84,723sqmt
- As per Gujarat Town Planning and Urban Development Act 10% (2,19,600sqmt) Required
- 1,34,877 sqmt Gap of EWS Reservation in TP-77 Vesu
-

Figure 5:6 TP-77 Site Photograph

Date of site visit: 20th February 2021

Table 5:2 TP-77 F-form Reservation data

Reservation	F.P. No.	F.P AREA (sqmt)
Housing for Socially and Economically Weaker Section	5	2565
	8	6908
	9	8495
	17	16385
	21	4465
	34	7435
	39	15678
	40	3470
	43	1842
	45	14870
	51	2610
	Total	**84723**
Sale for commercial	29	**9718**
Local commercial	6,28,32,33,42,44	**18918**
Sale for Residential	11,46,48	**10160**
District center	2,26,27,49	**58704**
Water distribution center	3,14	**8190**
Public Utility	1,22,24	**8160**
Garden	12,13,23,25,35,38	**75548**
Open space & Parking	4,15,16,18,19,31,41,47,52	**155571**
Sub center	7,10,36,37,53	**8691**
School & Playground	20,30,50	**19115**

Figure 5:7 TP-77 Reservation land

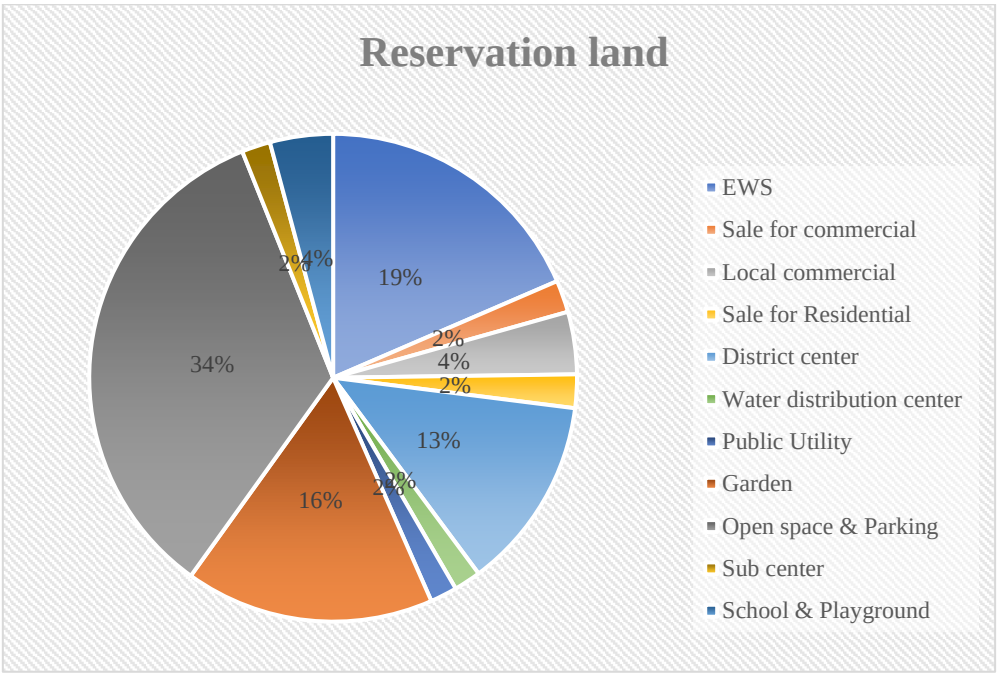
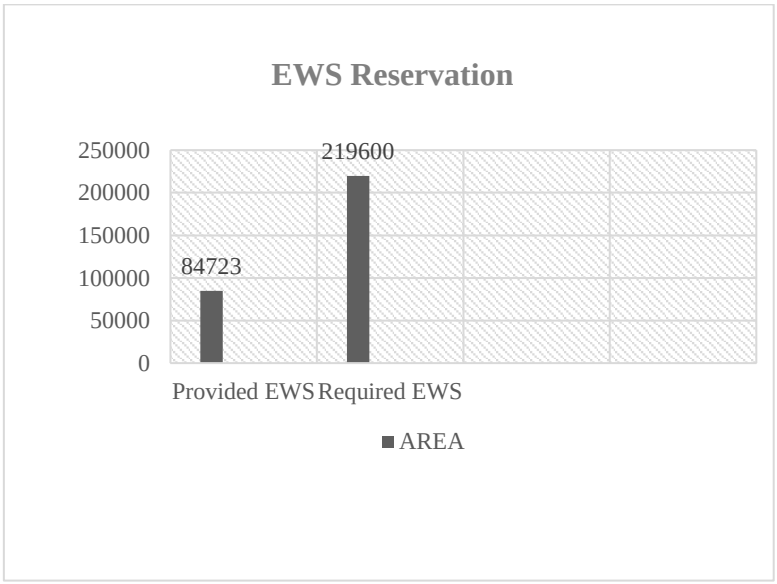
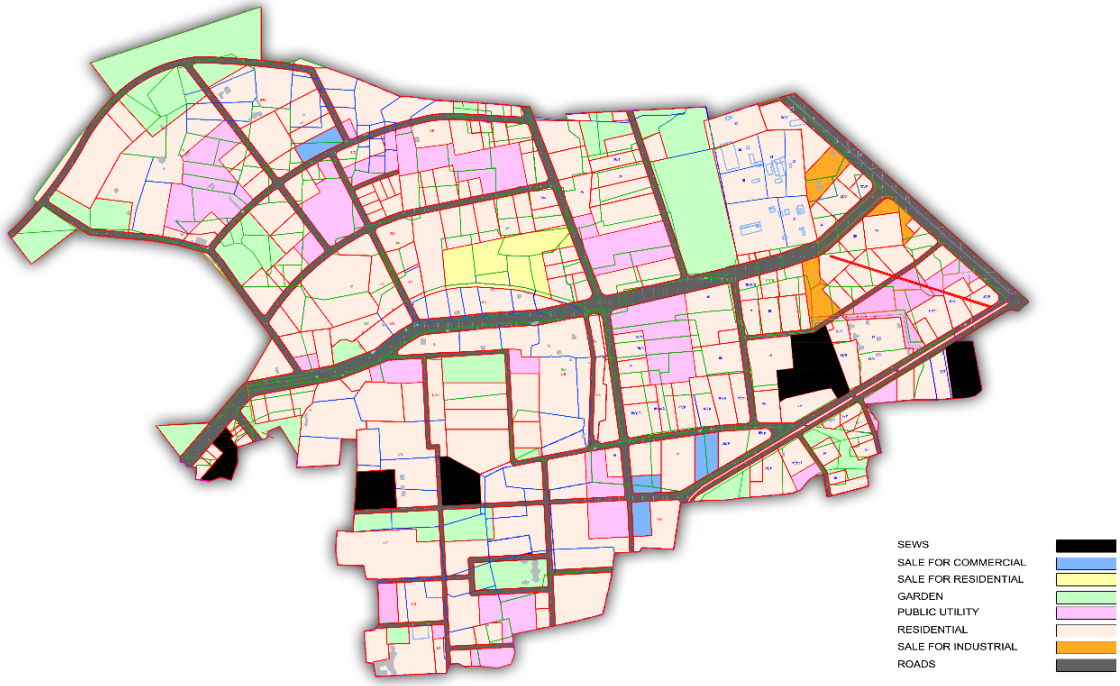


