IMPACT OF PHYSIOGRAPHY ON THE DISTRIBUTION OF POPULATION IN AURANGABAD DISTRICT

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Abstract
Physiography of the any region directly impacts on the distribution of settlement and population. Most of the settlements and population are concentrated in the plain and plateau region. The present paper reveals that the distribution of total population according to the height of the region, also analysis of relationship between physiography and population of the study region.
Key Word
Physiography, Population, distribution, density

Introduction

Population is an important resource of any country and population concentration found in the positive geographical conditions region. Physiography of the any region is an important factor to the distribution of settlements and population. Generally it is found that distribution and density of population reduces in upland region and increases in low land region.

Aurangabad district is the main district in Aurangabad division and located in Maharashtra state. This district is the part of Godavari basin. Present research paper is based on the analysis of population distribution and density according to the height of the district.

Objectives

The specific objectives of the present study has follows,
1) To analysis the relief features of the region.
2) To analysis the distribution and density of population according to height of the region.
3) To analysis the relationship between physiography and population.

Data Source and Methodology

The present study is based on the secondary source and graphical obtained data. The population data was collected from the District Census Handbook, Aurangabad 2011. Relief map of the district has digitized from the Physiographical base map of District Planning Map of Aurangabad district.

The population distribution map overlapped on the physiographical maps of the district. Area of height zones and total distribution of population are calculated in GIS software. The data has arranged in the table also overlapping shows on the map. The relationship is shows on the regression line and tested by 't' value.

Study Region

Aurangabad district is located mainly in the Godavari River basin and partly in Tapi River Basin. Aurangabad district is situated in between 19023'43" N to 20039'36" N latitude and 74036'46" E to 75057'03" E longitudes. This district is situated in the state of Maharashtra, and the main in the division. There are total 9 thasils are included in the district, total population of the district is 3701282, out of them 1924469 are male and 1776813 are female and density is 367 in per sq.km according to the year 2011 census.

Physiography of the Region

The overall slope of the district found in southward and towards the east. Geologically the whole area is covered by the Deccan trap lava flows of upper cretaceous to lower Eocene age. Antur (826 Meter), Satoda (552 Meter), Abbasgadh (671 Meter), Ajintha (578 Meter) are the heighted place in Satmala mountain Range. The averagely height of the south part is 520 to 575 meter and north part is 600 to 670 meter.

Surpalnath (958 Meter), Satmala (943 Meter), Mhaismal (913 Meter), Shirsala (850 Meter) etc are the important highest point in the district. The region is divided into three groups below 450 meter height, 450 to 600 meter and above 600 meter height region.

Population in the Region

In the study region total population was 2213779 in the year 1991 and it has reached 2897013 in 2001 and in 2011 it found 3701282. Phulambri and Soyagaon tahsil are totally rural population region. The highest urbn population concentrated in Aurangabad tahsils and it is mainly concentrated in the district headquarter. More than 80% urban population in the region is located in Aurangabad tahsil.

The growth rate of total population was 30.86% during 1991-2001 and during 2001-2011 growth rates observed 27.76%. It is control in 2001-2011 than 1991-2001. Growth rate of male and female population is observed near about same during the period 2001 to 2011.

Growth rate of urban population is higher than growth rate of rural population. Urban population growth rate is higher in Gangapur and Aurangabad tahsil and rural population growth rate is higher Soygaon tahsil which is totally rural region. It is found negative in Gangapur tahsil because most of the population is migrated towards urban region from rural area.

The density of total population is 366 persons in per sqkm region according to the census year 2011. It is consistently increased from 1991 and it is near about increased 147 persons in per sqkm area. Density of population is higher in Aurangabad tahsil more than 1000 persons and low in Soygaon below 175 persons in per sqkm because of rough topography. The topography of the region is influence on the population distribution. Density of rural population is also greater than density of rural population. Urban population density of the district is 12982 persons in per sqkm region as per 2011 census and it is increased near about 50 % than 2001. Urban density is higher in Aurangabad and then in Paithan tahsil and low in Khultabad tahsil.

Rural population density is 208 persons in per sqkm and found highest in Sillod tahsil and lowest in again Soygaon tahsil according to the year 2011 census.
The rural sex ratio of the district was 941 in 1991, in 2001 it found 936 and in 2011 it observed 924. The rural sex ratio of the district is decreased from 1991 to 2011. In urban region sex ratio in 1991 was 884, in 2001 it observed 905 and 923 in the year 2011. Urban sex ratio is increased from 1991 to 2011. The controversy found in rural and urban sex ratio of the region.

Total sex ratio of the district was 922 in 1991, 924 in 2001 and 923 in 2011. Averagely total sex ratio of the district is near about same and from 1991 to 2011 but it is low in 2001 than 2011. Highest sex ratio occurred in Vaijapur and lowest in Aurangabad tahsil as per 2011 census.

Physiography of the region is not uniform and physical factors are influenced on the distribution of population. The analysis of physiography and distribution of population in each height zone and its impact is discussed as follows.

Physiography and Distribution of Population   Table No 1 shows height zone, their area and distribution as well as density of the population in the study region.

