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GEOGRAPHICAL ANALYSIS OF DISTRIBUTION OF TOTAL POPULATION ACCORDING TO THE ACCESSIBILITY OF MAIN ROADS IN AMRAVATI DISTRICT

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ABSTRACT

Roads are indicators of development in any region. Regional development is also found in the region where the roads are developed. The distribution of population is found to be more in the area with higher road density and accessibility in such region is found to have developed infrastructure. In the present research the distribution of total population in Amravati district has been studied according to road accessibility.

KEY WORDS: *Main Roads, Accessibility, Population, High, Moderate, Low*

INTRODUCTION

The concentration of population in any region takes place in the favorable region of that region. A densely populated area is a fertile area of a river basin or an area with abundant rainfall, or an area developed by transportation. Road accessibility influences not only the physical development of an area but also the distribution of population, with areas with a more developed road network tending to have higher population density.

In the present research the distribution of population according to accessibility of main roads in Amravati district has been studied.

OBJECTIVES

The main objectives of the present research as follows

- To calculate the road accessibility of the study area
- To calculate the distribution of population according to the accessibility zone in the study area

DATA SOURCE AND METHODOLOGY

Present discussion is based on the secondary data and graphical analysis. Population data for the present study is taken from the District Census Handbook, Amravati - 2011 while the main road map is compiled from Public Works District Office, Amravati.

The population belonging to each group has been calculated by creating high, medium and low groups according to the accessibility of the main roads. Also their correlation has been calculated. Population distribution according to accessibility has been drawn with the help of Geographical Information System and the results obtained have been tabulated and displayed through maps.

STUDY AREA

Amravati district is located in Vidarbha region of Maharashtra state. The latitudinal extent of this district is $20^0$33'N to $21^0$47'N and the longitudinal extent is between $76^0$45'E to $78^0$24'E. The total geographical area of the district is 12235 sq.km. and as per 2011 census the total population of the district is 288445.

Amravati district has 14 tehsils namely Amravati, Bhatkuli, Nandgaon Khandeshwar,

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Chandur Bazar, Achalpur, Dharani, Chikhaldara, Anjangaon Surji, Daryapur, Morshi, Warud, Tivasa, Chandur Railway and Dhamangaon Railway Axis.

DISTRIBUTION OF TOTAL POPULATION IN AMRAVATI DISTRICT (AS PER 2011 CENSUS)

Amravati district is the main district of Amravati division and the population distribution trend is more in the division. According to 2011 census, the total population of the district is 288445 out of which 1480768 are males and 1407677 are females.

The highest distribution of total population is found in Amravati tehsil followed by Achalpur and Warud tehsils. Amravati taluk has a population concentration of more than 7 lakhs out of which more than 6 lakhs population is concentrated in urban areas. Chandur Railway Tehsil has the lowest total population distribution of 96907 i.e. less than one lakh.

The total population of Achalpur and Warood tehsils is between 2 to 3 lakhs and the population of other tehsils is found to be between 1 to 2 lakhs.

MAIN ROAD NETWORK

As per the year 2022-2023 in Amravati district the total length of roads is 8526 km out of which the length of main roads is 4661 km. In the study area Chikhaldara and Dharani tehsils have the highest road length but less road length compared to their geographical area while Anjagaon Surji tehsil has the lowest road length. Amravati, Warud, tehsils have a total road network of more than 600 km, of which the length of major roads is near about 400 km.

ACCESSIBILITY OF MAIN ROAD NETWORK AND DISTRIBUTION OF TOTAL POPULATION

A region is easily accessible where the main road can be reached very quickly and in minimum time. While studying accessibility in the district, the area up to 5 km from the main road is considered accessible. In the present component, the area up to 5 km from the main road is classified as accessible, between 5 to 10 km as medium accessible and the area beyond 10 km as low accessible. The population and density of population in each accessibility area is studied by delineating the accessibility area from the main roads in the study area.

Table No. 1 shows the accessibility zone with its area covered and the population and density distributed in that area.

Table No. 1
Accessibility of Main Road Network and Distribution of Total Population in Amravati District

Distance from Main Roads in Km	Area (Sq.Km.)	Total Distribution of Population	%	Density (Per Sq.Km.)
High Accessible (0 to 5 Km)	9632	2546825	88.17	264
Moderate Accessible (5 to 10 Km)	1907	290395	10.05	152
Low Accessible (Above 10 Km)	696	51225	1.77	74
Total Aare	**12235**	**2888445**	**100 %**	**236**

Source – Calculated by Author

HIGH ACCESSIBILITY ZONE AND POPULATION DISTRIBUTION

The area of high accessibility i.e. the area between 0 to 5 km from the main roads is 9632 sq.km. which is 78.72% of the total geographical area in Amravati district. A total population of 2546825 lives in this high accessibility area which is 88.17% of the total population. The population density in this area is 264 persons per sq km.

The maximum area of high accessibility and the population in that area is found in the central part of the district.