Figure 5:8 TP 77 EWS Reservation Gap Analysis



5.4 TP-76 (Dumas-vanta-gavior)

Map 20 TP-76 Plan



- Total TP area- 34,42,600sqmt
- Provided EWS- 66,477sqmt
- As per Gujarat Town Planning and Urban Development Act 10% (3,44,260sqmt) Required
- 2,77,783sqmt Gap of EWS Reservation in TP-76 Vesu

Figure 5:9 TP-76 Site Photographs

Date of site visit: 20th February 2021

Table 5:3 TP-76 F-form Reservation data

Reservation	F.P. No.	F.P AREA (sqmt)
Housing for Socially and Economically Weaker Section	15	9057
	21	14259
	22	13803
	41	13946
	46	29215
	Total	**66,477**
Sale for commercial	33,34,35	**19,335**
Sale for industrial	43,44,45	**29,908**
Recreation open space	1,2,3,4,12,14,23,24,28,38,49	**2,03,151**
District center	11,29,31	**57,209**
Public utility parking	6,13,19,30,37,40	**20,591**
Public Utility	8,27,39,32,17,42/A,47,50/A,52/B	**1,66,065**
Garden	16,20,36	**20,985**
Multipurpose op. space	5	**2,922**
Sub center	10	**4,800**
School & Playground	18,25,26,42/B,48	**1,38,111**
Auditorium& Recreational Op. Space	52/A	**38728**
Park	53	**2594**
Party plot	9	**24444**

