



GROWTH OF URBAN POPULATION AND ITS ENVIRONMENTAL IMPACT ON MADURAI CITY

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ABSTRACT

India is the second most populous country accounting for over 16 percent of the total population of the world. Tamilnadu ranks first in Urbanization among the fifteen major states in the country. Urbanization has been on the increase since 1961. According to the 2001 census, Tamilnadu has emerged as the state with the highest level of urbanization (43.86 percent) in the country. In total population, 2.72 out of 6.21 crore lives in Urban areas of TamilNadu. It has been observed that the residential space has experienced a very significant increase, which may be due to growth of population in Madurai and also in migration from the surrounding rural areas and small urban settlements. The city today functions as a urban center.

Keywords: Population, Urbanization, Environment, Demographic, Density

INTRODUCTION

India is the second most populous country accounting for over sixteen percent of the total population of the world. The scale at which India's population is increasing is simply mind boggling. While the total population of the country was thirty six million (361 crore) in 1951 it rose to

thousand and twenty seven million in 2001. Tamilnadu has emerged as the state with the highest level of urbanization in between 43% and 86% in the country. Data revealed that out of 6.21crore of the total population of Tamilnadu, 2.72 lives in urban areas. the share of rural population to the total population is reducing consecutively from

1981-91 to 2001-2011 and the share of urban population is rising tremendously and it accounts nearly 59% in Madurai city and the same trend was happened at the state level also. Yet the rate of urbanization of Madurai city is higher than Tamilnadu. Several push and pull factors are preserved to be operative towards distress out migration from rural to urban areas. This might be due to the declining resources, availability per capita and shrinking economic opportunities for the higher level of human capital development could be the underlying factors for rural out migration.

The various positive cause of the urbanization that led's to environmental degradation it stimulates the researcher to bring out a detailed and systematic analysis of Madurai. The Accessibility, water availability and ownership of a house are the major factors for urbanization. Hence the researcher pays more attention on the role of demographic population and its impact. The researcher presents empirical findings in the relationship between urbanization development that led to larger human impact. Hence the aim and objectives of the present study are to analyze the urban expansion of Madurai city and to study the environmental impact of population in Madurai.

METHODOLOGY

The Area undertaken for the present study is in around Madurai city (Map 1.0). Research methodology is descriptive, historical and analytical in nature. In the present study primary data was collected through government orders, archival materials, policy note, master plan, implementation of new schemes, structured questionnaire etc. The response of selected respondent was evaluated with the help of questionnaire, structured interview schedule consisted both open ended and close ended questions. In the present study, the sampling area was selected from the resident of Madurai city on the basis of its accessibility, water availability, location, extension area, town Panchayat upgraded to municipality status, encroached areas, industrial areas, slum areas and Village Panchayat in Madurai such as Melur, Alaganallur, Anaiyur Madurai East, Thirumangalam, Madurai West, Oomachikulam, Thiruparankundram, Avaniyapuram, Madurai City including as K.K.Nagar, Harveypatti, Sellur, Simmakal, Goripalayam, Arasaradi, Theppakulam area, Mattuthavani area and Chokkikulam area were selected. Random sampling has been done through this sampling technique researcher has study detailed and systematic

are males and 731,804 are females. The Growth of population of Madurai city through different decades is given below.

The Population growth and its variation over the decades for Madurai city during 1901-2011 revealed that there is no uniform trend of growth. A rapid increase in population was observed since 1921. The steep rise in population was attributed mainly by large scale migration from rural areas. The increase in the variation of population in 1921 respectively declined during 1951-61, 1971-81, 1981-1991 and also in 2001 to 2011. It is also noticed from the table that during 2001-2011 the population growth was high, and this may be due to the fact that eleven villages and three municipalities and three town Panchayat were added to the city with a population of about 1,01,912 persons. In general the distribution of population in Madurai city is not even. Nearly 80% of the city population is highly concentrated to the southern bank of the river Vaigai while the remaining 20% is sparsely distributed over the western areas and along the northern bank of the river Vaigai.

