



## Spatial Analysis of Population Structure in Dharwad District Karnataka State

### KEYWORDS

Population, growth, decade, sex ratio, literacy rate, and work force

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**ABSTRACT** *By the late 1970s, the more hysterical outbursts of concern about population growth had abated somewhat as the more gloomy scenarios for the future interaction of population and resources had been discredited by critical examination of their assumptions. Moreover, the growth rate in world population has fallen from about 2.0 percent per annum in the 1960s to 1.7 percent in 1980, essentially due to fertility falls in all developed countries and in some Third World countries, including most notably and dramatically the population giant of China. Yet such is the in-built momentum for absolute growth in population numbers globally and such are the uncertainties about the world's ability to provide supportive resources that population questions will remain a fundamental concern of mankind for decades to come. Even if developed countries myopically consider that their modest fertility levels cushion them from a survival crisis, they will certainly be concerned with a whole host of economic, social and physical planning problems stemming from the changing age structure of their populations.*

**STUDY AREA:** Dharwad district is located in North Karnataka, extending between 15°-0' N to 15°-45' N Latitudes and 74°-45' E to 75°-30' East Longitudes. It is located in the central part of Belgaum Division and on the semi-arid plateaus of North-West Karnataka. The district covers an area of 4249 sq km, which accounts 2.22 per cent of the total area of the state, and altitude of the district is about 800 meters from Mean Sea Level. Administratively it comprises of 5 taluks viz. Dharwad, Hubli, Kalghatgi, Kundgol and Navalgund, 6 urban agglomerations, 127 village panchayatas, and 372 inhabited villages (Fig 1). The physical divisions of the study region are varied and exert a great influence on the climate, the soil and the distribution of flora and fauna of the region. The study area is broadly divided into two major physiographical divisions viz. (1) The semi-malnad and (2) maiden region. The study area is distributed in three important river basins namely the Bennihalla basin which covers Navalgund and Hubli taluks, and Bedti and Tatti hall covers Dharwad and Kalghatgi taluks. These three tributaries drain about 27 per

cent of the total area under study, and play an important role in the irrigation facilities of the area.

### OBJECTIVES.

- 1) To identify the taluka wise showing the population structure in Dharwad district.
- 2) To study the taluka wise decennial growth, density, sex ratio, literacy rate and urban rural population in Dharwad district.

### DATA BASE AND METHODOLOGY

The secondary data collected from District Statistical office, Dharwad for the year 2010-11, published by the Directorate of Economics and Statistics, Government of Karnataka, and Population and Research Centre J.S.S. College Campus Dharwad published by Directorate of Census Operations Karnataka. The above objectives have been analyzed with the help of categorization of ranges by using mean and standard deviation method.

### DHARWAD DISTRICT

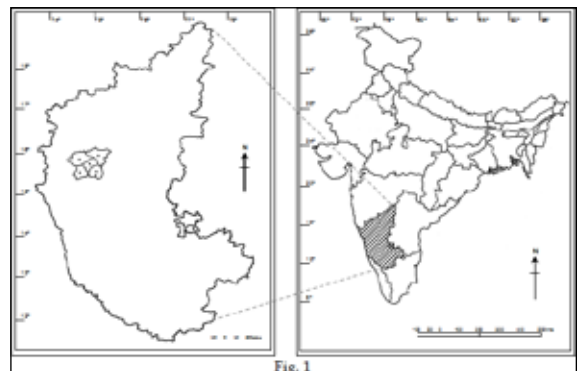
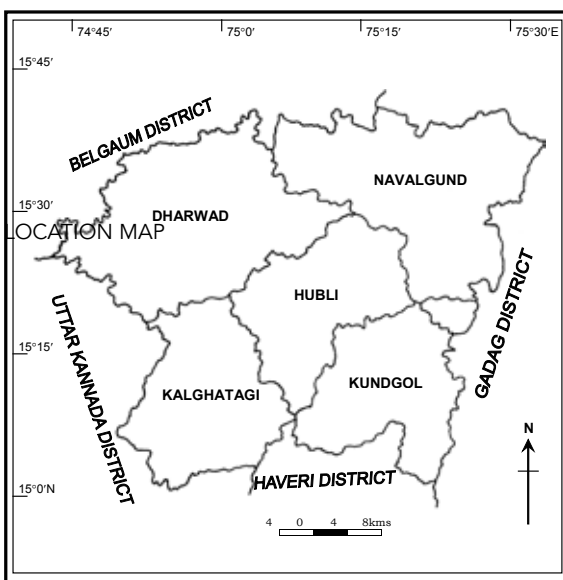


Fig. 1

### POPULATION AND DECADAL VARIATION

The total area of Dharwad district is 4,263 square kilometers, which accounts 2.22 per cent of the total area of the state. In 1991 the total population was 13,74,895, out of which 6,52,726 (47.47%) resided in rural areas and 7,22,169 (52.52%) in urban areas. According to 2001 census actual population increased to 16,04,253, of which 7,22,336

(45.02%) lived in rural settlements and 8,81,917 (54.97%) in urban areas. In 1991 male population was 3,74,100 (51.48%) and female 3,74,100 (51.48%). According to 2001 census this figure has increased to 8,23,204 (51.31%) male and 781049 (48.69%) female (Table 2 and Fig 2).