Figure 5:10 TP-76 Reservation land

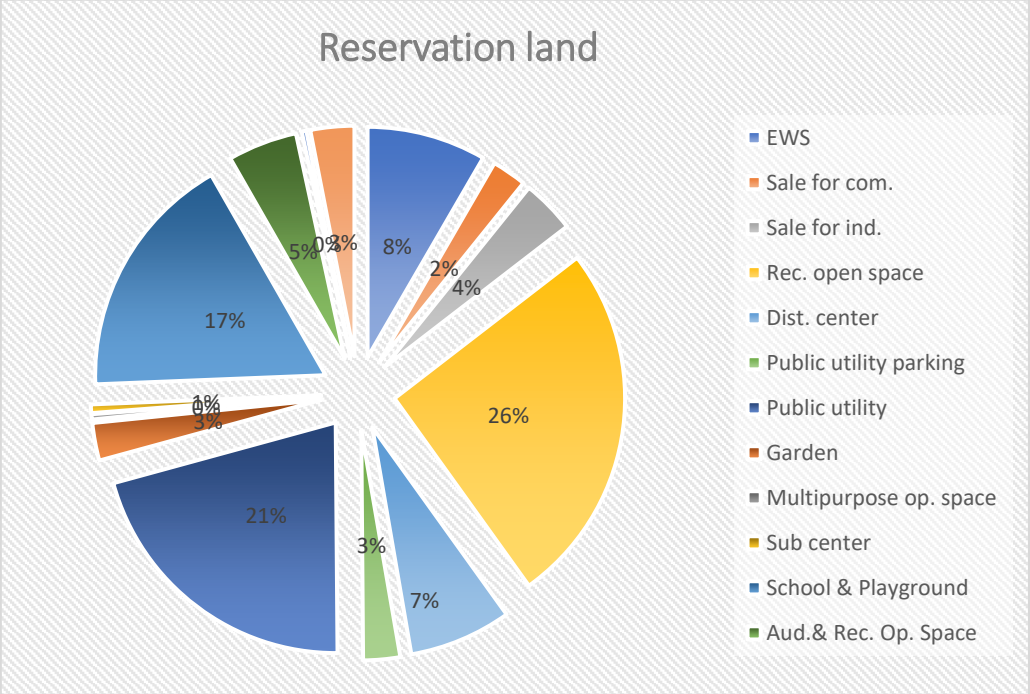
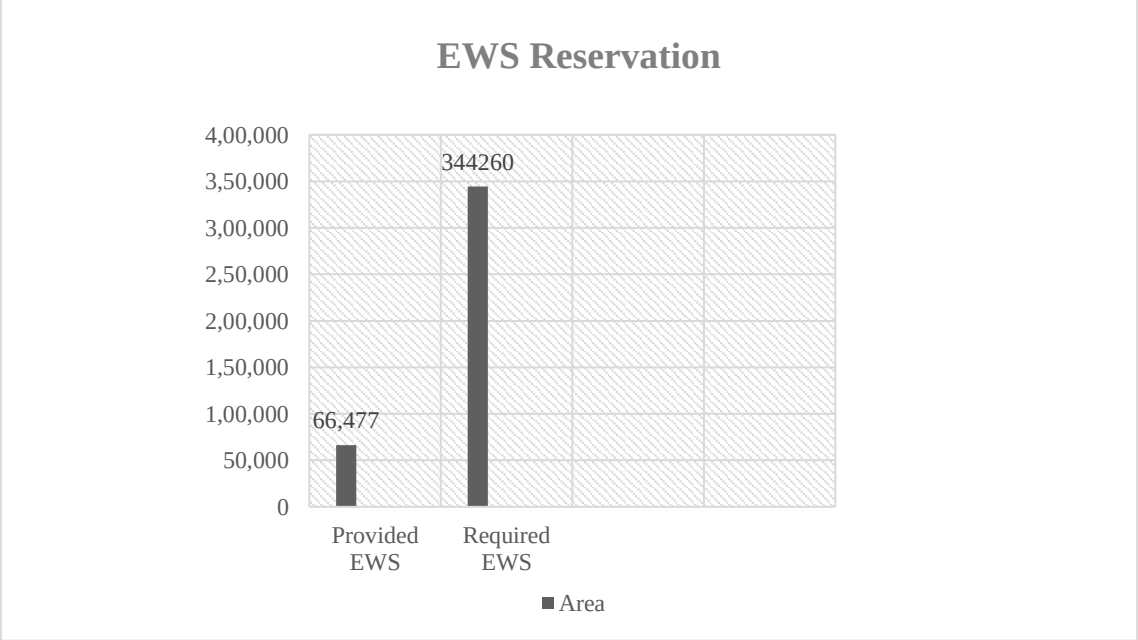
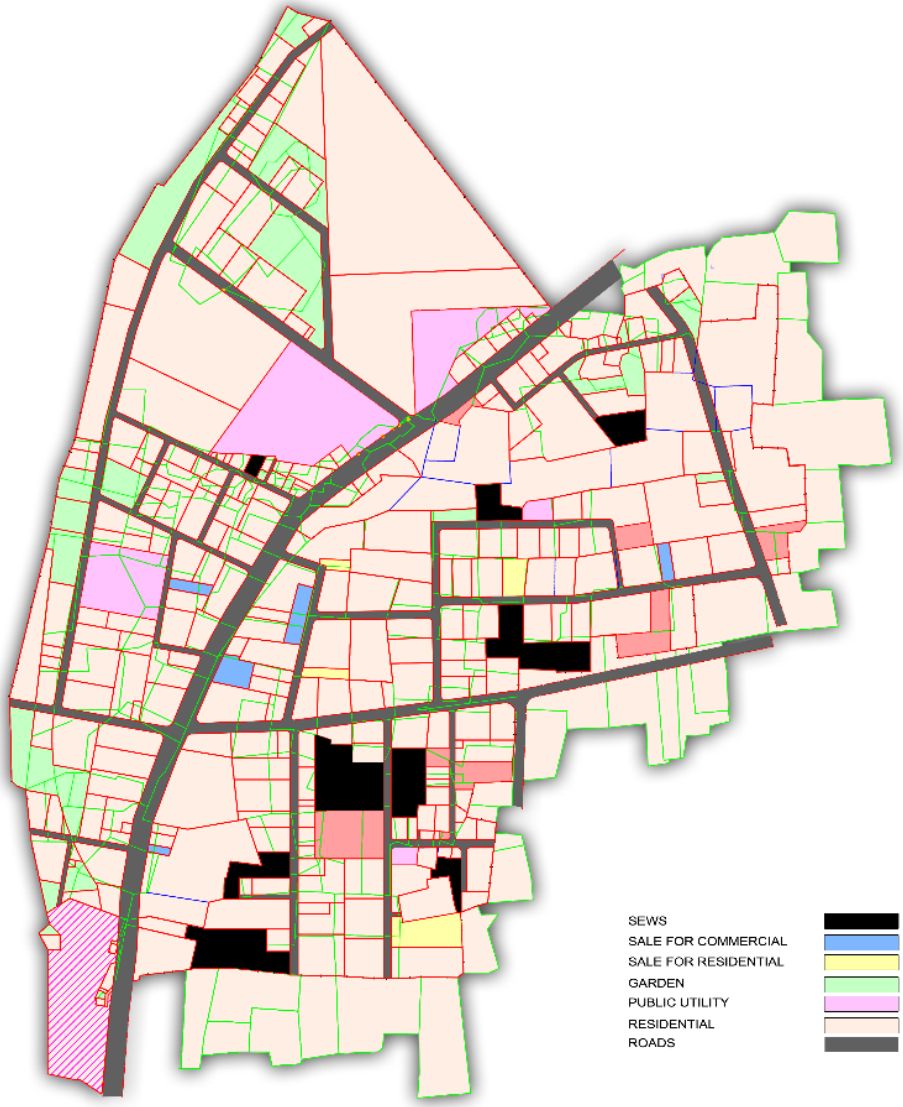


