

A Study on the Town Planning in manchar town, Detailed Zoning and its benefits

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Abstract: In zoning of town we were expected to Give separate zone for planned town after 20 years. We have given many suggestions for future development of Manchar. This village was selected because it in complete absence of recreational places, tourist economy & emergency services. This town has many graduation colleges but those students are also unserved town. So this was perfect town to be developed with high scope but lower existing development! We suggested plans for various public places like kushti stadium, water treatment plant, traffic management, emergency services, Wi-Fi town and reducing traffic congestion by shuttle bus to nearby towns, clear separation of zones which will then set preferences for future schemes, medical waste disposal, etc. We have also given some economically reforming ideas such as making town cashless, tourism development for Bhimashankar, high speed container docks to transport town's agro and milk products safely, 24X7 solar powered truck terminus which will attract truckers, etc. Last but not least recreational and aesthetical places! We have given many regulations explained further.

I. Introduction

Town planning is art of shaping and guiding the physical growth of the town creating building and environment to meet the various needs social, cultural, economic and recreational etc. and to provide healthy conditions for both rich and poor to live, to work and to play or relax etc.

II. Aim and Objectives of Project

- **Zoning:** Zoning reduces almost every problem in congested town.
- **Health:** Zoning directly raises health standards.
- **Convenience:** We have suggested measures to make traffic convenient.
- **Beauty:** To raise the beauty of town we have suggested new ideas and used new thinking which is directly shown on our master plan, which is convenient to read by any good planner.

III. Principle of Town Planning

According to G.K. Hiraskar, principle of town planning are as below;

1. There should be no haphazard method in planning process.
2. Housing accommodation to various classes of people should be allowed to develop. if slums are existing, they should be pulled down by making some alternate arrangement of accommodation in transit camps for homeless persons.
3. Civic amenities like shopping Centre, dispensaries, school, nursery, etc. should be provided to all the residents.
4. Adequate open spaces should be reserved for public recreation centers and also for future expansion of town.
5. Public and semipublic buildings should be grouped and distributed neatly throughout the town.
6. The system of zoning should be strictly followed. the town should be divided into suitable zones such as residential, commercial, industrial, recreational, etc.
7. The growth of the town should be controlled by provision of green belt, which is open strip of land all-around the town or city reserved for special purpose of limiting the growth of the city. It is primarily meant for intensive cultivation of vegetable, fruits, farm industry.

IV. Literature Review

The literatures on urbanization as a process and its spatial manifestation in terms of levels of urbanization have been extremely varied and intensive. Studies on the emerging trends of urbanization especially from environmental perspective are sectorial and widely distributed. In India, though urbanization is a recent phenomenon, is posing various problems as it is arising out of more tertiary or allied services than the secondary sector itself. The conditions, which exist in few large urban centers of the developing countries especially in connection with the on-going mechanism in India, have been widely criticized. The process of urbanization in India was labelled as “pseudo” as it was different from the urbanization occurred sequentially and gradually. In India the process of population concentration in cities was not backed by corresponding economic progress.

Similarly, the literatures on environmental issues are immense, but dispersed and often concentrated on very specific problems and sometimes highly technical in nature. The literatures available on environmental economics are much less developed and it is only in recent times that economists are involved in the analysis of Environmental problems. Furthermore, the extra-ordinary vastness of the topic contributes the integration of technological and economic aspects of environmental issues and it leads to the complexity of analysis. Here an attempt is made to review the available literature on the topic concerning urbanization and related environmental issues. So we first studied following research papers;

- Bert F. Hoselitz’s (1962) article “The Role of Urbanization in Economic Development; Some International Comparisons”
- Louis Wirth’s (1964) “Urbanism as a Way of Life”
- G.K. Roy’s (1988) “Economics of Urban Solid Waste Management”
- Donella Meadows et al’s (1992) “Beyond the Limits”
- Ramachandran (1992) has a mixture of intention in his book on “Urbanization and Urban System in India”.
- C.K. Varshney’s (1993) “Environmental Challenges”
- Usha P. Raghupathi’s (1993) “Environmental Protection in Developing Countries”
- Amitabh Kundu (1994)⁸ published an article on “Pattern of Urbanization with special reference to Small and Medium Towns in India”.
- Dileep Kumar (1995)⁹ in his dissertation “Solid waste disposal with special reference to Thiruvananthapuram city”
- Mahinder Chaudhry (1995)¹⁰ in his article “Global Population Growth

V. Collection of Data

By survey is meant to collect the data and information based on spot observation. To draw a mental picture of the region, the town and its various elements like residential and working areas, the survey serves a broad canvas picturing the present state of the town and to provide proper means for its development in future.

