

Proposal for Greenfield Development in Hanumanwadi, Nashik

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Abstract: Greenfield land is land that isn't compelled by existing building or framework. Its undeveloped land in a city zone either utilized for horticulture, scene plan, or left to normally advance. These areas of land are usually agricultural or amenity properties being considered for urban development. Greenfield sites are most often located in the urban fringe of the path of development or in rural areas where undeveloped land is more likely to be present. Greenfield approach involves creating a new smart city within or in the vicinity of an existing town or urban center. While these Greenfield developments represent only a small percentage of the total population they provide a valuable opportunity to build services and capabilities into the community using infrastructure.

The paper presents proposal for the area based development at Hanumanwadi Nashik. The study location has an area of 130 Ha located towards the northern banks of Godavari River in Nashik. The existing land use of the study location is majorly agricultural and forest areas. Necessity for development of Greenfield area is to manage the transformation of Nashik city and manage new growth requires effective planning of amenities, road, water supply, sewerage, housing for all class of people. The data for the study is collected from the Nashik Smart City Department, NMC which includes maps & drawing of Hanumanwadi.

IndexTerms— Greenfield development, smart city, town planning scheme, land use.

I. INTRODUCTION

Cities and urban areas within a country provide hope for aspiring migrants from rural areas for better employment and better living conditions. The '100 Smart Cities' drive in India is seen to be a vital advance towards the urban populace increment in the nation. Retrofitting, Redevelopment, Greenfield Development and Pan-City Development are systems for the advancement of urban communities. These four techniques are to be implemented for the fulfillment of projects under smart cities initiatives taken all over the world. Greenfield approach involves creating a new smart city inside a current town or urban focus. One of them is Greenfield development, it will be developed around cities in order to accommodate the expanding population in urban areas. Greenfield land is undeveloped land in city or country area either utilized for horticulture or left to advance normally. Greenfield destinations are for the most part situated in the urban edge of the way of advancement or in provincial zones where undeveloped land is to be available, which zone considered for urban improvement. These Greenfield improvement speak to just a little level of the aggregate populace they give a profitable chance to build services and infrastructure.

II. PROBLEM DEFINITION

Old city region is most seasoned region and home of legacy structures. Consequently individuals from everywhere throughout the city and in addition from outside settled here. The center zone having old structure of houses. Generally houses are buildup of mud stones and bricks with lack of public amenities. The trend of residential development is mostly around the city Centre area Panchavati, Hanumanwadi, Makhmalabad road, Gangapur, and so on. Population is growing fast but the houses are not built. Because of huge increment in populace there is more interest for lodging in the city.

Current scenario in Nashik is deficiency of houses and also public amenities like water supply, sewerage, play grounds etc. This is due to the rural-urban migration. As center zones are over crowded and no regions left for the development so it's smarter to discover other approach to redirect the population from core area to noncore area. For which Hanumanwadi area is selected as there is no human settlement. It's just next to the city Centre. Thus it faces development pressures from all sides. Hence this area can be considered for Greenfield development by using Maharashtra Regional and Town Planning Act 1966. To overseeing new development by giving equitable allocation of land for public purpose which includes houses for all, EWS housing, open spaces, amenities.

III. OBJECTIVE OF THE STUDY

- To study TPS process as per MRTP Act 1966 and GTPUD Act 1976.
- To study and analyze land acquisition and land pooling method for acquiring land from owners.
- To study the existing scenario of Hanumanwadi.
- To formulate the proposal of Greenfield Development in Hanumanwadi.
- To manage new growth by providing equitable allocation of land for public purpose.

IV. METHODOLOGY

This research starts with recognizing problem definition. This will be followed by literature review, Based on that, literature papers and related works were studied to define the objectives. To get and understand Comparative Study of Greenfield Development Projects, Town Planning Scheme approach, the role & effectiveness of town planning schemes. After identifying the problem definition and detail literature study, for study area Hanumanwadi, Nashik (130 Ha) is chosen. After finalizing the study area, list of parameters to work upon were listed and the data required to approach the problem were listed and collected by various methods which are discussed more in the separate chapter. The data collected were combined and analysis was carried out based on which proposals are made. Various data are collected from Nashik Municipal Corporation (NMC) which includes maps and drawings of Hanumanwadi. The analysis further proceed by SWOT (strength, weaknesses, opportunities and threats). SWOT analysis are recognized and further proposal will be given by, Following figure shows the flow chart of methodology:

V. STUDY AREA

Nashik is situated on the banks of holiest Godavari River. Nashik is popular for its places, these places includes religious, tourist and historical. Godavari Ghat is one of the religious place. Godavari River is flow through Nashik which starts at Trimbakeshwar. This stream makes northern and southern piece of Nashik. Northern part is Panchavati. The paper presents proposal for the area based development at Hanumanwadi Nashik. The study location has an area of 130 Ha located towards the northern banks of Godavari River in Nashik and north of Gangapur road & just next to Makhamalabad, Panchvati. These area of land are usually farming properties being considered for urban development.