Figure 5:11 TP 76 EWS Reservation Gap Analysis



5.5 TP-82- Dumas

Map 21 TP-82 Plan



- Total TP area- 25,54,100sqmt
- Provided EWS- 1,01,103sqmt
- As per Gujarat Town Planning and Urban Development Act 10% (2,55,410sqmt) Required
- 1,54,307sqmt Gap of EWS Reservation in TP-82 Vesu

Figure 5:12 TP-82 Site Photographs

Date of site visit: 20th February 2021

Table 5:4 TP-82 F-form Reservation data

Reservation	F.P. No.	F.P AREA (sqmt)
Housing for Socially and Economically Weaker Section	9	1643
	22	19190
	23	8440
	29	7240
	38	6560
	42	19115
	44	21985
	45	12460
	49	4470
	Total	**1,01,103**
Sale for residential	27,40,43,50	**20,496**
Local commercial	15,24,25,26,35	**16,663**
Garden	1,3,11,13,17,18,30,32	**66,593**
District center	36,41,52	**32,680**
Water distribution center	46,47	**9,386**
Public Utility	28	**1,925**
Mal. Pur. Open space	2,10,31,34,39	**29,240**
Open space	7,8,19,20,21	**2356**
Recreation center	4,12,16	**56,663**

School	37,51	**5673**
Sub center	33,48	**6422**
sports complex	6,14	**95,137**
Edu. Research center	5	**30627**

Figure 5:13 TP-82 Reservation land

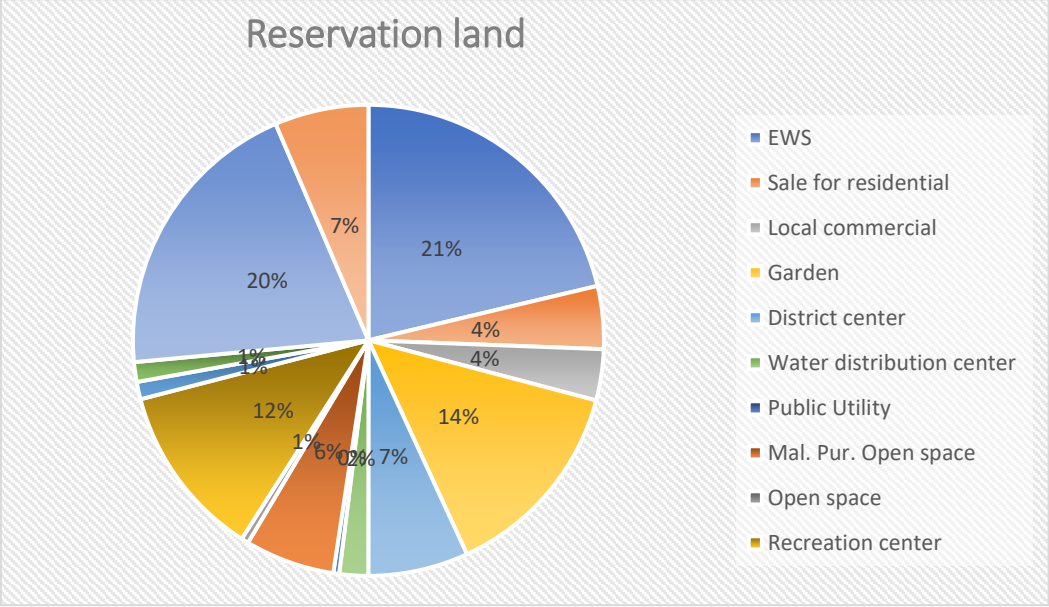
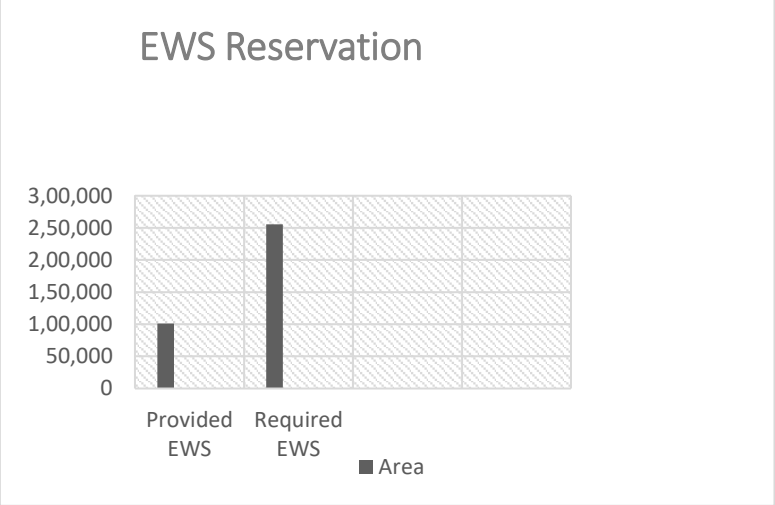


