

Integrated Township

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Abstract – This project report describes the particulars of about the town planning as well as it will introduce the basics of town planning. Far from ancient period or era, it is fact that the health and wealth of country depends on the condition and development of towns. Towns being an important factor of growth and development of country should be planned with extreme care to handle all the possible requirements of peoples as well as our nature. Therefore it is now necessary to plan the towns in such a way that it will afford more comforts and conveniences to public, without hampering beauty and comfort of nature and wildlife. The main purpose and the basic idea of the project i.e. to create a well-planned town for a group of peoples which is not so close to the city centre and far from main commercial and industrial zone. This report deals with the various aspects which we have taken into consideration to plan a town. Obviously, the demands and the requirements of the LIG, MIG and HIG varies with their income and we have given a necessary thought about these three groups in our planned-town. The most important part of the town i.e. road network and housing is planned in such way that it will give more comfort and better operation, lifestyle and accommodation. In this project, we tried to understand the requirements of residential and commercial zone and zoning is done in best from all possible alternatives. The attempt is made to provide all the necessary amenities and we have tried to zone them to get max. benefit out of it. The subject of town planning demands knowledge of various professions, especially those of engineering, architecture and surveying. The town should not be designed only to satisfy the needs of the present requirements of generation; but the probable growth and development of the town should be suitably conceived by the town planner and it should be seen that the town does not develop in any haphazard fashion. So, at the end of the day, our ultimate aim is to plan a town in such a manner that, it should deal with and satisfy maximum possible aspects regarding convenience, environment, health and beauty.

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I. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In urban areas, the pace and scale of growth have outstripped the capacity to maintain acceptable standards of public health, environmental safety, and sustainable economic growth. The urban areas are constantly under tremendous pressure due to increasing growth and development. As a result of such pressures, the environmental conditions in urban areas deteriorate at faster rate.

Failure to manage the impacts of rapid urbanization threatens human health, environmental quality and urban productivity.. Occupation and degradation of sensitive lands and the inter relationships between these problems, their impacts are mainly seen on current generations, which are indicated by poor health, lower productivity, reduced incomes and lowered quality of life.

The present scenario is a different one, rapid urbanization and non-availability of fund and

improper management of mobilization of fund resulted into lack of infrastructure service, like water sanitation, transportation, solid waste management and increasing housing density.

1.2 NEED OF THE STUDY

Cities with dense population i.e. more people, more consumption, more waste and more poverty, but less biodiversity, less forest area, less available fresh water, less soil and less stratospheric ozone layer. We are further away from sustainability...but how far? If we cannot measure, we cannot manage.

Exploitation of any resource exceeding its available capacity leads to extinction degradation beyond restoration. Hence for sustainable exploitation of resource it is essential to estimate its capacity. Thus to study the capacity of resource which is most popular but generally understood with respect to sustainable development.

Carrying-capacity of a region, comprising its supportive and assimilative capacities, is defined as

the ability to produce desired outputs from a constrained resource base to achieve a higher and more equitable quality of life, while maintaining desired environmental quality, and ecological health.

Natural and built resources have finite capacities for assimilating growth and associated impacts. The use of analytical tools as carrying capacity analyses the cumulative impact of land development upon these resources.

Every city is different, and each confronts unique challenges in dealing with urban environmental problems.

1.2.1 Integrated Township – Need of Future

The meaning of an integrated township and the basic needs for a township to call it as 'integrated' are as follows -

- 1) To start with, land is basic material for township.
- 2) Integrated township should include everything that is needed for the 'Stress Free Lifestyle'.
- 3) It should be planned not only for residential usage but mixed reality usage – walk to work, shopping complexes, schools, gyms, hospitals, facilities for leisure and entertainment.
- 4) It should offer a good standard of living in apartments, row houses, bungalows at affordable rate.
- 5) Such townships should reduce pressure on infrastructure of the main city.
- 6) Renting and leasing of residences should be made easy with good rental return. Hence such commercial office should be the part of the township as in foreign countries.
- 7) Along with infrastructural development we need sufficient 'Urban Planning Schools' for post-graduation of architects, 'Landscape Architects' for 'Environmental Art and Design' and for 'Civil Engineers' to work as 'City Managers, Estate managers' for newly planned towns and management of township.
- 8) Maintenance of townships need skilled and semi-skilled workers – electrical work, plumbing work, garden work, civil works. There is lot of employment potential in this field for new development and maintenance in township.