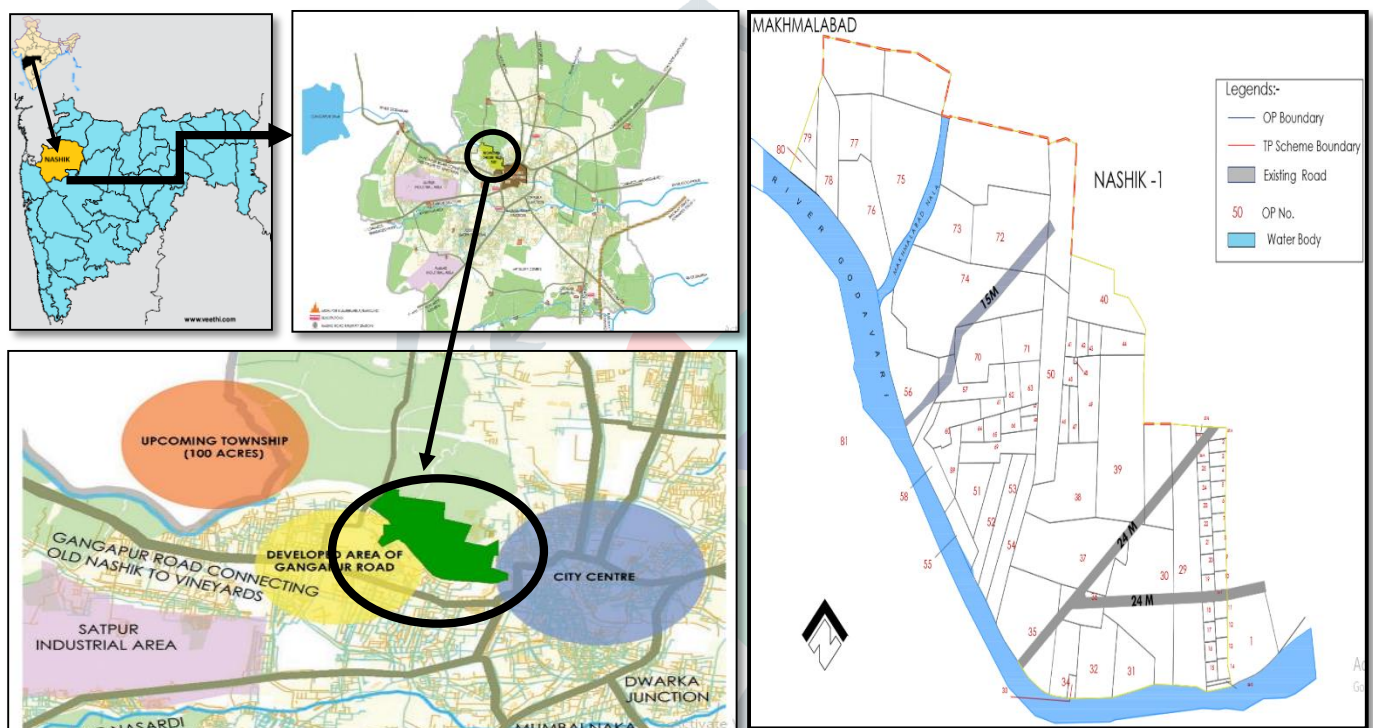


Figure 2: location map of study area

VI. GOVERNMENT POLICY

Town Planning Schemes was implemented since 1915 when Maharashtra and Gujarat was join state. Implementation was done under Bombay Town Planning Act 1915. Bombay Town Planning Act, 1915 was replaced by Bombay Town Planning Act 1954; again replaced by Maharashtra Regional and Town Planning Act 1966 and certain amendments for the purpose of development. The concept and procedure of Town Planning Scheme remains almost same. The basic of TPS is that with the reconstitution of plots and provision of amenities i.e. roads, open spaces, EWS housing, land for sale and social amenity.

Compare MRTTP Act 1966 and GTPUD Act 1976

Stages of Preparation of Town Planning Scheme:

Table 1: stages of preparation of town planning scheme

Sr. no.	TPS finalization stage	Section		Power to prepare Town Planning Scheme	
		MRTP Act 1966	GTPUD Act 1976	MRTP Act 1966	GTPUD Act 1976
1	Draft Town planning scheme	59 to 63	40 to 48	Planning authority/Govt.	
2	Preliminary scheme	64	50 to 53	Arbitrator	TPO
3	Final scheme	65	50 to 53	Arbitrator	TPO
4	Tribunal appeal	72	54 to 59	-	-

Stages of implementation of Town Planning Scheme:

Table 2: stages of implementation of town planning scheme

Sr. no.	Stages of town planning scheme	Sections		Power to implement of Town Planning Scheme	
		MRTP Act 1966	GTPUD Act 1976	MRTP Act 1966	GTPUD Act 1976
1	Sanction of draft scheme	68 to 71	U/S 48 (1)	Road , water supply, lighting and sewerage	
2	Sanction of preliminary scheme	86	U/S 65	Power to enforce physical component of scheme	
3	Sanction of final scheme	86	U/S 65	Power to enforce financial component of scheme	

Tentative time frame for TP scheme:

Table 3: Time frame for Maharashtra TPS and Gujarat TPS.

