

Urbanization of Rayalaseema Region and Urban Environmental Problems of Anantapuramu Municipal Corporation, Anantapuramu District, Andhra Pradesh

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Abstract

Urbanisation is an inevitable process experienced by all nations in their transition from agrarian to industrial societies. Urbanisation is synonymous with development, modernisation and growth of a country in general and service sector in particular. It brings social, economic, demographic and physical changes, which create problems relating to civic urban services, land use, planning and law and order managements. Due to urbanisation environmental problems like pollution, diseases have emerged as major problems. Urban environment is steadily deteriorating throughout the world. Multiple kinds of pollutions namely, air pollution; water pollution and noise pollution are posing a great threat to the health of human beings, especially in the urban areas.

The present paper deals with urbanisation of drought prone area i.e. Rayalaseema region of Andhra Pradesh and urban environmental problems of Anantapuramu Municipal Corporation.

Keywords: Urbanisation; Environment; Land Use; Pollution.

Introduction

Urbanization is a process that involves the multiplication of points of population concentration as well as increase in the size of individual urban concentration. It is a result of three components. They are natural increase, increase due to migration of population from rural to urban areas and appearance of new urban centers. The rural-urban migration is mainly due to push factor causing the workers to leave the rural areas and agricultural lands. Unemployment, non availability of socio-economic facilities and services and lower levels of income are the factors that push out the people to the cities in search of employment and livelihood. The demand for labour by developing economic activities in towns and cities works as pull factor.

Urbanization is a continuous and complex process. It involves becoming urban areas to towns, towns to cities and cities to metro politian areas. It is a complex process in the sense that it is related to the transformation of society including social, economic and geographical changes. Urbanization has currently three basic concepts. They are the behavioral, the structural and the demographic. The behavioral concept is well known as way of life in which an urban centre possesses a relatively large, dense and permanent settlement of social heterogeneous individuals. The structural concept relates to the movement of people out of agricultural communities into non agricultural communities and correlates the economic development with urbanization. It is seen as a product of increasing economic specialization and advanced technology.

The demographic concept relates to the process of population concentration. Krishniah (1995) has studied the urbanization of Rayalaseema region. Dandin (2005) has made an attempt to study the urbanization and regional development of maiden region of Karnataka. Thupten (2006) has studied the urbanization and urban morphophology of selected towns of coastal Karnataka. He concluded that urbanization is tending to develop qualitatively at a slow rate.

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Study Area

The Rayalaseema region covers an area of about 667,043 Km². It is located in the southern part of the Andhra Pradesh and constitutes Anantapuramu, Chittoor, Kadapa and Kumool district. The Anantapuramu Municipal Corporation covers area of about 2683 hectares and possesses a population of 2,30,312 according to 2001 census. The total population of the Rayalaseema region is 1,34,60,253 according to 2001 census. The region receives an average annual rainfall of about 738 mm. The maximum temperature goes upto 42°C in the month of May and the minimum temperature of 15°C is recorded in the month of December. The Rayalaseema region experiences dry sub-humid and semi-arid types of climate.

Source of Data

The data pertaining to urban population from 1971 to 2001 has been collected from Census of India records. The data has been used to classify the towns according to population of each class of town. The relative increase or decrease of urban population from 1971 to 2001 has been worked out. The data pertaining to urban environmental problems, and use and population of Anantapuramu Municipal Corporation has been collected from Anantapuramu Municipal Corporation. The number of vehicles moving over the major roads has been counted at major junctions to identify the major congested roads. The air samples counted at major samples has been analysed to identify the level of air pollution due to automobiles exhaust. The water samples are collected from Nadmivanka and Murava Vanka of the Anantapuramu Municipal Corporation to analyse the Bio-Chemical constraints and identify the level of water pollution. The Ward-Wise data pertaining to water supply, water demand and water deficit has been collected to identify the amount of water shortage ward wise in the Anantapuramu Municipal Corporation. The data pertaining to solid waste disposal and slums of the Corporation has been collected and analysed to identify the amount of waste disposal and understand the problems of slum population of Anantapuramu Municipal Corporation.

