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Spatio-Temporal Distribution of Population Density in Frontier between Andhra Pradesh, Karnataka and Nanded District of Maharashtra

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Abstract:

Distributions of population in an area constitute an important segment of population studies. While distribution, the concepts are quite interrelated and used simultaneously. Distribution of population refers to the way people are spaced over the land; it emphasizes the pattern of actual place location of a population. Distribution of population measures the degree of population concentration or dispersion. On the other hand density of population is most revealing and is useful tool in the analysis of diversity of man's distribution in space. It is a simple concept of relating population size to the land area with a view to assessing the pressure of population upon the resource of area. It is generally expressed in terms of person per sq.km or per sq. mile of land area rather than of gross area. Density of population per unit of area represents the ratio of population to land (Desai, 1985).

According to 2011, census arithmetic density of the Nanded district was 319 persons per sq.km. This is significantly lower than that of Maharashtra in the same year which was 365 persons per sq.km or less than that of India, which was 382 persons per sq.km. The density of population for the study region has been lower than that for Maharashtra as well as for India since 1951. In the decade of 1951 density of the study area increases, it is mainly due to low mortality rates caused by plague epidemic.

Key words: Density, Distribution, Population, Spatial, Temporal

Introduction:

The density of population is expressed in various ways to understand the relationship between population and resources. These ratios have been designated as arithmetic density, physiological density, agricultural density, geographical density and caloric density. Arithmetic density is a ratio between total area and total population. However, it cannot be used as a measure of population pressure on land because it merely gives a simple quantitative relationship between man and land.

Physiological density is more refined method of calculating ratio of population to land. It is a ratio between total population and total cultivated or cropped area. It is expressed in terms of number of persons per sq. km. or mile of cultivated area. Another measure of land ratio devised is agricultural density. In this measure only agricultural population is correlated with the total area under cultivation. It is expressed as agricultural population per sq. km. or miles of the cultivated area. Caloric density is an elaboration of agricultural density. It is calculated considering total rural population and total food cropped area.

Study Region:

Nanded district lies in the Godavari basin and the eastern most district of Maharashtra. It has a population 33,61,292 as per 2011 census. It is situated on the northern bank of the Godavari and has grown in importance as a commercial center. Nanded district covers an area of 10528.00 km². In terms of area and population it forms 3.42 Percent and 2.55 percent of the state respectively.

Objectives:

1. To study the temporal changes in density
2. To study the spatial changes in density

Database and Methodology:

The attempts have been made by the researcher to examine population structure during the 30 years spreading between 1991 to 2011, for which uniform data at circle level is available. The main body of data used in this study was collected from two sources viz. primary and secondary.

The present paper includes distribution, density of population in the study region. It has been carried out over thirty years from 1991 to 2011. The processed data was presented in the form of maps, diagrams and tables. Population concentration is calculated in relation to percentage of population and area. The number of persons per sq.km or mile is known as arithmetic or general density. It is known as general condition for population pressure. It is calculated by the following formula:

$$\text{Aritmetic Density} = \frac{\text{Total Population}}{\text{Total Area}}$$

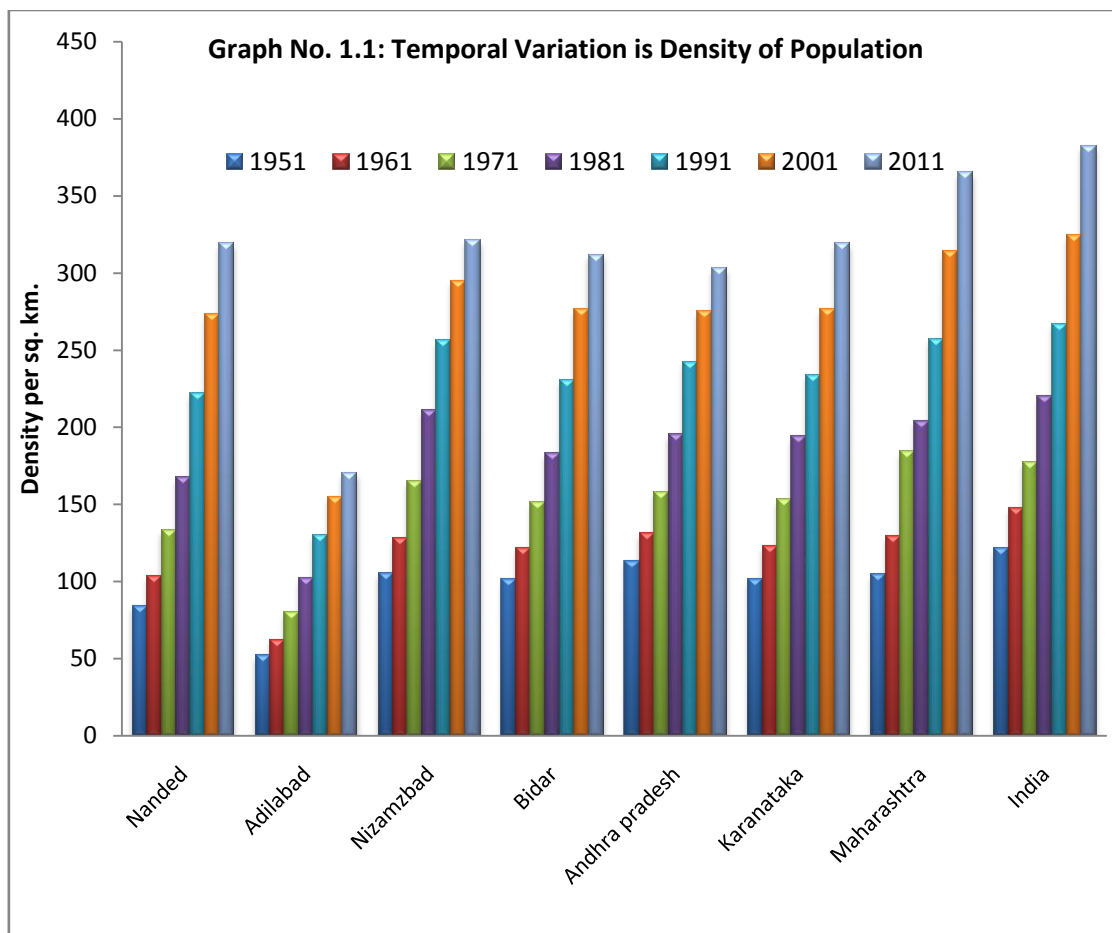
Arithmetic density is closely related to population growth and area of particular location. Whenever population growth is noticed in only area arithmetic density also increases. If area of only location gets changes, it may decline or increase it affects on the values of densities. If area declines densities finds increase or if area increases density gets decline.

Temporal Variations in Arithmetic Density of Population(1951-2011):

Table No. 1.1: Temporal Variations in Density of Population (1951-2011)

Year	1951	1961	1971	1981	1991	2001	2011
Nanded	84	103	133	167	222	273	319
Adilabad	52	62	80	102	130	155	170
Nizamabad	105	128	165	211	256	295	321
Bidar	101	122	151	183	230	276	312
Andhra Pradesh	113	131	158	195	242	275	303
Karanataka	101	123	153	194	234	276	319
Maharashtra	104	129	184	204	257	314	365
India	121	147	177	220	267	324	382

Source: District Census Handbook, India, 2011.



According to 2011, census arithmetic density of the frontier between Andhra Pradesh, Karnataka and Nanded district of Maharashtra that is Nanded, Adilabad, Nizamabad, Bidar, Andhra Pradesh, Karnataka, Maharashtra and India was 319, 170, 321, 312, 303, 319, 365 and 382 persons per sq.km. respectively. This is significantly lower than that of Maharashtra in the same year which was 365 persons per sq.km. or less than that of India, which was 382 persons per sq.km. The density of population for the study region has been lower than that for Maharashtra as well as for India since 1951. In the decade of 1951 density of the study area increases, it is mainly due to low mortality rates caused by plague epidemic. As per 1961, Nanded district crossed the figure of one hundred and reached to 103 persons per sq.km. and 1971, Nanded district crossed the figure of one hundred and reached to 133 persons per sq.km. Fast growth in density of population is noticed during the decade 1991-2011. According to 1991 census, density of the study area was 222 person per sq.km. Arithmetic density of the study area remains lower during the period of seventy years.