The northern portion is getting its importance only due to the urban expansion. Nearly 28.5% of the total population is

highly concentrated in the core of the city where all types of commercial activities are concentrated. About 19% of the population is sparsely distributed away from the Southveli Street in the southern side of this zonal city. The eastern portion of the city extending midst may higher secondary school, Anuppanadi, Ramnad Road, Mariamman, Heppakulam provides space for about 14.4% of the population. The well developed residential zones in the eastern and western fringes of the city contain more population and this includes the area such as K.K.Nagar, Annanagar, Gnanaolipuram, S.S.Colony, Thendral Nagar and Vandiyur. In general the population is highly concentrated in the core of the city lying south of the river Vaigai. To the north of the river Vaigai, New Colonies have developed along Alagar Kovil, Natham Road, Melur Road and SivaGangai Road.

Density of population

Madurai City is the third largest city in Tamilnadu. The corporation area has been divided into 65 wards (1981), Subsequently it increase in (2001) to 72 wards and in 2011 it has been increased 100 wards without any changes in physical boundary. The density of population has been calculated in order to find the spatial variation in the concentration of population. The high density of more than

75,000 person is observed in Jaihindpuram, Balarangapuram, Maravarchavadi, Munichalai, in the southern part of the city.

In the Northern part in Shenoy Nagar and Sellur area the density is more than 75,000 per Sq.Km. In Shenoy Nagar the high density is due to the development of slums and in Sellur area it is due to high concentration of low income groups engaged in hand loom industry. Medium density of population is found in and around the temple. It is mainly confined to the area to the south of river Vaigai such as Ponnagaram, Railway colonies, Madura Coats, Chinna Kochadai and south gate. In the North of river Vaigai, Goripalayam exhibits a density of 25,000 to 50,000 person per sq.km. The low density of population of less than 25,000 person per sq.km is found to the north of river Vaigai in Thathaneri, Bibikulam, P.T.Colony, Madurai-Ramnad Road, Reserveline, Narimedu, Chokkikulam and K.K.Nagar. In the south of river Vaigai, Arapalayam, S.S.Colony, Arasaradi, Ponmeni, Muthuramalingapuram, Vasanth Nagar, TVS, Alagappa Nagar, Villapuram, Anuppanadi and newly developed areas such as Thasildar nagar, Alagar Nagar and Meenakshi nagar have less than 25,000 person sq.km.

Decadal Growth of Population

Madurai began as a small township with a population of 51,987 in the year 1871. The growth of population increased by nearly 22,000 person in the year 1881 and showed a further increase in the population nearly by about 14,000 person in the next decade According to 1971 census the Madurai city was designated as the second corporation in the state of Tamilnadu.

Age and Sex Ratio

Age and sex composition are the important attributes to understand the demographic characteristic of population. Any changes in the structure and composition of this attribute will has an effect on the harmony of the city. Madurai has higher proportion of females in relation to males in 1951 which registered a increased from 51.85 to 52.15 in about 70 years and this indicates that the process of urbanization and industrialization was slowly accelerated in Madurai city. The proportion of females to the total population has increased from 49.14 to 50.10 during this period confirming the high phase of urbanization process of Madurai city. The sex ratio of Madurai city registered a decrease from 966 to 93 from 1951-1981

from 1991-2011 sex ratio of Madurai city has been increased.

Literacy

The level of literacy really increases the awareness about the basic necessities of life and also how life can better be modified by the interplay of survival factors. Literacy brings to human beings the emotional stability and also the quest for knowledge to know about their neighborhood and thus make life comfortable and healthy. The selection of healthier environment by an individual is mainly based on his levels of literacy to understand their environment. It is observed that out of a total population during 1961 – 1971, the female literacy was more than males out of the total literates, Male literate constituted 58.26%. It is observed that out of a total SC and ST population during 1961-2011 increased in Madurai city may be due to the urbanization and small scale industries developed in the Madurai city.