Figure 5:14 TP 82 EWS Reservation Gap Analysis



5.6 Findings

As per primary data collection and site survey findings are below:

- ❖ As per site survey

- As per site survey TP- 32 we can perceive large numbers of empty plots without any development also reservation plots are not developed yet.
- In TP-77 there we can see few projects construction is going on and few projects are completed. So, TP-77 is bit developed TPS compare to other three demonstration TPS, but in this TPS also the reservation plots have not been developed yet.
- In TP- 76 and 82 large numbers of empty plots without any development and Reservation pots are undeveloped.
- In all four TPS the reservation plots have not been developed yet by authorities, so we have an opportunity to make planning attempt on this reservation plots.

- ❖ As per data collection findings

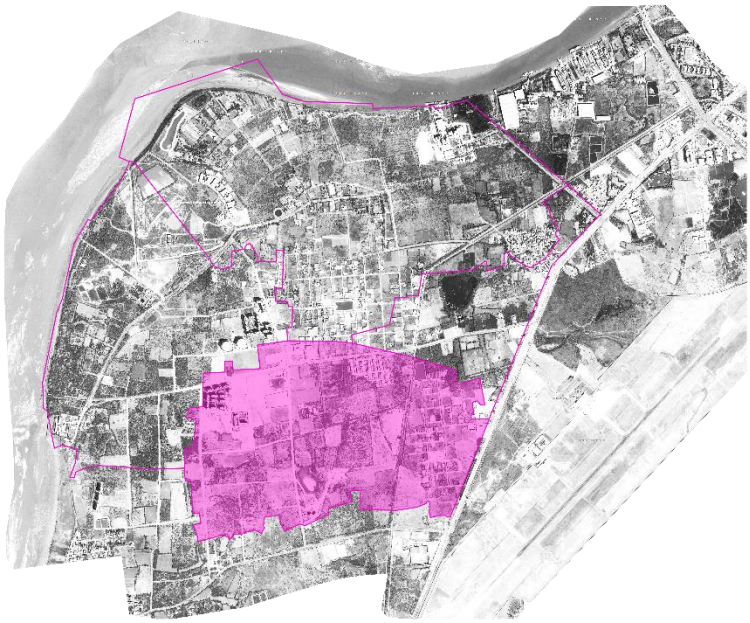
- As per data collection major findings are huge gap between provided EWS reservation in TP scheme are not appropriate as per Gujarat Town Planning and Urban Development Act we studied four TP scheme and these all four TP schemes has major gap of required as per act and provided reservation final plots.

5.7 Demonstration Area- Draft TP Scheme

Map 22 TP-76 (Dumas-vanta-gavior) Boundary

Map 23 TP-32 (Gaviar-Vanta-Dumas) Boundary

Map 24 TP-77 (Dumas-Bhimpor- Gavior) Boundary



Map 25 TP-82 (Dumas) Boundary

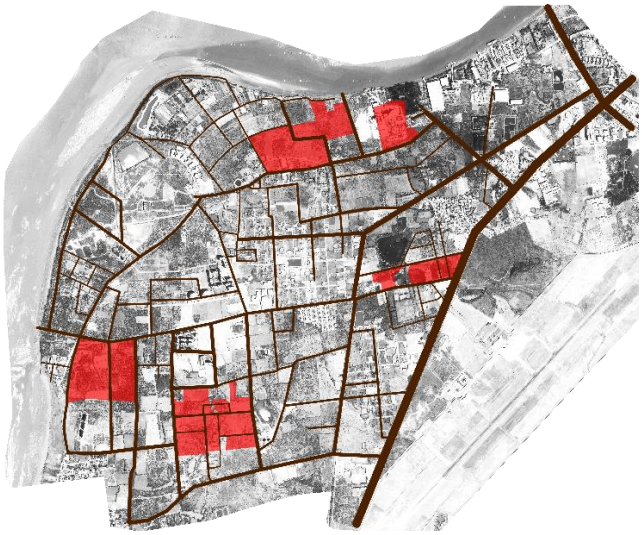
Map 26 Road Network of All Selected Demonstration Four TP

