

Sustainable Development Strategy For Satellite Town (Case Study: Sanand)

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Abstract- This study deals with the sustainable development of satellite town sanand. sustainable development goals can be defined as better Life style of city residents and using natural resources and available facilities without compromising future needs according to forecasting of population. there are various parameters need to be focused such as water supply, sewerage system, solid waste management, storm water collection, group water quality, transportation facilities available within city and its connectivity to other cities of state. it is important to select proper strategy for development of various basic facilities. sanand is the most highlighted city because of their industrial growth which will influence on employment accompanied by increasing population in these city. AUDA is working on five growth center which include 5 small towns located surrounding Ahmedabad 1. Kalol 2. Sanand 3. Dahegam 4. Mehemdabad 5. Bareja. Among all of them sanand is recently developing town which require more attention.

In this research various parameters which are concerned with the sustainable development will be analyzed in accordance with the existing situation and they will be criticized for the future forecasting population.

Keywords- sustainable development, satellite town, growth center, solid waste, traffic congestion.

I. INTRODUCTION

The concept of satellite town has been emerged to help the metropolitan city in solving the human settlement and absorbs its industrial growth which put enormous pressure on infrastructure and service delivery of metropolitan city. The Satellite city is a smaller municipality in the vicinity of metropolitan parent city and can be planned within the natural growth pattern of parent city. It is intended to stop urban sprawl, provide an alternate business center and also provide high speed transport linkages between the it and Parent City. It has been observed that migration in the metropolitan city is owing to employment opportunities, trade opportunities and specialized services such as education, health, entertainment and recreation. The people residing in satellite town can use specialized services of metropolitan city situated in its vicinity

through strong transport linkages. The satellite town/city is defined as follows: “A Satellite Town is a self-contained and limited in size, built in the vicinity of a large metropolitan city to house and employ those who would otherwise create a demand for expansion of the existing settlement in metropolitan city, but dependent on the parent-city to a certain extent for major and specialized services” The Satellite city differ from mere suburbs and subdivisions in that it has municipal governments distinct from that of the parent metropolitan city and employment bases sufficient to support its residential populations. The Satellite city also experience cross- commuting with parent metropolitan city.

A. AIM

This study aims at creating economically productive, efficient, equitable and responsive cities in an integrated framework with focus on economic and social infrastructure, basic services to urban poor, urban sector reforms and strengthening Municipal Government and their functioning.

B. OBJECTIVE

There are four objectives of sustainable development that include social progress and equality, environmental protection, conservation of natural resources and stable economic growth.

The objectives of this study as follows:

- To develop urban infrastructure facilities such as transport, drinking water, sewerage, drainage and solid waste management etc. at satellite towns to reduce pressure on million plus agglomeration.
- To enhance the sustainability of urban infrastructure facility such as water tank, landfill site, space for recreational purpose, rain water harvesting, drainage, improving road condition, better connectivity with mother city and other cities of state, affordable housing etc.

C. SCOPE

- Providing drinking water to consumers by efficient water supply system.
- Reducing harmful impacts of unscientific disposal of municipal solid waste on public health, environment and quality of life.
- Reducing resource consumption and effectively managing wastes.
- Providing efficient sewerage system to exclude waste water from domestic and industrial connections.
- Providing strategy for improvement in ground water quality.
- Reducing traffic congestion by providing efficient mode of transport system.
- Connecting satellite town and mother city and other cities of state and improving road condition for comfortable transportation.

II. DATA COLLECTION

1 Justification of Case Study of Sanand

Sanand is located at about 24 km from Ahmedabad city on the Ahmedabad-virangam highway. The city is included under Ahmedabad Development Authority (AUDA) jurisdictional area, which is responsible for planning and development in the area. Sanand has gained importance as it lies on the major trade corridors and Nano Town due to the Tata's Nano plant. The state owned 5000 acres of land in and around sanand for future use by industries. GIDC has planned a dedicated women industrial park over an area of 18.3 hectares at GIDC sanand industrial estate, Ahmedabad.

III. SOLID WASTE MANAGEMENT

The city of sanand and disposes about 17 tons per day. Current per capita per day waste generation for the city is 0.2 kg/ capita/ day. The waste is collected on a door to door collection basis every day and dumped without treatment near Madhavnagar in sanand city.

Municipal Solid Waste Disposal site is near Madhavnagar (survey no. 142, 144, 2151) with a total area - 41,988 sq. m. The total waste disposed of per day is 17 tons per day. Dumping site is nearby roadside of SH 135.