Activity	MRTP Act	GTPUD Act
	No. of Month	No. of month
Declaration of the intention and delineating area	1	1
Preparation & publication of draft scheme	9	9
Sanctioned of draft stage by state Govt.	3	3
Appointment of Arbitrator and the Tribunal of appeal/ TPO	1	3
Making of preliminary scheme	9	½
Making of final scheme	18	½
Sanctioned of preliminary scheme by state Govt.	2	3
Sanctioned of final scheme by state Govt.	3	3
Tentative time of finalize the TPS	46	50

Above table shown comparison of tentative time frame of town planning scheme as per MRTP Act 1966 and GTPUD Act 1976.

Provision:

Table 4: Reserved land provision of Maharashtra TPS

MRTP Act 1966	GTPUD Act 1976	Reserved land
10%	10 %	Socially and Economically Weaker Section
40%	15 %	Roads
	5 %	Parks, Playgrounds, Garden and Open space
	5 %	Social infrastructure such as schools, dispensary, fire brigade, public utility place
	15 %	for sale residential, commercial or industrial use

VII. LAND MANAGEMENT TECHNIQUES

Land Acquisition: In this method, the public planning authorities acquire large areas of land from landholders. Compensation paid to landholders is based on land prices. To minimize opposition to acquisition farmers are paid prices marginally higher than agricultural land prices. Then a master plan of the area will be prepared, laying out the roads, plots for social amenities, and plots for sale. Roads and infrastructure are then built, using government funds or loans. Serviced plots are then sold for urban uses at market rates, which are most often much higher than the rate at which land is acquired.

Land Pooling: In this method, the public planning agency or development authority temporarily brings together a group of landowners for the purpose of planning, under the aegis of the state-level town or urban planning act. As there is no acquisition or transfer of ownership involved, there is no case for paying compensation. A master plan of the area is prepared, laying out the roads and plots for social amenities. The remaining land is reconstituted into final plots for the original owners. The size of the final plot is in proportion to the size of the original plot, and its location is as close as possible to the original plot. A betterment charge based on the cost of the infrastructure proposed to be laid is levied on the landowners. Infrastructure is then provided utilizing these funds.

VIII. DATA COLLECTION AND ANALYSIS

Data collection and getting ready database is one of the basic strategy for conducting research. Information are of two kinds, one is Inventory information which can be acquired from different Government bodies (Nashik Municipal Corporation) or from some other websites. Other is Field information which can be obtained by directing field study however different strategies. Both the kinds of information i.e. inventory data as well as field data allows us to examine the existing condition of the study area. Study area is just near to the Panchavati. On this basis, hanumanwadi area is selected for Greenfield development project. Land ownership details are get from 7/12 abstract. This all data are collected from Nashik Municipal corporation office. F form—name of the owners, revenue survey numbers, OP number, OP area, and OP value. Analysis of data on basis of MRTP Act 1966, for that need field data i.e. land ownership details. And also need recent land rate of Hanumanwadi so on this basis find out original plot value, compensation, final plot value, incremental value. Providing amenities according to UDPFI guidelines, transportation facility, educational, health, recreational facility and housing for EWS people. Prepare conceptual drawing on basis of following parameters:

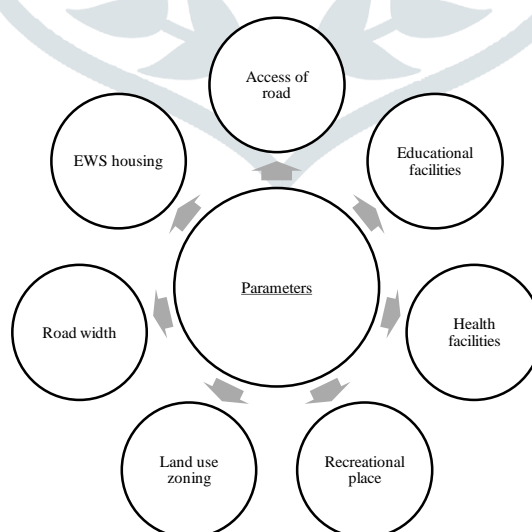


Figure 5: Parameters

Three conceptual drawings:

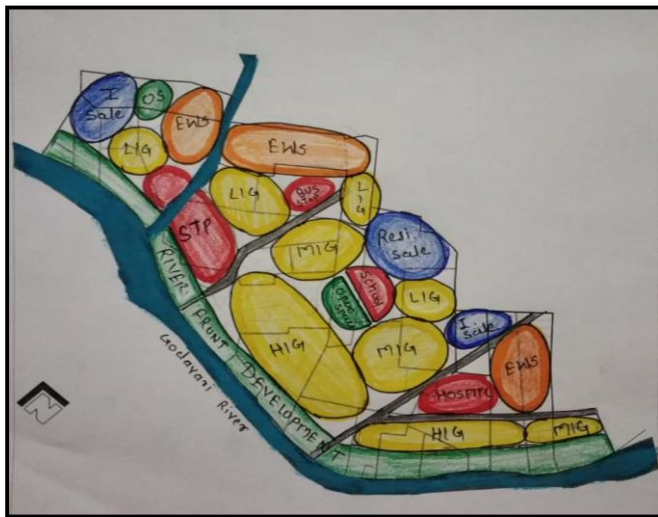


Figure 6: Conceptual Drawing 1

Table 5: SWOT analysis of conceptual drawing 1

Strength	Weakness	Opportunity	Threats
River front development placed near to river is to increased land value.	Sewage treatment plant placed at center of area so it's degrades other plots.	Opportunity for EWS people to near industrial zone	In ability to address requirement for convenient and reliable public transport will adversely impact good quality of life experienced by the citizens
EWS housing provided peripheral area of land		Infrastructure development	



Figure 7: Conceptual Drawing 2

Table 6: SWOT analysis of conceptual drawing 2

Strength	Weakness	Opportunity	Threats
Residential sale provided just next to river front development i.e. Green zone area so it's increased land value.	Sewage treatment plant placed at center of area so it's degrades other plots.	Nashik can emerge as an appropriate destination to become one of the next drivers of IT industry growth.	Increasing population will put pressure on natural resources and there by service levels and resource sustainability.
Industrial sale provide just next to LIG and EWS housing people.	Near nala, RFD provided so there will be chances to decrease land value		

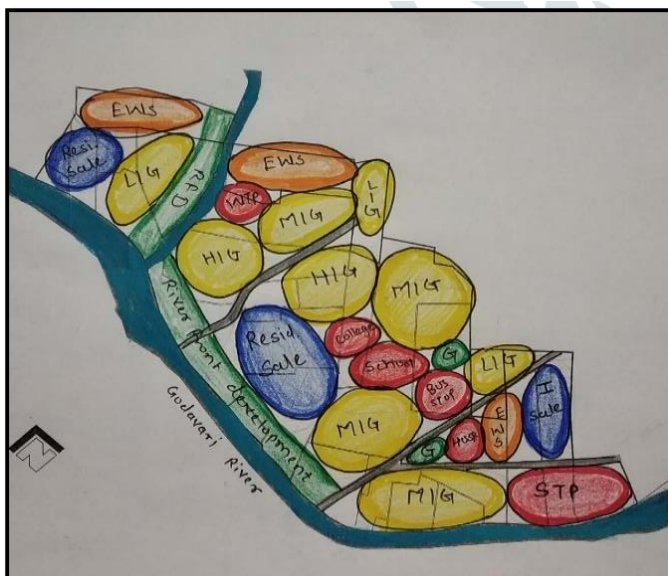


Figure 8: Conceptual Drawing 3

Table 7: SWOT analysis of conceptual drawing 3

Strength	Weakness	Opportunity	Threats
Sewage treatment plant placed at the corner of area so it's doesn't degrades other plots.	Residential sale placed at the corner of area so value of land would be less.	Nashik an excellent opportunity to capitalize on given its high productivity of labor, strong industrial base and high quality and reliable infrastructure.	Financial sustainability is a concern in service provision
EWS housing providing edge of area and also increased job opportunity because of industrial area placed just next to the EWS housing.	Despite having all the ingredients, Nashik has not been able to attract investments in information technology.		

Tabulating final plot size and betterment charges:

The total percentage of area that goes under roads and amenities is about 50 percent. The F Form is continued to be filled further. From each OP this percentage is deducted and a final plot size is arrived. At this stage, the process of valuation is continued further. A semifinal plot value to the OP is also assigned. There can be a change in the value of the OP before the provision of infrastructure—it may increase or decrease owing to the planning proposals such as zone changes.