5.8 Proposal for EWS Land Parcels

Map 27 EWS Proposal land

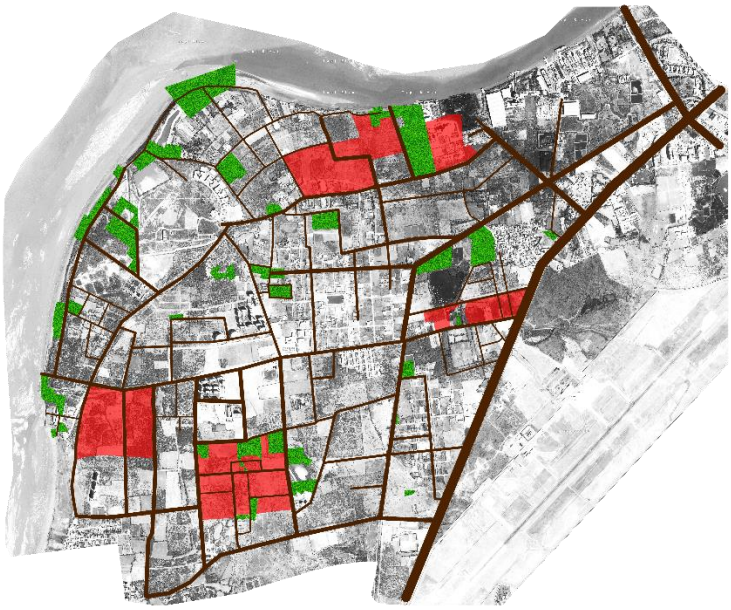
5.9 Proposal of EWS Land Parcels and Road Linkage

Map 28 EWS Proposal with Road Network



5.10 Proposal of EWS Land Parcels and Proposed Green Space

Map 29 EWS Proposal with Proposed Green space

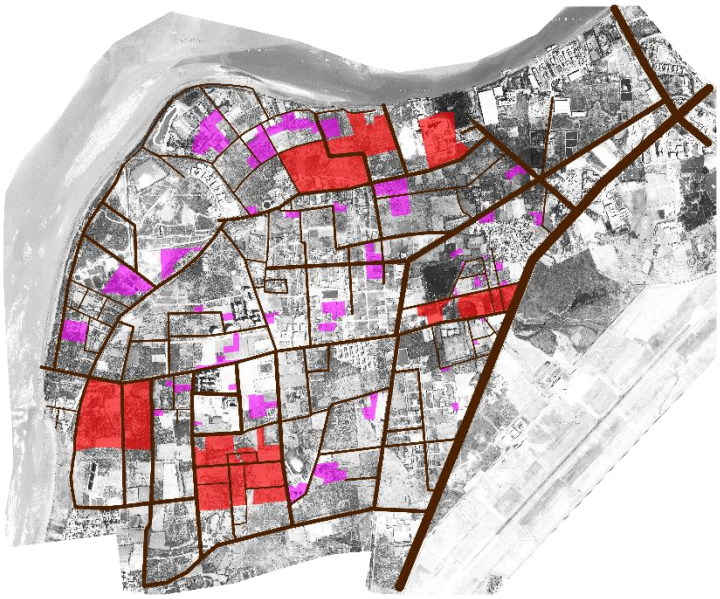


5.11 Proposal of EWS Land Parcels and Proposed Commercial

Map 30 EWS Proposal with Proposed Commercial Reservation

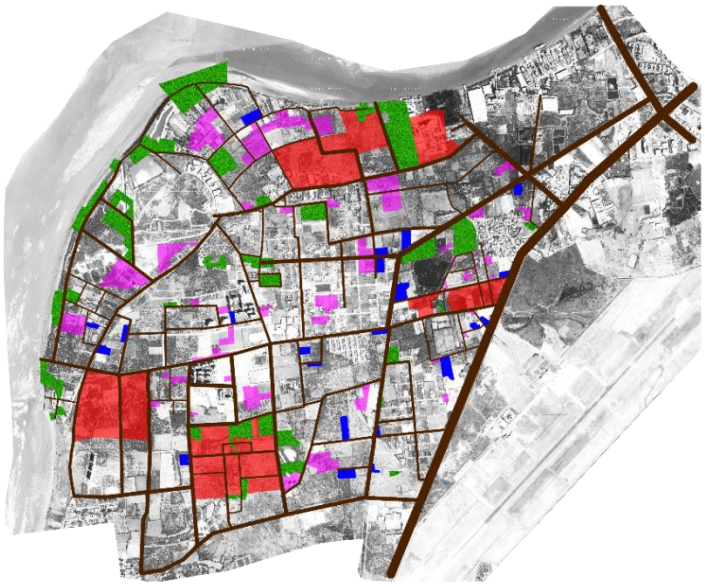
5.12 Proposal of EWS Land Parcels and Proposed Public Utility