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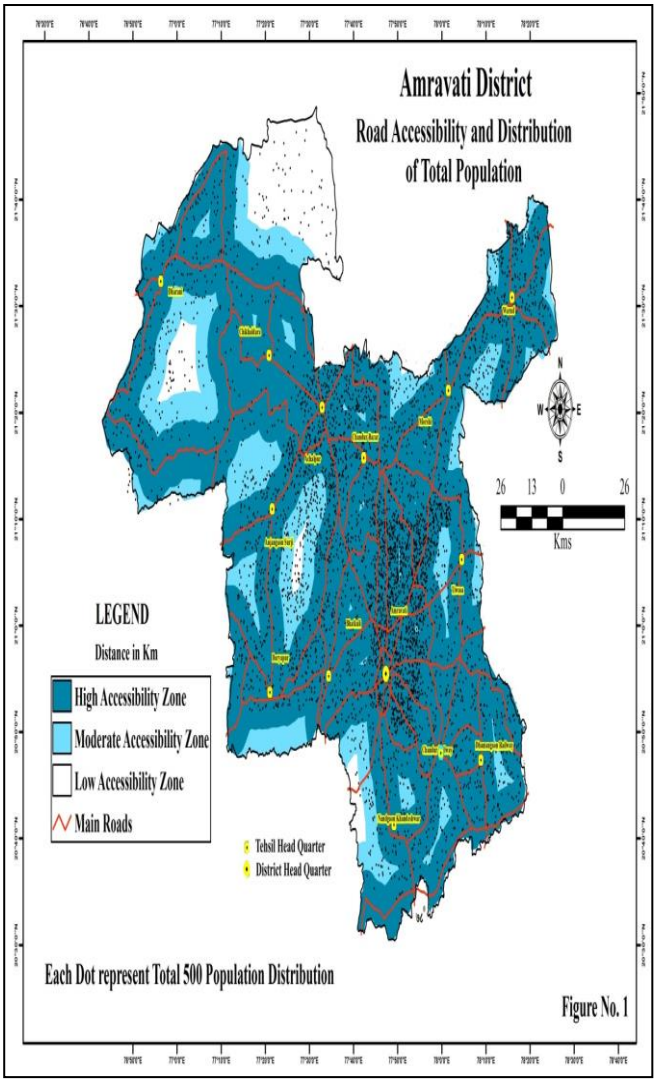


MODERATE ACCESSIBILITY ZONE AND POPULATION DISTRIBUTION

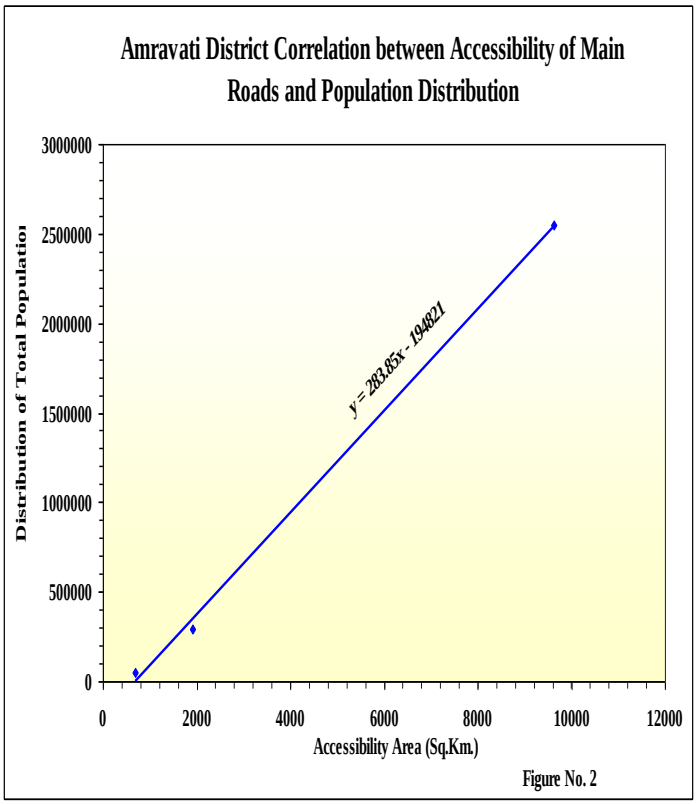
The area of 5 to 10 km from the main roads in the district i.e. moderate accessibility area is found to be 1907 sq.km (15.59%). A total population of 290395 is found living in the study area in this region. 10.05% of the total population of the district is found to be located in moderate accessibility zone. The area has a population density of 152 persons per sq.km.

LOW ACCESSIBILITY ZONE AND POPULATION DISTRIBUTION

The low accessibility area is mainly found in the north west of the district as this area is hilly and road development is less. The total area of low accessibility area in the study area is 696 sq.km., which is only 5.69% of the total geographical area. A total population of 51225 (1.77%) lives in this low accessibility area and most of this population is found in Melghat area. The density of population is only 74 persons in per sq.km. in this low accessibility zone.

CORRELATION BETWEEN ACCESSIBILITY OF MAIN ROADS AND POPULATION DISTRIBUTION

The correlation between the two factors increasing distance from main roads and total population distribution is positive and high (r = +0.97) in areas with high accessibility of main roads, population distribution is higher and density is also higher. Also, if the distance increases, the population distribution and density tends to decrease



CONCLUSIONS AND SUGGESTIONS

As the distribution of main roads in the study area is uneven everywhere, there is also variation in the accessibility area. Although road accessibility is not uniform in all regions, its effect on population distribution is similar. As the northern part of the district is hilly, the network of main roads in this region is less, thus the accessibility of this region is found to be poor.

Accessibility is low in the north of the district and low in the border areas of the district.

In the study region, there is a need to widen the main roads in Anjangaon Surji, Daryapur, Nandgaon Khandeshwar tehsils. Also, it is necessary to develop roads in hilly areas without damaging the nature. An increase in the network of main roads will certainly increase the accessibility and accordingly the distribution of population will also change. This will help reduce population burden in certain areas and promote regional development.

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