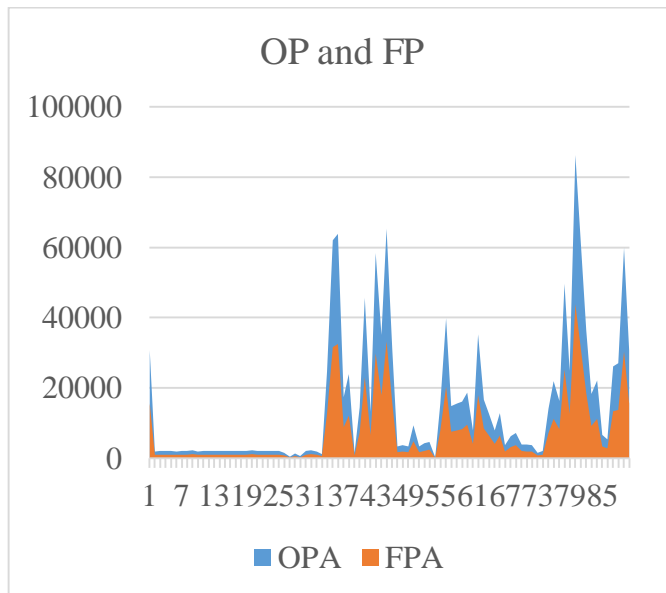


Figure 9: Form F analysis

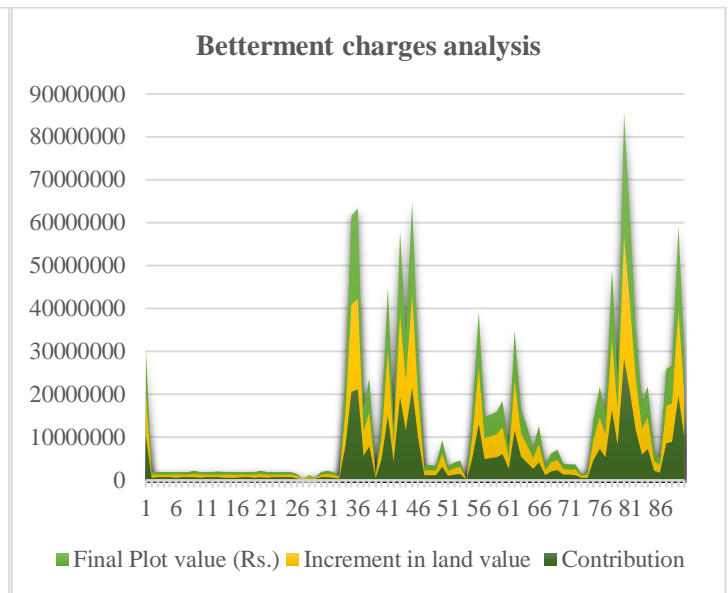


Figure 10: Form G analysis

Tabulating infrastructure and betterment charges: Costs of key infrastructure—roads, water supply, drainage, and streetlights—are calculated. Compensation to be paid to each landowner for the land is appropriated based on the SF value. Administrative costs of implementing the TPS are accounted for the final value for each plot is systematically assessed. A portion of this increase in land value is taken as betterment charges. A “G Form” summing up the inflows and outflows for a TPS is prepared summarizing the overall financial strategy of the TPS. The “F Form” is completed—each landowner is given compensation for the land taken and a portion of the land value is taken as betterment; based on the two, the net demand is computed for each owner.

IX. PROPOSAL

In this chapter present Govt. policy, prepare a proposal on basis of following policy. Maharashtra Regional and Town Planning Act 1966, Bombay Town Planning Act 1915 and Gujarat Town Planning and urban development Act 1976. Smart city mission, Land pooling, Land acquisition. The basic of TPS is that with the reconstitution of plots and provision amenities i.e. roads, open spaces, EWS housing, land for sale and social amenity. The land price considerably appreciates. The total value of the land therefore increases even if some land is lost for roads and open spaces. Laying Out the Roads in the Area: Prepare four options for proposed roads network, Check Orientation with North – South Direction, Check Width and Length for total road area for all conceptual and finalize best option

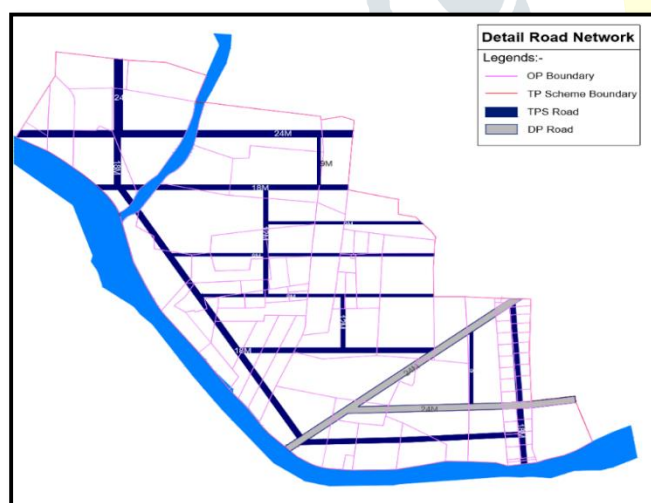


Figure 11: Road network

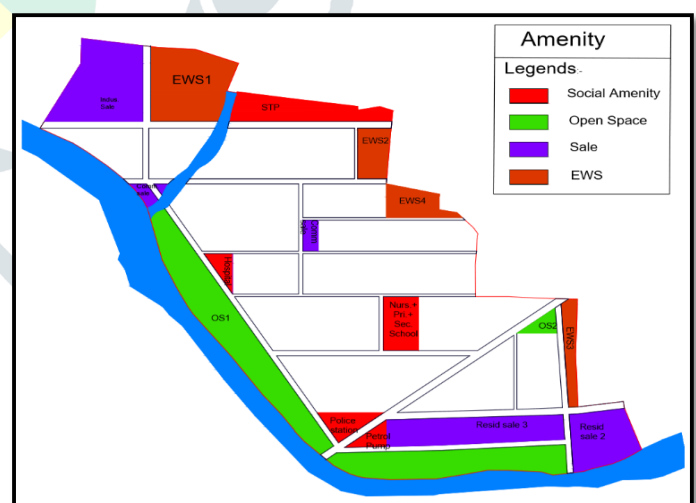


Figure 12: Reserved plot

Roads are provided with proper orientation. The Road Hierarchy used is 24m, 18m, and 12m Major road & 9 m wide minor roads to avoid future congestion.