Urbanisation of the Rayalaseema Region

The Rayalaseema region the total urban population in 1971 was 13,26,853 which amount to 16.70% of the total population of the region. The urban population grew to 19,37,789 in 1985 to 28,55,379 in 1991 and to 35,46,614 in 2001. The percentage of urban

population grew to 20.17% in 1981, 24.46% in 1991 and 26.34% in 2001. The growth of urban population in Rayalaseema region from 1971 to 2001 was 22,19,761. Among the four districts of Rayalaseema region in Chittoor district the maximum urban population of 10,22,098 was found in 2001. In 1971 the Kurnool district possessed highest urban population of 4,02,449. The number of urban areas in Rayalaseema region varied from 45 in 1975 to 48 in 2001. During 1981 the number was 46 and in 1991 the number of urban areas was 48. The growth of urban areas from 1971 to 2001 was only 3. The growth was very low due to an even topography, erratic rainfall, low agricultural productivity, low industrial development and frequent occurrence of droughts.

The class I town was only one in 1971. The number of class I towns grew to 12 by 2001. The increase was 11 from 1971 to 2001. The number of class II towns was 8 in 1971. It grew to a maximum of 10 in 1981 and then reduced to 7 in 2001. There was a fall in growth of class II towns by 1 from 1971 to 2001 in Rayalaseema region. The number of class III towns in 1971 was 12 and it grew to a maximum of 20 in 2001. The growth was by 8 in class III towns from 1971 to 2001. The number of class IV towns was 14 in 1971 and it reduced to 7 in 2001. The fall was by 7 in class IV towns from 1971 to 2001 and it fell to 2 in 2001. The decrease was 8 from 1971 to 2001 in class V towns. The number class I and class II towns showed an increase from 1971 to 2001 while the class II, class IV and class V towns showed a decrease from 1971 to 2001.

From the analysis of urbanization in Rayalaseema region it may be summarized that there is an increase in urban population from 13,26,853 in 1971 to 35,46,614 in 2001. The growth of urban population was 22,19,761. However, these are a mild growth in number of urban areas from 45 in 1971 to 48 in 2001. The growth of urban areas was only by 3 towns from 1971 to 2001. There was increase in number of class I and Class II towns and decrease in number of class II, class IV and class V towns in the Rayalaseema region. The low growth of urban areas was presumed to be due to low agricultural productivity, low industrial development, uneven nature of terrain, erratic rainfall and frequent occurrence of droughts. The relative increase of urban population was 167.29% from 1971 to 2001. However, the relative increase of urban population was decreased from 47.35% from 1981 to 1991 to 24.20% from 1991 to 2001.

Urban Problems of Anantapuramu District Municipal Corporation

The Anantapuramu Municipal Corporation grew from a small town of 11.45 hectares in 1920 to a

maximum of 2,683 hectares in 1997. During 1971 Anantapuramu town grew to 489 hectares, 806 hectares in 1981, 1598 hectares in 1991 and 2683 hectares in 1997. The population of Anantapur town was only 7938 in 1901 the population grew to 31,952 in 1951 and to 2,30,312 in 2001. The growth of population from 1901 to 2001 was 2,22,374. It was nearly 29 times from 1901 to 2001. The various categories of land use of Anantapuramu Municipal Corporation in 2001 showed that about 47% of the total land use is under residential area, 2.98% is under recreational area, 9.98% is under public and semi-public office, 9.08% is under transport and communications, 2.68% is under water bodies and 23.89% is under vacant land.

With 234 times increase in morphological area from 1920 to 1997 and 29 times increase in population from 1901 to 2001, today the Anantapur Municipal Corporation is facing many urban problems like housing, sanitation, water supply, waste disposal, air, noise and water pollution and urban slums. The total houses required in 2001 were 57,578. The existing houses in Anantapuramu Corporation were 23,023 in 1981, 34,554 in 1991 and 54,654 in 2001. The shortage of houses was only 2,924. The shortage of housing is mitigated due to liberal housing loan facilities by the nationalized banks, LIC and Housing Development Corporation. There is no underground drainage system in Anantapuramu Municipal Corporation. The drainage water is let into open drainage canals and the waste water is discharged into Nadimavanka, Murva Vanka and Tadakaleru of the Anantapuramu Corporation. Due to discharge of sewage and waste water into the vaokas and drains the ground water on either side of these drains are polluted due to seepage from drains to ground water. The Municipal Corporation has proposed an underground water drainage system with a cost of Rs. 200 crores. Due to open drainage system the mosquito menace is very high in the Anantapuramu Municipal Corporation.