Spatial Variations in Density of Population:

Table No. 1.2 is showing the spatial variations in the density of population of the study area since 1991-2011. Density of the frontier between study areas is categorized into three sections. 1. Density below 250 persons per sq.km. This is a lower density region. 2. Density between 250-300 persons per sq.km. This is moderate density area and 3. Above 300 people per sq.km. This is high density area of the study area.

According to 2011 census, density of frontier area of Above 300 persons per sq.km. was found in Degloor, Biloli, Dharmabad, Ranjal, Bodhan and Kotgir i.e. 332, 308, 317, 342, 494 and 308 persons per sq.km. respectively whereas 250 to 300 persons per sq.km. density was noticed in

Mukhed, Navipet and Madnoor tahsils of the study region. Bhokar, Himayatnagar, Umari, Kinwat, Tamsi, Talamadugu, Bazarhatnoor, Boath, Sarangpur, Kuntala, Kubeer, Tanoor, Mudhole, Jukkal and Aurad was recorded below 250 persons per sq.km. density.

According to 2001 census, highest density of the study area was found in Bodhan (454) tahsil whereas medium density was noticed in Degloor, Biloli, Dharmabad, Navipet, Ranjal and Kotgir tahsils of the study area. Low density was observed in Mukhed, Bhokar, Himayatnagar, Umari, Kinwat, Tamsi, Talamadugu, Bazarhatnoor, Boath, Sarangpur, Kuntala, Kubeer, Tanoor, Mudhole, Madnoor, Jukkal and Aurad tahsils of the study region.

Table No. 1.2: Spatial Pattern of Arithmetic Density (1991-2011)

Sr. No.	Tahsils	Years			Sr.No.	Tahsils	Years		
		1991	2001	2011			1991	2001	2011
1	Mukhed	215	228	276	13	Sarangpur	131	154	180
2	Degloor	246	292	332	14	Kuntala	115	131	156
3	Biloli	226	280	308	15	Kubeer	116	138	172
4	Dharmabad	226	282	317	16	Tanoor	132	161	184
5	Bhokar	161	173	201	17	Mudhole	150	171	192
6	Himayatnagar	171	146	180	18	Navipet	237	254	271
7	Umari	161	204	234	19	Ranjal	286	299	342
8	Kinwat	122	135	158	20	Bodhan	216	454	494
9	Tamsi	110	130	143	21	Kotgir	275	294	308
10	Talamadugu	92	111	123	22	Madnoor	189	217	253
11	Bazarhatnoor	98	109	134	23	Jukkal	156	189	226
12	Boath	138	137	155	24	Aurad	172	200	227

Source: Census of India 1961-2001.

Conclusions:

In 1961, frontierarea of the study region Nanded, Nizamabad, Bidar, Andhra Pradesh, Karnataka and Maharashtra crossed the figure of three hundred and reached to 365 persons per sq.km. and 1971, there is only one adilabad districtnothing crossed the figure of one hundred and reached to 80 persons per sq.km. Fast growth in density of population is noticed during the decade 1991-2011. Density of Bodhan tahsil is increased very fast, it may be largely due to changing economic paradigm i.e. industrial activities and consequent urbanization.

References:

1. David, Kingsley (1951): Population of India and Pakistan, Princeton University press, Princeto.
2. Demko, G.T. (1970): Population Geography – A Reader, McGraw Hill, New York.
3. Das, N.P. and Bhavsar, Suraj (1991): Population Graowht Rate in India; Emerging Trends in the light of 1991 census Result, demography India, vol. 20 no. 2 Pp. 227-41.
4. Gosal, G.S. (1982): Recent population growth in India, Population Gwography, vol. 4 Pp. 33-35.
5. Hauser, P.M. (1961): Population prespective, New Brunswick, Rutgers University Press.