Marking reserved plot: Green area is the main parameter of healthy environment so in proposed design provide green area in distributed manner which achieve beauty in area. Thus Open Space is provided in the form of garden and playground. One of the open spaces provide beside of Godavari River, there will be chance for river front development. Residential sale provided just next to river front development i.e. Green zone area so it’s also increased land value. Social facilities which include educational, health, sewage treatment plant, police station and petrol pump. EWS housing is located near to residential sale 2 so land value less than other land value. It’s affordable for MIG and LIG people.

Proposed Land use Structure:

Table 8: Proposed Land Use Structure

Land use	Percentage	
Residential	686444.476	50.86 %
Road	164930.23	12.22 %
Open space	156832.183	11.62 %
EWS housing	103924.94	7.7 %
Sale	161151.141	11.94 %
Public amenities	76391.57	5.66 %
TOTAL	1349674.55	100 %

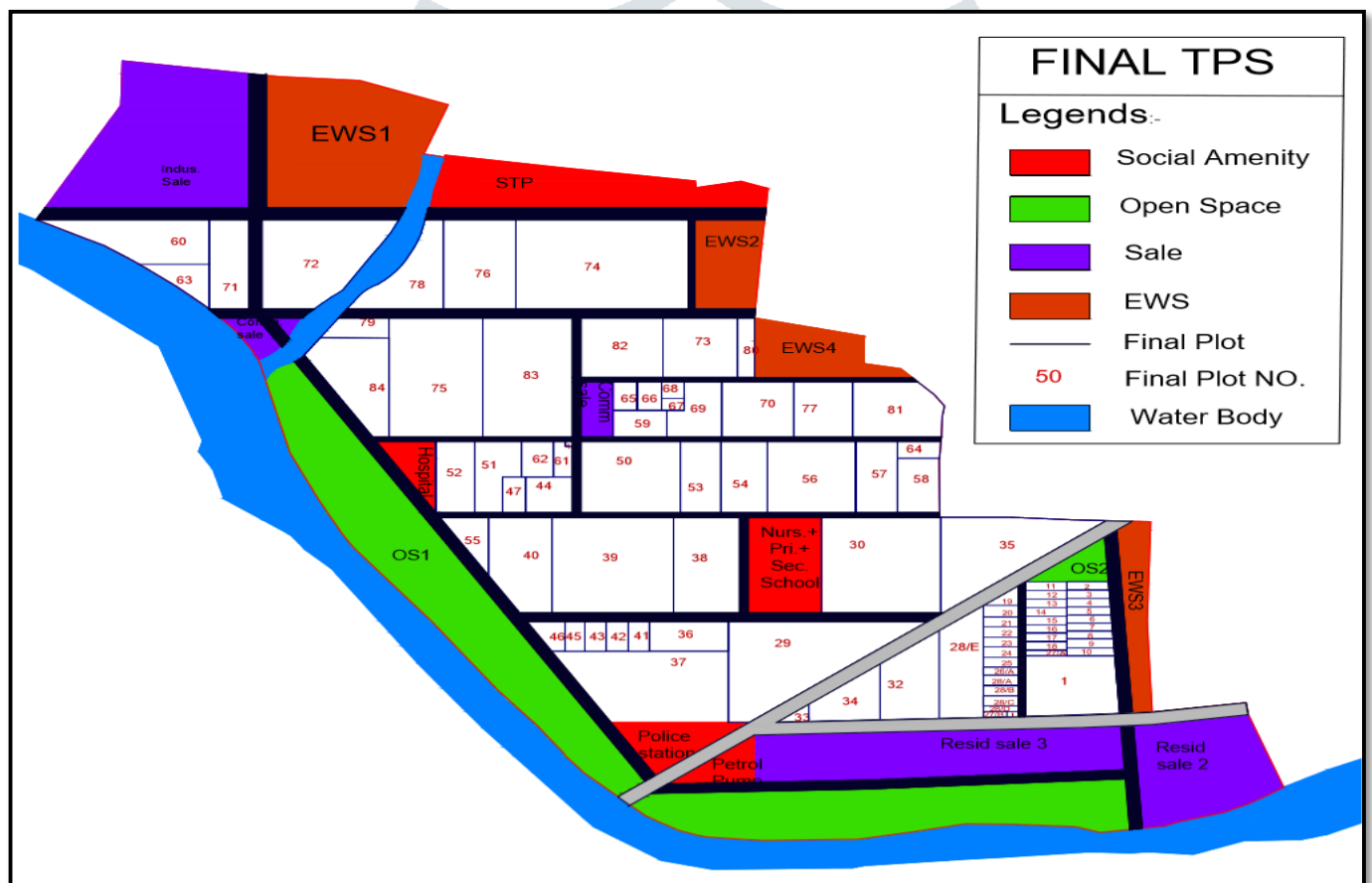
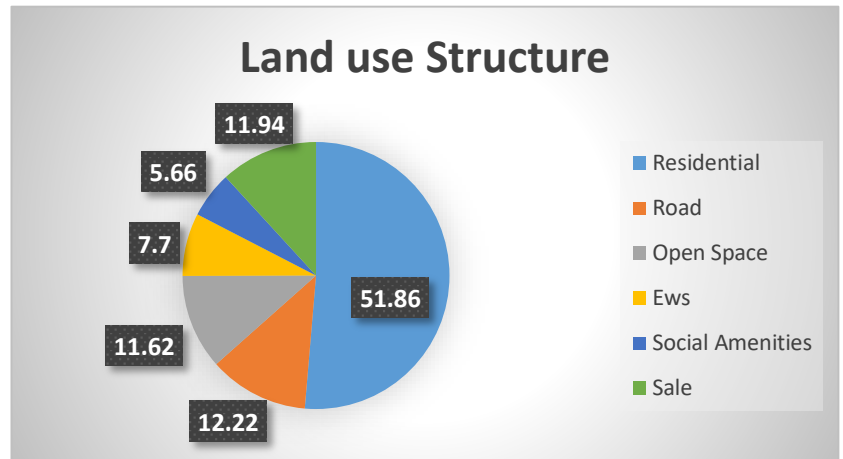