Map 31 EWS Proposal with Proposed Public utility

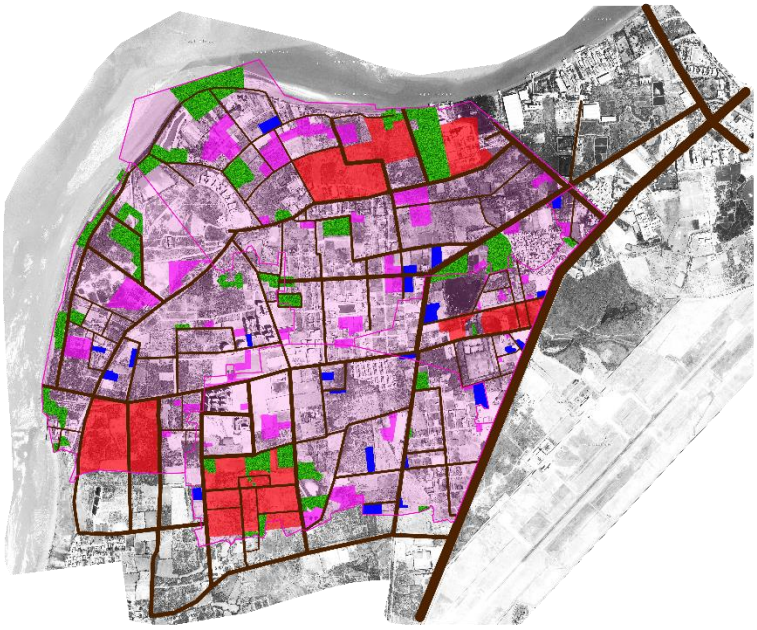


5.13 Proposal of EWS Land Parcels and All Reservation Plots

Map 32 EWS Proposal with all reservation plots location



Map 33 EWS Proposal with all reservation plots location with TP boundary



❖ **TP-76 (Dumas-vanta-gavior)**

Plot area calculation of Proposal

- Total TP area 34,42,600 sqmt
- Provided EWS in Draft TP -66,477 sqmt
- As per Gujarat Town Planning and Urban Development Act (3,44,260) 10% Required
- Propose EWS reservation as per Gujarat Town Planning and Urban Development Act- 3,43,715 sqmt
- Total Area of Existing Draft TP Reservation Plot which we use in EWS Reservation Proposal- 54,929 Sqmt

Table 5:5 TP-76 Selected FP For EWS Proposal from Draft TPS F-form

Sr no.	Final Plot no. (As per Draft TP F-Form)	Area
1	2/c	28376
2	3/a	5175
3	3/b	8331
4	31	4406
5	32	4340
6	33	3683
7	34	7649
8	35	6981
9	37	5660
10	38	19238
11	39	12202
12	40	5655

13	41	5590
14	42	4472
15	92	17340
16	93	9660
17	94	8100
18	95	9360
19	96/a	2556
20	97/a	4651
21	98/a	9149
22	99	5590
23	115	5782
24	125/a	433
25	126/a	911
26	127/a	905
27	128	87840
28	133	4801
29	R-50/b	4040
30	R-51	50889
	TOTAL	**3,43,715**

- **TP-32-(Gavior-Vanta-Dumas)**

Plot area calculation of Proposal

- Total TP area 9,40,000 sqmt

- Provided EWS in Draft TP -15,189 sqmt
- As per Gujarat Town Planning and Urban Development Act (94,000) 10% Required
- Propose EWS reservation as per Gujarat Town Planning and Urban Development Act-96,824sqmt
- Total Area of Existing Draft TP Reservation Plot which we use in EWS Reservation Proposal -15,749 sqmt

Table 5:6 TP-32 Selected FP For EWS Proposal from Draft TPS F-form

Sr no.	FP no.	Area
1	20	263
2	21	394
3	22	405
4	23	263
5	25	101
6	31	263
7	32	263
8	33	263
9	34	723
10	35	1907
11	37	1775
12	36	1183
13	38	1249
14	24	263
15	58	629
16	26	197

17	27	263
18	28	263
19	29	263
20	30	100
21	40	470
22	41	3719
23	39	724
24	49	263
25	48	526
26	43	923
27	42	1052
28	60	471
29	61	1070
30	65	263
31	57	949
32	59	267
33	51	290
34	50	1302
35	52	597
36	47	592
37	46	2695
38	53	394

39	54	460
40	55	460
41	56	1578
42	67	855
43	68	921
44	69	526
45	165/1	11693
46	166	11775
47	128/1	25392
48	181	359
49	182	803
50	183	539
51	184	198
52	185	1225
53	198	8147
54	199	2358
55	200	2120
	TOTAL	**96,824**

- **TP-77-(Dumas-bhimpor-gavior)**

Plot area calculation of Proposal

- Total TP area 21,96,000sqmt
- Provided EWS in Draft TP -84,723sqmt

- As per Gujarat Town Planning and Urban Development Act (2,19,600) 10% Required
- Propose EWS reservation as per Gujarat Town Planning and Urban Development Act-2,40,269sqmt
- Total Area of Existing Draft TP Reservation Plot which we use in EWS Reservation Proposal -30,383 sqmt