The required water per a person is about 50 litres / a day. The available water is only 28 litres / day. The Pandameru and Tadakaleru rivers are major source of water along with Tungabhadra high level canal. There are about 11,130 bore wells in the Anantapuramu Municipal Corporation. On an average about 200 litres of water is drawn from each bore well. The total water drawn from bore wells is about 2,226,000 litres per day. Due to geographical location of Anantapuramu Municipal Corporation in a chronic drought district, low recharge, low rainfall, high potential evapotranspiration and high ground water extraction majority of the bore wells

have dried up. The total water from all sources supplied by Corporation is about 6,189,438 litres/ day. The total water required is about 11,515,600 litres/day. The water deficit per day is about 5,326,162 liters/day. To meet the water demand the Corporation has proposed to bring water through pipe line from the Mid Pennar dam. The work is in progress. Solid waste management is one of the essential obligatory functions of urban local bodies. Most of urban local bodies are resorting to open dumping of Municipal solid waste and fill up the low lying areas, old tanks and depressions in an unscientific, unplanned and haphazard manner leading to health hazards and ecological degradation. The major sources of solid waste in Anantapuramu Municipal Corporation are industries, households, hotels, canteens, slaughter houses and bio-medical waste generated from hospitals and clinics. The solid waste is composed of 87.74% of sand, dust and skeleton bones, 8.10% plastics, 4.05% of Paper, 0.08% of glasses, 0.03 % of cotton and lather and 0.01% of rubber. It is estimated that about 107 million tonnes of solid waste is generated for a day in Anantapuramu Municipal Corporation. There are about 20 garbage houses. There are 40 tricycles, 3 tractors, 3 tralls and 6 private tractors for disposal of solid waste at the disposal site near Gooty Highway. About Rs. 68.92 lakhs is being spent a year towards solid waste management to meet the cost of supervisors, labour, fuel, repairs of vehicles, material cost and rental cost to private tractors. About 314 man power are involved in the disposal of solid waste in the corporation. Due to growing population and increasing waste products there is a need to strengthen the solid waste disposal management by providing additional protected dumping garbage houses, vehicles, tricycles, thralls, man power and dumping yards. As there is a good demand for end products of solid waste after treatment, it has to be scientifically treated so that the compost can be used as bio-fertilizers in commercial and fruit crops.

The major congested roads identified in the Anantapuramu Municipal Corporation are Subhash road, Railway feeder road, Raju road, RTC bus stand road, Sreekantam circle to old town market road, and old town market to Sangameswar circle road. In all the roads, on an average about 8,000 to 10,000 vehicles flow daily. These roads are prone to accidents during peak hours. The air and noise pollutions are high in these roads due to release of automobiles exhaust and homing respectively. The air pollution is due to carbon monoxide, deadly organic vapours sulphur compounds toxic substances released from the two wheeler, three wheeler, light and heavy vehicles. The

noise pollution is due to continuous honking. The noise levels go beyond 90 decibels during peak hours and during non peak hours they fall down to 50 decibels.

The water pollution in the Anantapuramu Municipal Corporation is due to discharge of sewage water and hospital effluents into the major streams namely Nadimivanka and Morava Vanka. On an average about 2.5 lakhs of litres of sewage water is discharged into each stream. The analysis of water samples from their two streams revealed that there is high concentration of BOD, solid, organic and chemical compounds, coli forms and faecal coli-forms. There are about 51 urban slums in the Anantapuramu Municipal Corporation distributed along the major drainage streams, railway line, high level canal, and along Gooty and Bangalore roads. The total area covered is about 120.75 hectares. About 60,820 people live in these slums. There are about 10,336 residential houses. The density of population is about 504 per hectare. The number of households is 12,655. The family size varies from 4 to 6 members. About 40% of the slum populations are illiterates. The average annual income varies from Rs. 3,000 to 15,000. The sanitary facilities and ventilation are very poor in slum areas. The drainage and waste disposal conditions are very bad. The slum dwellers are affected by diarrhoea, typhoid, malaria, viral levers, venereal and skin diseases. The quality of urban life is very poor. The Corporation is taking necessary measures under urban poor, and Rajiv housing development schemes to upgrade the sanitary, drainage water supply and housing schemes in a phased manner to eradicate the problems of urban slums.

Conclusions

The analysis of urbanization of the Rayalaseema region depicts that there was a growth of urban population by 22,19,761 from 1971 to 2001. The Chittoor District has the maximum urban population of 10,22,098 in 2001. The growth of urban centres from 1971 to 2001 was very slow. The urban centres grew from 45 in 1971 to 48 in 2001. There was a growth in class I and Class III towns in the Rayalaseema region. In class II, Class IV and class V towns there was a decline in number of towns. The major problems in Anantapuramu Municipal Corporation are urban water supply, drainage, congestion, pollution and urban slums. To overcome the major urban problems and urban slums, the Anantapuramu Municipal Corporation has initiated various measures in a phased manner to develop the Corporation in a planned way.

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