Figure 13: proposed land use structure

Figure 14: Final TPS

X. FUTURE SCOPE

To make new roads of mechanical creation, money related developments and new market. Financial development and hypothetical investigations underline that both the dimension and gathering of human capital are significant elements of creation, and have upper hands in the development forms. As urban communities and their economies move towards ending up progressively creative and aggressive, learning generation and information based urban improvement have turned out to be essential parts of accomplishment in the extreme worldwide challenge of pulling in and holding learning specialists and learning serious enterprises. This move pushed urban areas to grow new urban quarters to frame innovative urban districts with specific spotlight on learning creation. The examination likewise manageability with respect to nearby dimension urban and monetary advancement procedures.

The premise of success and welfare of urban areas to a great extent relies upon their ability to exploit open doors for supported business development, and limit the difficulties of focused monetary conditions and urban populace development. Thusly, creating sound nearby monetary improvement methodologies is exceedingly important for urban areas in overseeing development and enlarging financial exhibitions. Intending to make occupations for what's to come. Smart State Strategy aims to produce a friendly investment climate, and enhance the endogenous skills base of the residents.

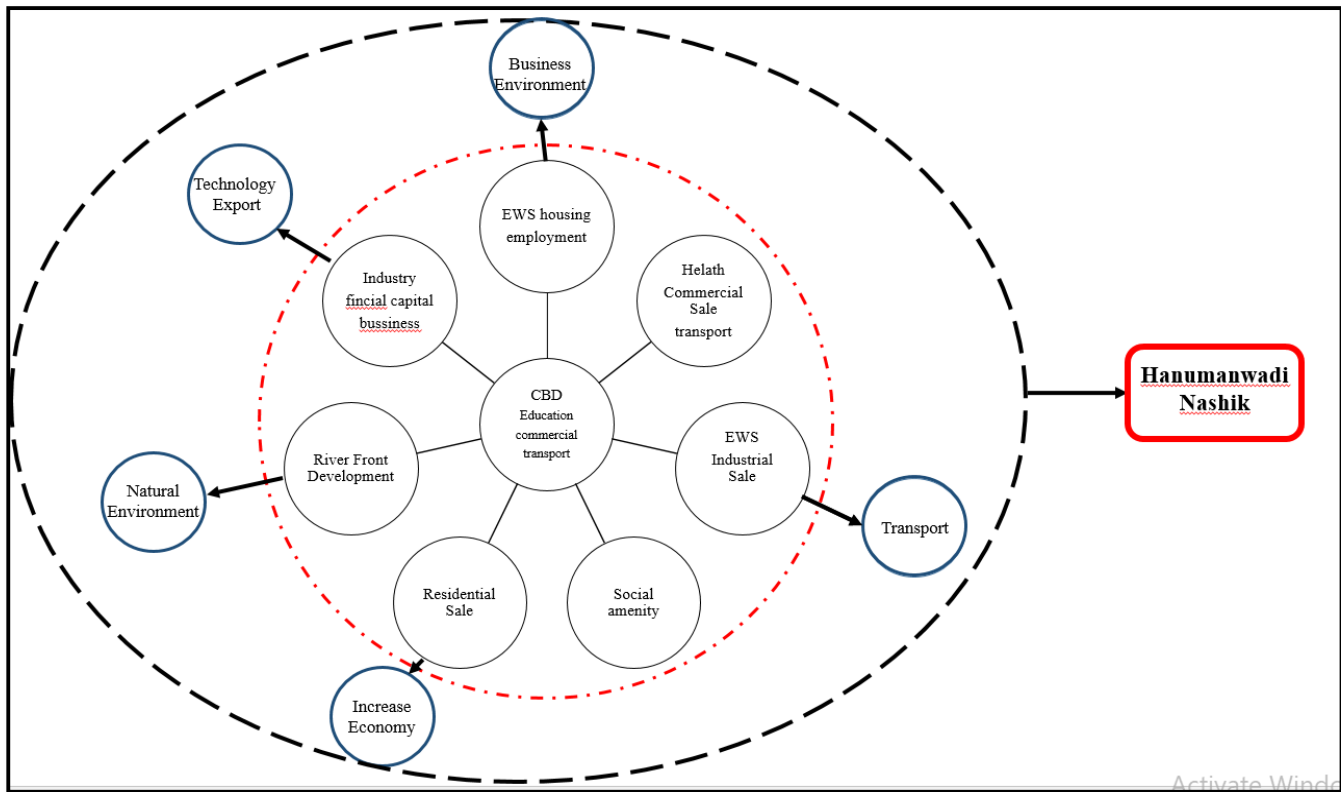


Figure 15: Future analysis

XI. CONCLUSION

As center zones are over crowded and no regions left for the development so it's smarter to discover other approach to redirect the population from core area to noncore area. To study and Prepare a proposal on basis Maharashtra Regional and Town Planning Act 1966. Implementing TP Scheme the build ability of the reconstituted plot increases with regular shape, improvement in accessibility, increased potential of development, availability of social and physical infrastructure and improvement in living environment. To analyze the land acquisition and pooling for land acquiring. The public planning authorities acquire large areas of land from landholders under the Land Acquisition Act of 1894. The public planning agency or development authority temporarily brings together a group of landowners for the purpose of planning. Owners contribute towards the cost of development in proportion to their benefits. The owners also receive compensation for the land deducted from original plots for the roads and public purposes. Owners also get increment of land value in future.