According to study, India will require 20-25 new cities in the next 30 years. These will logically be situated near the largest 20 metropolitan cities.

1.3 PHYSICAL INFRASTRUCTURE STRATEGY

The following comprises the elements of the physical infrastructure strategy.

- 1) The underlying goal in the development of the physical infrastructure strategy is the establishment of an appropriate array of standards and indicators.
- 2) They address the environmental and aesthetic impacts of development on the wider community and environment and the encouragement of development.
- 3) This is appropriate in character and location to ensure an efficient delivery of services which will serve the community well in the future as well as the present.

1.4 METHODOLOGY OF STUDY

Methodologies used should deliver results which are useful for deciding which steps to take in future and should be understandable by mass population, in order to encourage the participation of the public in the process.

Thus in this process various issues to be thought about, arises various conditions, factors when dealing with a compound problem.

- 1) What is the impact of urbanization?
- 2) What is the present level of consumption?
- 3) What is the present status of basic infrastructure?
- 4) What is the condition of basic infrastructure, how is it changing?
- 5) What are the main interactions between people and city?
- 6) What conclusion can be drawn about present Scenario and Progress towards the goal?
- 7) What need to be done to make progress towards the goal of sustainable development?

II. SITE SELECTION AND ANALYSIS

2.1 OBJECTIVES OF DEVELOPMENT

The City Development Plan encompasses Solapur Municipal Corporation's (SMC) strategy which has been formulated with due consideration to development objectives as conceived by the SMC and mission statements chalked out together with key stakeholders, with a long term vision spanning over next 25 years.

2.2 CITY DEVELOPMENT PLAN (CDP) FOR SOLAPUR

1. To trigger economic development through infrastructure provision, capitalizing on its locational advantage and other endowments including. Religious Tourism, Education headway and Healthcare potential.
2. To provide good quality of life to the citizens of the city in an integrated, equitable and sustainable manner, with specific focus on the poor and disenfranchised.
3. To provide Responsive, Efficient, and Transparent Governance and Urban Management, so as to sustain economic development and quality of life.
4. To strive for financial self-sufficiency and sustainability.

2.3 SITE ANALYSIS

As we all know, prior to plan a city or a town we should know the location of site first. To decide the location of site we have referred Solapur city map and we have selected 3 sites from Solapur city where there is a chance for development of a township.

The three options are:

- 1) Soregaon site (near A. G. Patil College)
- 2) Degaon site
- 3) Sahara city (near Bale)

We have studied and analyzed considerable factors which will affect the selection of site from these 3 alternatives. Basically to compare these alternatives we have made the study of distances of the sites from the core and important area of the city. The other factors consider apart for from distances. Finalizing the location of sites is as follows:-

- a) Transportation ease / Facilities
- b) Health
- c) Commercial

- d) Entertainment
- e) Educational
- f) Devotional
- g) Environment
- h) Economic Consideration
- i) Services
- j) Topographical
- k) Geotechnical.

Refer Figure 2.1 to see the comparative study of alternative sites.

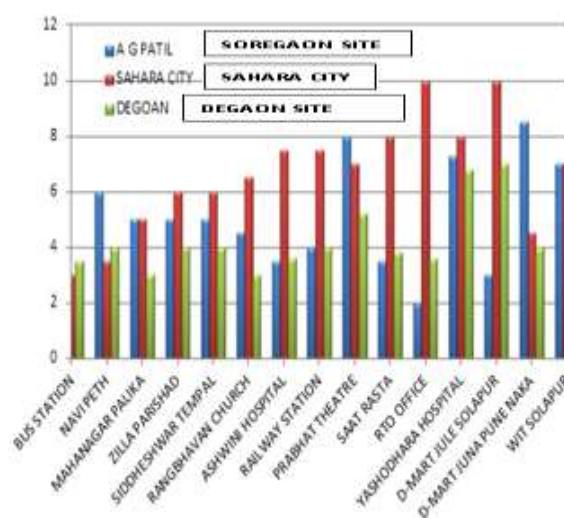


Figure 2.1 Comparisons of Distances of Selected Sites from Various Amenities

III. DESIGN PROPOSAL

3.1 CONCEPT

When the environment is meaningful, man is at home. From the beginning of the time, man has realized that to create a place means to express the sense of being. The man made environment where he lives is not a mere practical tool or the result of arbitrary happenings. It has structure and embodies meanings. The environment can be described as an ecological system affecting humane behaviour in various ways and at various levels. It is therefore necessary to reflect human needs in our architecture.