- For zoning following data was collected from village:
 - 1) Present land use.
 - 2) Population Growth
 - 3) Traffic system
 - 4) Industrial position
 - 5) Economic base
 - 6) Origin, history and growth of the town.
- The following surveys are conducted to collect the information and data necessary to prepare an updated base map in the scheme of town planning:
 - (1) Physical Survey,
 - (2) Topographic Survey,
 - (3) Land Survey,
 - (4) Agricultural Survey,
 - (5) Communication Survey,
 - (6) Social Survey,
 - (7) Population Survey,
 - (8) Regional Survey.

VI. Zoning

Zoning is defined as the creation by law of the sections or zones such as residential, commercial, industrial, civic, institutional and recreational in which the regulations prevent misuse of lands and buildings and limit their height and densities of population differing in different zones.

Zoning sets apart different areas in the town for specific purposes. Height zoning regulates the height of the buildings. hence high rise buildings will not allowed to construct near small houses.

There are three types of zoning:

- Use zoning
- Height zoning
- Density zoning

The main principle of use zoning is to divide the city into different sections or zones and utilizing of each of the zone to the right purpose and in correct location with respect to other so as to avoid the encroachment of zone.

Under use zoning the town is divided into various zones such as:

- Residential zoning
- Commercial zoning
- Industrial zoning
- Agricultural zoning
- Historical zoning
- Institutional zoning
- Recreational zoning
- Green zoning

VII. List of Documents:

Documents required for Sanctioning Town Planning:

- Zone certificate.
- Undertaking and Xerox copy of license of architect.
- Undertaking and Xerox copy of license of structural engineer.
- Plan from Ghodegaon survey office showing boundaries of the plot and adjoin survey numbers.
- Power of Attorney.
- N-A order.
- NOC from NH/SH/MDR etc. department (if required).
- NOC from pollution control board.
- NOC from water supply and drainage department.

VIII. Development Aspects

- Agricultural Aspects
- Environmental Aspects
- Aesthetical Aspects
- Recreational aspects
- Land use aspects for development of manchar

IX. Remedial Measures on the Problems Faced in Manchar Town:

1) Traffic control solutions:

- The road mishap on Pune-Nashik Road, which claimed seven lives on Sunday, has once again highlighted the issue of unsafe travelling conditions on Pune-Nashik national highway number 50.
- According to experts, the narrowness of the road is the main cause of accidents and there is an urgent need to convert it into a four-lane road.
- A tempo carrying 35 pilgrims turned turtle near Pimpelwandi village near Narayangaon.

Deputy superintendent of police (highway), Shashikant Mane said, “There is an „S” shaped turning near Pimpelwandi. The driver might have lost control due to the sharp turns.”

- He added, “The traffic on Pune-Nashik highway has increased a lot, but the road remains narrow. There is a need to widen the highway.”
- According to experts, there are technical flaws in the highway, which need urgent attention. ChandmalParmar, chairman of railway, road traffic management committee of the Mahratta Chamber of Commerce, Industries and Agriculture (MCCIA) said, “Earlier, there was less traffic on that road. Therefore a two-lane road was adequate. The traffic has increased over the last 10 years. Now the government must review the highway and rectify the faults.”
- Parmar said, “The Pimpelwandi village where the accident took place, is an accident-prone area. There is a bridge near the village, which is narrow and on both sides there are sharp turns due to which accidents take place there.”

- After crossing Narayangaon, vehicles ply without any obstacles, due to which the drivers tend to accelerate, often resulting in accidents.
- A ghat section near Bota village has stiff turnings and are dangerous. The road near Avasari village is in a poor condition. The stretch at Manchar and Narayangaon goes through the villages. There are many local vehicles, which lead to traffic congestion.