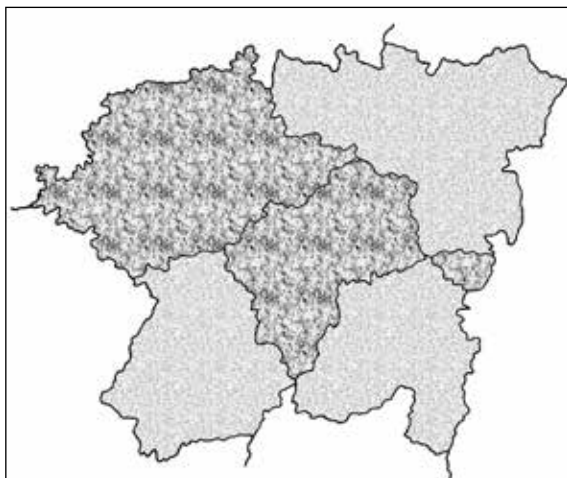
The decadal variation of population in the study area witnessed only marginal increase from 1901 to 1931. Thereafter the increase has been impressive both in terms of number and percentage. The year 1921 can in fact be considered as a

turning point in the population of the region. The study area registered lower growth rate of population than the state average. It is needless to mention that the study area had experienced negative growth of -8.28 per cent due to epidemics and influenza which caused many deaths and also migration of population to other regions. It has been noticed that the study area has registered an increase of 16.72 and 25.26 per cent during 1941-51 and 1951-61 respectively. During 1991-2001 the growth rate increased to 16.25 per cent as against 8.24 per cent in 1931-41 (Table 3)

**Table No. 2**  
**DISTRIBUTION OF POPULATION**

Taluk	Total Population						Rural Population				Urban Population				No. of Villages	No. of Towns
	Total	%	Male	%	Female	%	Male	%	Female	%	Male	%	Female	%		
Dharwad	612058.5	38.15	313781.5	19.55	298277	18.59	103941	14.38	98730	13.66	209840.5	23.79	199547	22.62	118	1
Hubli	521477.5	32.50	267542.5	16.67	253935	15.82	66000	9.13	62380	8.63	201542.5	22.85	191555	21.72	58	1
Navalgund	176.648	11.01	90360	5.63	86288	5.37	65950	9.13	62786	8.69	24410	2.76	23502	2.66	58	1
Kalaghatagi	137.016	8.54	70780	4.41	66236	4.12	63294	8.76	59042	8.17	7486	0.84	7194	0.81	87	1
Kundagol	157.053	9.78	80740	5.03	76313	4.75	72090	9.98	68123	9.43	8650	0.98	8190	0.92	58	1

**TALUK WISE DISTRIBUTION OF POPULATION**



**Fig. 2**

**Table No. 3 Taluka-wise Decennial Growth Rate of Dharwad District**

Sl.No.	Name of Taluks	Growth Rate 1991-2001
1	Dharwad	13.5
2	Hubli	13.5
3	Kalaghatagi	13.0
4	Kundagol	13.8
5	Navalgund	9.4
	District	16.25

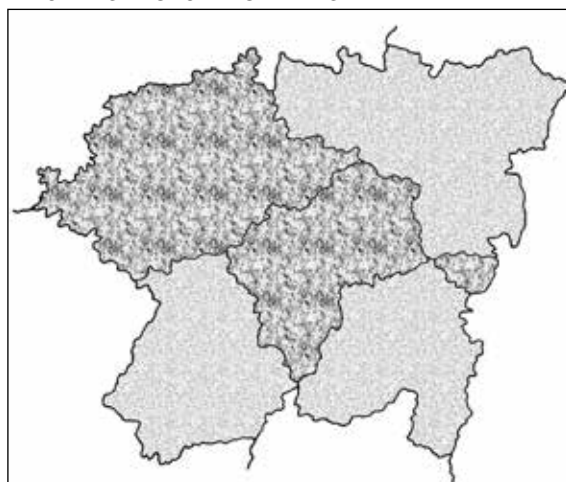
**Density**

The population density of the region can give some idea of the socio-economic and spatial characteristics prevailing in the region. The average population density of the study region increased from 322 in 1991 to 377 persons per square kilometer in 2001. This average is comparatively higher than the Karnataka state, which were 233 in 1991 and 275 persons per square kilometer in 2001. Taluka wise population density is uneven. The lowest population density is found in Navalgund with 142 and 163 persons per square kilometer in 1991 and 2001 respectively. The highest density prevails in Hubli taluk i.e. 717 persons in 2001 (Table 4 and Fig 3).