Table No 1: Physiography and Distribution of Population

Height in Meter	Area in Sq.km	Total Population	Density of Population (Per Sq.km)
Below 450	867	200026	231
450 to 600	5670	2411756	425
Above 600	3570	1089500	305
Total	**10107**	**3701282**	**367**

Source: Author

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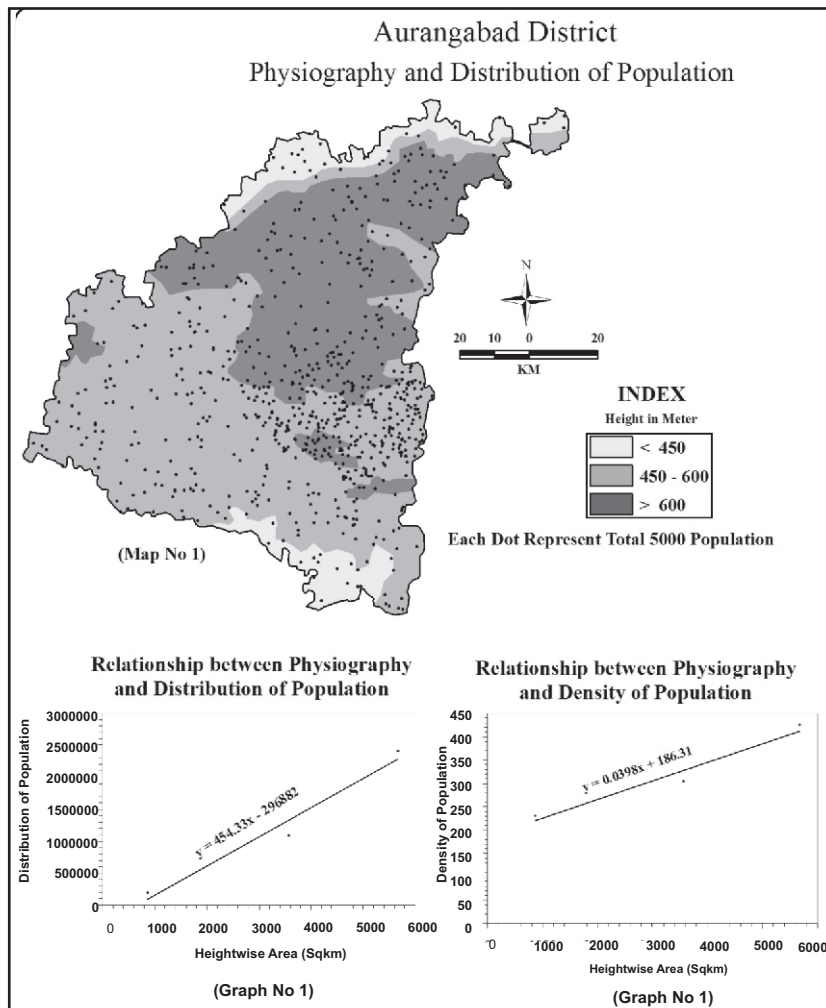**Below 450 Meter Height and Distribution of Population**

Northern and southern boundary part of the region is below 450 meter. This part covered 867 sq.km part of the region. The distribution of total population is this part is 200026 and it is 5.40% to total population. The density of population in per sq.km is 231 persons. Soyagaon, Kannad, Gangapur and Paithan tahsil's some part found in this zone.

450 to 600 Meter Height and Distribution of Population

Maximum part of the study region is plateau and this part of the region occupied 5670 sq.km area. More than 50% part of the district is found 450 to 600 meter height region. Total distribution of population is 2411756 (65.16%) in this zone and density is 425 persons per sq.km.

Above 600 Meter Height and Distribution of Population

This region is covered 3570 sq.km area of the district and total 1089500 populations situated with density 305 persons in per sq.km. Total 29.44% population concentrated in this zone, middle to north part of the region observed averagely height above 600 meter.

(Map No 1)

(Graph No 1)

(Graph No 1)

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Relationship between Physiography and Distribution of Population

Relationship between physiography and distribution of total population is positive (r = +0.98) and it is high degree. 't' value is 1.3635 and it is 95% valid according to the degree of freedom table. Relationship between physiography and density of population is also high degree positive (r = +0.97). 't' value is 2.2838 and it is 90% valid according to the degree of freedom table.

Physiography of the region is highly impacts on the distribution of population. Maximum population concentrated in plateau region.

Conclusions and Suggestions

The population distribution and density in the district is not same due to uneven distribution of geographical area. Growth rate of population in urban and rural region is also different. Physiography of the region is highly impact on the concentration of the population.

Height of the district is influence on the human beings and their distribution. Maximum population concentrated in 450 to 600 meter region. Density is also high in this region. Maximum density occurred in Middle Eastern part of the district in 450 to 600 meter region (Map No 1). Aurangabad and Paithan district's part is included in this high density region. This is plateau region and maximum facilities has developed also industries are developed in Aurangabad tahsil. Population density is low in some hilly part of Soyagaon, Kannad and in Khuldabad tahsil. Overall physiography of the study region highly impacts on the distribution and density of population.

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