2) Solution of air pollution in Manchar town:

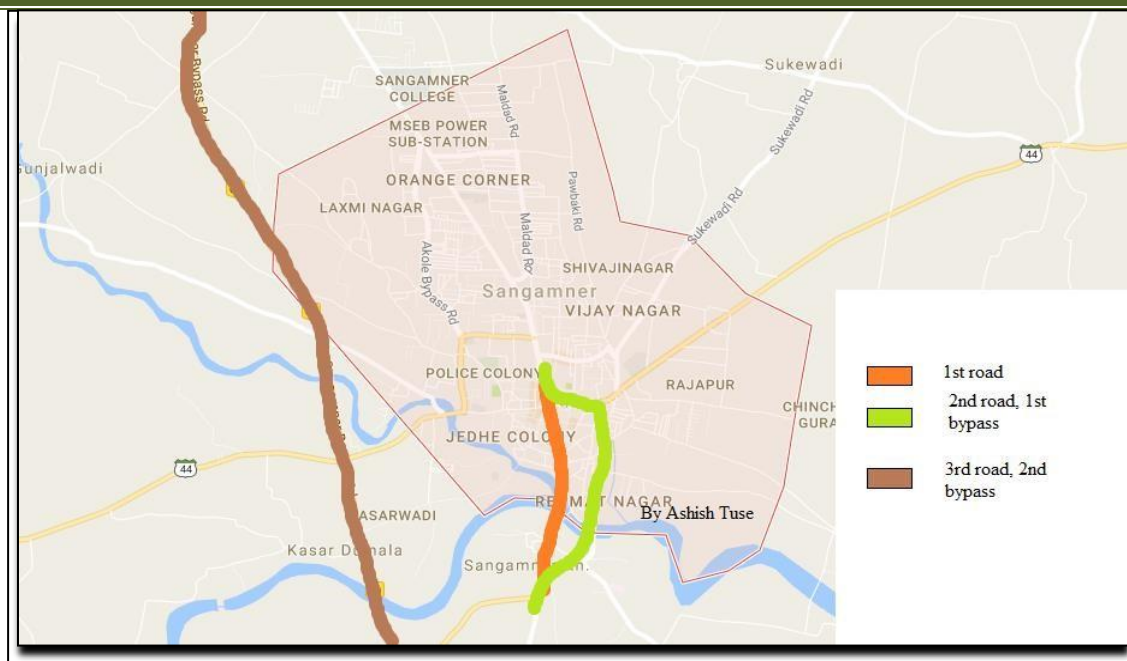
- Use public mode of transportation: Encourage people to use more and more public modes of transportation to reduce pollution. Also, try to make use of carpooling. If you and your colleagues come from the same locality and have same timings, you can explore this option to save energy and money.
- Conserve energy: Switch off fans and lights when you are going out. Large amount of fossil fuels is burnt to produce electricity. You can save the environment from degradation by reducing the amount of fossil fuels to be burned.
- Understand the concept of Reduce, Reuse and Recycle: Do not throw away items that are of no use to you. In-fact reuse them for some other purpose. For e.g. you can use old jars to store cereals or pulses.
- Emphasis on clean energy resources: Clean energy technologies like solar, wind and geothermal are on high these days. Governments of various countries have been providing grants to consumers who are interested in installing solar panels for their home. This will go a long way to curb air pollution.
- Use energy efficient devices: CFL lights consume less electricity as against their counterparts. They live longer, consume less electricity, lower electricity bills and also help you to reduce pollution by consuming less energy.

3) Solution for water treatment plant in Manchar town:

- The microbial analysis of water was carried out using standard methods and the isolated micro-organisms were identified by using standard tests. The series of tests were performed for exact detection or identification of microbial and contaminated water sources. It was observed that drinking water of Manchar town contain *Logionella pneumophila*, *Shigella sonnei*, *Campylobacter jejuni* and *Aeromonas hydrophila* microorganisms. These isolates were identified and confirmed, based on the selective, differential media and biochemical tests. The presence of the micro and nano-organisms in a drinking water supply was evidence of drinking water contamination.