This is lower than the waste that is generated, and in future needs to be included in strategies. No treatment facilities exist, but can be brought into picture with partnership investments of private players.

Table 1. Details of landfill site

Survey no.	Area (sq. km)
142	16592
144	14366
2152	11028
Total	41986



FIGURE 1. DUMPING SITE OF SANAND

Note the total construction waste for the town is the biggest contributor, and is a revenue generation opportunity. It is estimated that by 2030 the waste generated will be 31.5 tons per day. In view of the above the population of the town is estimated to increase by three times hence it's necessary to look into practices for both collection and treatment. Sanand is still to make an organized effort towards solid waste management and in view of this it will be a good idea to look into the private sector to raise the standards of health, sanitation and urban environment keeping pace with the rapid urbanization and growing population in the Satellite town to Ahmedabad.

Existing Issues

- No segregation of waste in the current practice.
- There is a lack of scientific disposal site of for waste.
- Location of waste site is neared to state highway so it will cause nuisance of breeds and fly and unaesthetic view
- There is also problem of leachate.
- Location of waste site is close to the canal and hence there is a need for a sanitary landfill site.

IV. TRAFFIC

As per city development plan of sanand 2010-2015:

The traffic count data of the state highways collected by the Road and building department is given in the table below. The survey was conducted at 6 locations on the state highway.

All roads have witnessed increase in number of personal and commercial vehicles. A sudden escalation in PCU and commercial vehicles is observed mainly on the Sanand- Kadi Road and the Ambli-Bopal-Ghuma-Nidhranj-Sanand Road in last two years. A lot of congestion is witnessed on the road leading to the APMC market which is worsened with an overall lack of parking space in the city.

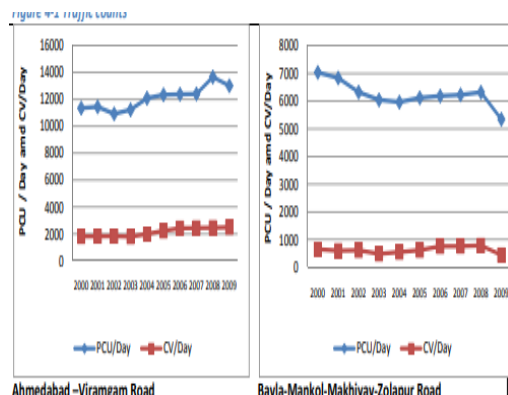


FIGURE 2 TRAFFIC VOLUME DATA-1

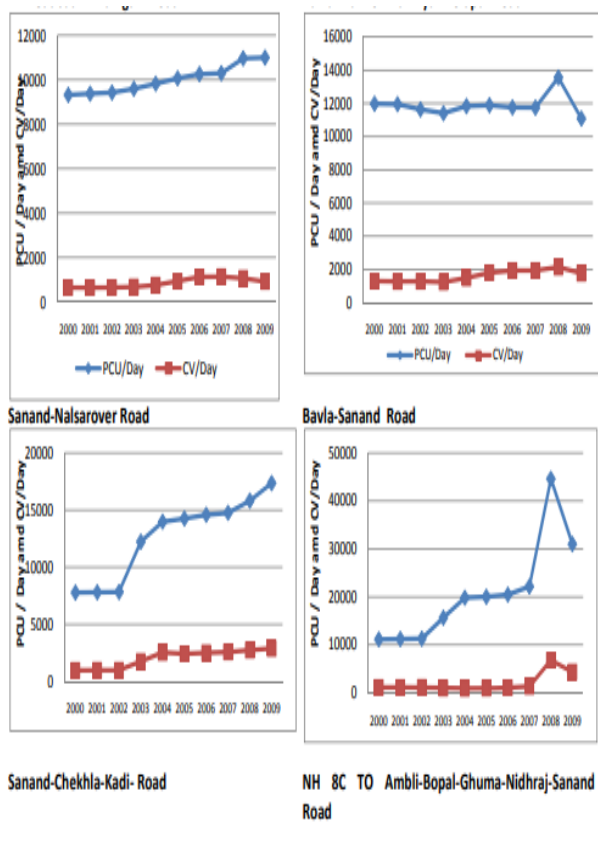


FIGURE 3 TRAFFIC VOLUME DATA-2

V. CONCLUSION

This study shows the existing situation of the satellite town, sanand which shows the need of considerable development in every basic facility of the town. The sustainable development strategy should be imparted in such a way so that it will not be harmful to environment as well as human health of the residents of the sanand town.

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