Table 5:7 TP-77 Selected FP For EWS Proposal from Draft TPS F-form

Sr no.	FP no.	Area
1	24	1447
2	34	920
3	37	987
4	41	354
5	163	1315
6	164	1776
7	165	1114
8	166	1841
9	168	2565
10	38-a	2894
11	38-b	2894
12	40	987
13	45	1578
14	47	566
15	68	1709
16	69	2302

17	70/a	3156
18	70/b	2236
19	63	14808
20	64	283
21	65/a	1381
22	65/b	1513
23	66	789
24	67	700
25	61	1512
26	62	1578
27	73/a	496
28	73/b	496
29	72	283
30	105	1709
31	104/a	1578
32	104/b	1644
33	103	987
34	99	2630
35	102	213
36	101/b	6425
37	130	1184
38	129	1315

39	128	213
40	127	1381
41	126	1052
42	133	2828
43	R-10	723
44	R-14	6513
45	R-20	4057
46	134/a	8741
47	134/b	8741
48	134/c	8498
49	101/a	14700
50	150	28652
51	116	354
52	138	283
53	95	723
54	131	638
55	96	638
56	119	425
57	124	700
58	114	425
59	107	789
60	110	700

61	115	213
62	118	700
63	117	283
64	121	496
65	120	789
66	122	920
67	109	495
68	108	638
69	106	1249
70	97	1052
71	94	1776
72	98/a	1907
73	98/b	1907
74	84	723
75	83	425
76	80	425
77	78	425
78	79	425
79	161	354
80	160	1184
81	93	2104
82	92	1512

83	90	2301
84	77	2630
85	74	921
86	71	2960
87	75	496
88	76	1709
89	159	7891
90	85	2499
91	87	920
92	82	354
93	81	496
94	100	425
95	88	1315
96	58	1447
97	86	1184
98	89	496
99	59	213
100	52	3354
101	51	496
102	123	283
103	111	700
104	112	1228

105	113	425
106	125/a	1381
107	125/b	1118
108	R-11	2705
109	R-17	16385
	TOTAL	**2,40,269**

❖ **TP-82- (Dumas)**

- Total TP area 25,54,100sqmt
- Provided EWS in Draft TP- 1,01,103sqmt
- As per Gujarat Town Planning and Urban Development Act (255410sqmt) 10% Required
- Propose EWS reservation as per Gujarat Town Planning and Urban Development Act- 2,92,479sqmt
- Total Area of Existing Draft TP Reservation Plot which we use in EWS Reservation Proposal - 67,385sqmt

Table 5:8 TP-82 Selected FP For EWS Proposal from Draft TPS F-form

Sr no.	Final Plot no. (As per Draft TP F-Form)	**Area**
1	5	12290
2	7	2894
3	10	13719
4	11	3420
5	12	42706

6	18	1184
7	19	3551
8	23	5129
9	24	4077
10	17	1315
11	193/a	1571
12	81	27250
13	76	9348
14	80	6738
15	83/b	5117
16	79	6500
17	78	1841
18	45	3749
19	73/b	3060
20	77	3485
21	44	3288
22	25	3025
23	20	494
24	75	1966
25	74	1683
26	26	1184

27	22	2433
28	27	8741
29	28	8438
30	21	1841
31	29	8377
32	9	5985
33	8	10378
34	30	8317
35	R-22	19190
36	R-23	8440
37	R-44	21985
38	R-52	17770
	TOTAL	**2,92,479**

5.14 Inference

❖ Consideration points

- EWS reservation should be given close to the commercial area (Sale for commercial)
- For the social cohesion in the community and neighbors EWS reservation provide nearly on adjoining TPS.
- Provide schools in near EWS reservation.
- Provide green space nearby EWS housing because they don't have any green space or open space in their housing schemes.
- Provide skill labor center nearby EWS housing to give opportunities for urban poor
- Provide EWS housing and commercial under government policies.

5.15 Conclusion

- Provide EWS reservation land that is not complete the duty of planners, considering all the social, economic parameter which are affect the life of the EWS user has to be consider and prepare TP according it.
- ULB need to prepare specific process and consider criteria for earmark of EWS reservation Under TP scheme.
- Prepare TP reservation based on feasibility report and sample survey data and try to cover up all the issues and address it.
- Provide appropriate land parcel reservation as per Gujarat Town Planning and Urban Development Act provision in TPS.

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1) "Study of Urban Land Management Techniques Followed in India"-Avinash Satashia

2) "Ahmedabad: Town Planning Schemes for Equitable Development- Glass Half Full or Half Empty?" -Darshini Mahadevia, Madhav Pai, and Anjali Mahendra –August-2018

3) Paradigm of EWS housing allotment – urban poor relocation in Surat": Avaniben Rakeshkumar Gandhi, Bhasker Vijaykumar Bhatt

4) "Residential Location Preferences"- (Petkar Aarti, 2013)

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6) Urbanization – A Process of Transition of Urban Areas (Cities in Transition - World Bank Urban and Local Government Strategy)

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