Formulate a proposal of Greenfield development, Town Planning Scheme approach for the Greenfield Development. In TPS, providing residential zone, road network and social amenities as per norms of UDPFI guidelines. And fulfil the daily need of the societies With the analysis of report one can get idea about the process of town planning scheme, how to convert agricultural area into manageable urban growth with respect to a good quality of life, better infrastructure facilities or amenities to the community and to satisfied the daily requirement of the people

XII. ACKNOWLEDGMENT

At the end of my Research paper, it is a pleasant task to express my thanks to all those who contributed in many ways to the success of this study and made it an unforgettable experience for me. I earnestly wish to express I heartfelt thanks and a sense of gratitude to Mr. Shishir Dadhich, Assistant Professor of Town and Country Planning, Civil Engineering Department, Sandip University, Nashik. I wish to thank Town Planning Department, Smart City, Nashik to share Maps and Drawing of study area and Nashik city.

XIII. REFRENECS

- A. Parsuvanathan, C. and Judah, G., 2016. Comparative Study of Selected Greenfield Development Projects. Indian Journal of Science and Technology, 9(39).
- B. Ballaney, S., 2008. The town planning mechanism in Gujarat, India. World Bank Institute.
- C. Darshini Mahadevia, Madhav Pai and Anjali Mahendra, "Town Planning Schemes for Equitable Development- A case study of Ahmedabad" (2008) World Resource Institute.
- D. AMRUT (Ministry of Housing & Urban Affairs Government of India) 2018 "Pilot On formulation Of LOCAL AREA PLAN & TOWN PLANNING SCHEME" <http://www.mohua.gov.in>
- E. Surya Dev Prakash, Apoorva D.L. , Jai Abhishek Omar, Ashwani Kumar, (2016) "Strategy For The development Of smart Cities"(2016), Scientific Journal of Impact Factor, vol 3
- F. Shehana Rasheed and Saritha G parambath, "Green To Planned Development Zone:- Development Concept & strategies" (2015), Institute of Town Planners, India Journal.
- G. Joshi, R. and Sanga, P., 2009. Land reservations for the urban poor: the case of town planning schemes in Ahmedabad. Centre for Urban Equity, CEPT University, Ahmedabad Google Scholar.
- H. Volait, M., 1900. Town Planning Schemes for Cairo conceived by Egyptian Planners in the " Liberal Experiment" Period. Middle Eastern Cities 1900-1950: Public Spaces and Public Spheres in Transformation, pp.44-71.
- I. Yigitcanlar, T. and Velibeyoglu, K., 2008. Knowledge-based urban development: The local economic development path of Brisbane, Australia. *Local Economy*, 23(3), pp.195-207.
- J. Anjana Vyas, Mr. Ashish Upadhyay, Mr. Sachin Bhatt, Mrs. Deepa Maniar and Mr. Niranjan Patel, 2017. A real time for a Town Planning Scheme. Indian society of Geomatics.
- K. Government of Maharashtra (1966): Maharashtra Regional and Town Planning Act, 1966.
- L. Government of Gujarat (1976): Gujarat Town Planning and Urban Development Act, 1976.