X. Leaf Shaped Cities Along Highway:

- As manchar is currently in leaf shaped development phase this study is first step towards the planning.
- This concept is observed and kept forward by group member ashish tuse so it doesn't have any reference.
- Cities like manchar, Narayangaon, Sangamner, etc are developed and grew along highways as a leaf around single vein. but now they have potential to be a city from village, which poses major challenge than any other developing city because they don't have access from highway to settlement. all land along highway is already used for commercial purposes. they didn't left any margin for road expansion. Further expansion by demolition of buildings is not possible due to political pressure.
- Road By-pass becomes reality in such cases, which makes leaf shaped city problem even worst. parallel veined leaf shaped city become practically hard for transport, sewage lines & water supply.
- Sangamner is real example of it. which is explained in following image.



(Map showing Sangamner and its bypasses built with time)

- O Narayangaon faced 7km and 4 hrs. long traffic jam on 30 April 2017, just because of this type of settlement. Talking about logistics many private firms such as Ail logistics, Ial auto consultants, Maharashtra state transport corporation, ACPL limited, etc. had their vehicles trapped in that traffic.

XI. Advantages of Town Planning:

1. Planning the town involves the intricate details of understanding the requirements of the towns and its various divisions and utilizing the land to the best of benefit. It is like promoting development by implementing decisions and turning the town into a planned city, without interfering with the environmental features. The planners work in two ways to go about the planning. They either chalk out the structure of a brand new area of the town or inject suitable ways to reform the existing land to ensure spatial relief to the eyes, adequate light everywhere, proper drainage system and clean drinking water.
2. In broad terms Town Planning can be separated up into two parts; strategic planning and land use management. Strategic planning is a long term plan of what will be happening in a year, or two years etc. This is used for future developments in Town Planning for whole new towns and also, for redesigning or developing existing towns. Land use management is what each part of land will be used for, this includes building restrictions, zoning, water systems, sewerage etc.
3. Town planning can be the most interesting subject for an architect or an engineer. It is one of those rare moments that you can cherish for life of being a part of something that's creative and fulfilling. The task of town planning will involve several aspects of modern life that have to be considered and even included within its purview as well as leave enough scope for the inclusion of newer developments with time for the betterment of its people.
4. If planning is not done, then houses may emerge before installation of electricity grids and water supply systems. Hospitals can be raised at the unapproachable area and industries may raise before installation of the transportation system. And it is important to keep in mind that town planning is not limited to the development of streets and civic amenities. Its motto shall be encompassing all the facilities with aesthetic surroundings and to provide the better standards of living to the people.
5. The process might also involve the urban renewal by adapting new planning methods for cities suffering from decay. Apart from the technicalities involved, the aspect of town planning involves a lot of arts and aesthetics. Even ancient cities of Indus Valley Civilization and Mesopotamian Civilization have earned laurels for exhibiting fine town planning. There are several elements that are taken into consideration while planning a town.
6. There are many things that are conjured up to make a modern city or a town. And to plan such a place is not easy. Caution and precision is important and even a small mistake can lead to hazards. A complete site

survey will validate the number of plots that can be allotted to home makers. It has to be also ascertained how much space can be allocated for each house depending on which the houses can be planned in size.

XII. Actual Work Done

- Forecasted population with approx. consideration of migrated population and needs of that population
- We did practical survey on manchar for every aspect.
- We zoned optimum area of land to break that leaf shaped development.
- Every zone is plotted with good care which can be understood by any good planner.
- Area calculation of each plot number to give required percentage of land each specified zone

XIII. Conclusion

- [1]. During the project, the development of the manchar town considering its future development has been done.
- [2]. The following points have given prime importance in the development
- [3]. Residential development
- [4]. Traffic problem solved.
- [5]. Quality of air maintained.
- [6]. To keep the town in the same manner for the further upcoming years the following action should be taken time to time.
- [7]. Government approval for any further construction work made compulsory.
- [8]. Construction in green zone and green belt are restricted.
- [9]. Industries developed in the proper industrial area allotted.
- [10]. Proper roads and connectivity kept in mind before development.
- [11]. Proper supply of sewage disposal done keeping the city in good and hygiene conditions.