Environmental Impact of Population

Madurai which is agriculture and rural based city is now exposed to increasing urbanization, textile, construction, real estate and housing. The city has to concentrate on rural blocks which will also play great role in bringing up the economy. The basic challenge in the context of the changing

structure of the economy and employment is to create the capacity to absorb the population migrating out of agriculture into industry and services with proper training and skill development. At the same time, productivity in agriculture should not be allowed to decline. Additional investment in agriculture is required. There is increase in total workers of the district due to increasing trend of urbanization, but in rural areas of certain blocks, female is getting reduced where concentration needs to be given to the city.

For the past 60 years that the process of Urbanization and industrialization was slowly accelerated in Madurai city. The important attribute to understand the demographic characteristic of population is due to many changes in the structure and composition of this attribute that will have an effect on the harmony of the city. Then, Due to large influx of people for food and employment, there is a considerable increase in urban poor population which counts for about 21 lakhs people. They have encroached upon the vacant lands, Government lands, filled in tanks, temple lands and along the major roads in the fringes of the district. The number of slums increased from 31 in 1961 to 193 in 1992. The high growth urban poor dwellings is

rooted from 1977 to 1983 (92 in 1977 to 147 in 1983). In the name of modernization and industrialization, the rural population migrated to urban for the job opportunities so that the socio economic status has been also improved. On other hand the formation of habituation settled for betterment of life totally affect the environment in Madurai city.

To conclude that since then the city has experienced a sizeable growth of population leading to an increase in area under all types of land uses. It has been observed that the residential space has experienced a very significant increase, which may be due to growth of population in Madurai and also in migration from the surrounding rural areas and small urban settlements. The city today functions as a urban center. Due to large influx of people for food and employment there is a considerable increase in urban poor population which accounts for about 2 lakhs people. They have encroached upon the vacant lands along Madurai-Rameswaram railway line, north and south banks of Vaigai river, Government lands, filled in tanks, temple lands and along the major roads in the fringes of the city. The per capita income varies from Rs.200 to Rs.600 per month. Due to low per capita income,

the dwellings of urban poor are thatched houses, small tiled houses etc. without proper ventilation and sanitary facilities. Because of rapid urban population Madurai city. the population is also one of the main reason for increasing urbanization and it has more impact on the environment.

The spatial distribution of housing density and congested pollution and problem of encroachment is more in Madurai city. So the city has been developed on the one hand and on the other hand it brought more environmental problems too. Through the analyses and available data and observation the Major environmental degradation of Madurai city is immediate emergence of urbanization for past five decades.



Figure 1. Early laundry at the Vaigai River



Figure 2. Polluted Vaigai river as seen near P.T.R. Bridge



Figure 3. Residents of Heera nagar, Kiruthamal river live with the unbearable stench of sewage and urban slum

The habitat faced problems of growth of population, uncontrolled pollution level, water scarcity and also other health hazards. Because of the emergence of urbanization there has been of large influx of people for employment there is a considerable increase in urban poor population and they have encroached upon the vacant lands. It leads to the increase of urban slum in Madurai and also through the

analyses researcher identified prevailing of water scarcely has created a good base to water business in Madurai. Madurai a place that bought culture, language and tradition to tamilans is under huge assault due to unplanned urbanizations. Numerous tanks have disappeared by building constructions that alarming Vaigai as getting more and more polluted. If IT comes into Madurai it will brings over crowd Madurai to manage his crowd sustainably has to maintain. Its natural pillars including the crucial Vaigai rivers in a healthy condition. Any development that can be sustained to depend hugely on water bodies and need of water can be easily satisfied if the local water bodies like Vaigai are nourished properly.

The present study revealed and suggested that the Government authorities are alone more responsible for conservations of the environment in Madurai. The non – Governmental organization should take a responsibility in preserving environment in Madurai city and then improvement of the urban quality of life is in Madurai. Urban slum areas have to the provided with minimum accommodation and civic amenities with long term plans through cooperative systems financial assistance from HUDCO Housing for urban development,

subsidiaries from the Government and financial assistance from World Bank, Asian Development Bank and Central and State fund for the improvement of the Urban slums in Madurai city is needed.

Hence, there is a greater need for sustainable environment for the better life which intended to reduce the tension and fiction created by the complex interactions between environment and habitat in Madurai city. It is an approach which involves working for the long – term liability and quality of both natural and human resources.

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