The need to re-establish the feeling of identity in an urban situation has arisen because of the alienation apparent in most modern housing. Each sector is given its own identity by means of physical shape. The design of building forms and colors, when one cannot identify his or her own house the

psychological implications are serious and one can never have the feeling of belonging. The buildings within a sector too are further identified by shapes and colour, thus fragmenting them to relate better human sensibilities.

Architecture requires sympathy with understanding of and satisfaction of the emotional needs of the people. All people are different and all communities of people differ. There therefore various emotional factors, which affect humane behaviour. The way we design the built environment, therefore has serious implications.

Studies reveal that people find natural scenes more pleasant than urban features. For this very reason, care has been taken that every individual flat looks onto large landscaped open areas thus ensuring the required amount of pleasantness from the environment.

The city of 'Chandigarh' is an example of the abstraction and fragmentation of urban space determined by a technology shared by the limited elite but incomprehensible to its vast majority in every respect, Chandigarh presents a contrast to the environmental character of our traditional Indian city.

The basic plans of town and grid structure evoke a strong sense of order. Even though Chandigarh reflects a sense of order, cleanliness, peace and better living conditions, it is dull in its uniformity.

3.2 VISUAL HIERARCHY

Another factor that affects human emotions is potency. Potency can be described as the amount of physiological effort it will take for the individual to terms with the stimulus perceived. Thus a typical high rise building merely through its visual characteristic makes it difficult for people to establish control over their environment. We have therefore designed the entire initial phase in only G+3 with proposed latter part in storey structures this allows a visual hierarchy.

Our country has its own diverse culture and behavioural patterns of its people which are distinctly different from those in the west. A study of these factors is extremely important before a large project is planned.

3.3 SALIENT FEATURES

The salient features of the proposed layout are as follows:

1. Main arterial road in East West direction to great wind tunnels through the site.
2. Divided into five sectors each having its own identity and central gardens all planned around a central open space.

3. Openness and privacy for each flat is ensured.
4. Shopping centers, veg markets, schools, club, temple, community center and hospital situated centrally for the convenience of people of all sectors hence making every facility within walking distance, thus reducing vehicular traffic.
5. Water supply, storm water and electrical pipes are laid below the pavements. Sewage disposal pipe are below the road dividing berm.
6. Large open space located centrally to facilitate social gatherings interaction between people.
7. Landscaped gardens forming cool courtyards between buildings to facilitate openness and privacy to each flat.
8. Greater open spaces compared to actual built structure to create better environment and living conditions.

CONCLUSIONS

The attempt should be made in order to get maximum benefits from our nature and to reduce the use of artificial sources of energy.

In this project, the attempt has been made to plan a township in "Integrated" manner. After completion of project work we are able to put the conclusion that we really feel, can conclude our work done properly.

There is now need to develop such "integrated townships" in Solapur city which will reduce the load on the amenities and services of the city.

To plan a city proper knowledge of each and every field is needed and much more problem can be sorted out by planned city.

Solapur city is in the phase of rapid development in all industrial, educational and commercial sectors, because of which there is high possibility of migration of people to Solapur city which will lead to grow city in haphazard and improper manner.

REFERENCES

- 1) Development Control Regulations-1999
Draft Development Plan of Solapur (1997-2017)
Report Part-III
Solapur Municipal Corporation

- 2) Prof. Abir Bandyopadhyay
Reprinted - 2010.
Page no. 66 and 67
Textbook of Town Planning
- 3) Dr. H. D. Kopardekar and G. R. Divan 1994
Urban and Regional Planning: Principles,
Practice and the Law
- 4) M. G. Shah, C. M. Kale and S. Y. Patki
Fifth Edition
Third re-print 2012
Tata McGraw-Hill Publications
Building Drawing with an Integrated
Approach to Build Environment

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