**Table No. 4 Taluk-wise Density**

Sl.No.	Taluk	Density
1	Dharwad	554
2	Hubli	717
3	Navalgund	163
4	Kalaghatagi	201
5	Kundagol	242

**TALUK WISE POPULATION DENSITY**



**Fig 3**

**Sex Ratio**

In developed countries there are slightly more females than males. In India, this ratio continues to be reverse with a persistent marginal increased trend i.e. from 929 in 1991 and 933 in 2001. This indicates a disturbing disparity in the survival of men and women in the country. The area under study showed 952 women's per every 1000 men in 1991 and 949 in 2001. The sex ratio among the taluks in the study area shows wide variation i.e. from 934 (Kalghatgi) and 951 (Navalgund) in 1991 to 936 (Kalghatgi) and 955 (Navalgund) in 2001. In all most all the taluks of the study area the sex ration has improved. During 2001 the sex ratio figures are relatively high in Navalgund (955) and Dharwad (951), where as in 1991 the respective taluk sex ratio was 951 and 946' respectively (Table 5 and Fig 4).

Table No. 5 Taluk-wise Sex Ratio

Sl.No.	Taluk	Sex Ratio
1	Dharwad	951
2	Hubli	945
3	HDMC	950
4	Navalgund	955
5	Kalaghatagi	936
6	Kundagol	945
	Total	5682

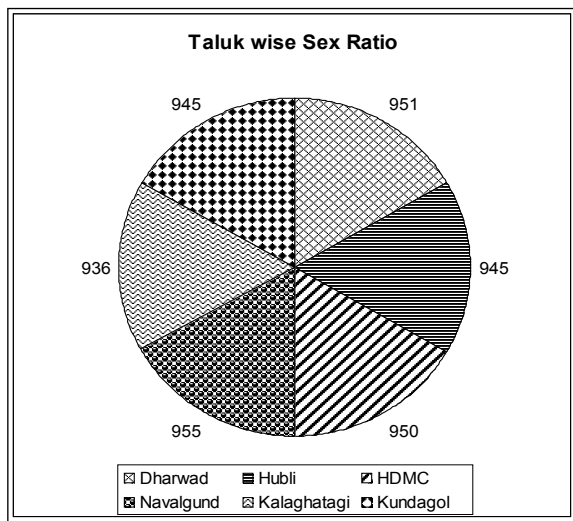


Fig 4

**Literacy**

Literacy rate is an important indicator associated with the improved socio-economic development indicators as well as some demographic indicators. Attainment of literacy improves people's productivity by strengthening their knowledge and skill base, and this in turn increases their income. It is also likely to show greater improvement in women's status when their literacy levels rise. The study area recorded marginal increase in percentage of literacy i.e., 55.52 and 71.87 in 1991 and 2001 respectively. But the literacy in the study area among the male and female was different, for male 68.85 per cent and female 41.39 per cent recorded in 1991 where as in 2001 the literacy percentage increased to 80.8 per cent for male and female 61.9 per cent. The lowest literacy was recorded in Kalghatgi (44.01 in 1991 and 58.29% in 2001) taluk in both the periods and highest literacy was found in Navalgund (56.08%) in 1991 and in Kundgol (65.42%) taluk in 2001. Dharwad and Hubli taluks witnessed marginal increase in literacy rate (Table 6 and Fig 5).

Table No. 7 WORKING POPULATION

Taluk	Main Workers		Marginal Workers		Non Workers		Cultivators Total	Agril Labour	Household Industries	Others	SC Population	ST Population
	Male	Female	Male	Female	Male	Female						
Dharwad	80.2	34.65	5.05	12.5	64.75	102.75	39.9	38.8	7.0	66.0	10.25	7.95
Hubli	80.0	31.95	5.95	17.3	63.95	100.75	39.0	42.3	5.0	64.8	11.35	6.35
Kundagol	56.0	30.3	3.8	11.6	40.2	58.1	36.8	48.7	2.0	12.4	8.5	6.5
Kalaghatagi	56.6	28.4	6.3	19.8	37.1	51.8	44.0	33.8	2.6	19.6	10.8	5.3
Navalgund	56.1	32.9	6.0	16.5	37.9	50.6	39.1	43.1	1.6	16.2	8.2	4.9

Table No. 6 Taluk-wise Literacy Rate (2001)

Sl.No.	Taluk	Male (%)	Female (%)	Total
1	Dharwad	114.3	84.95	99.95
2	Hubli	119.4	87.37	103.85
3	Kalaghatagi	69.3	46.6	58.3
4	Kundagol	78.1	52.0	65.4
5	Navalgund	77.2	50.0	63.9
	Total	80.8	61.9	71.6

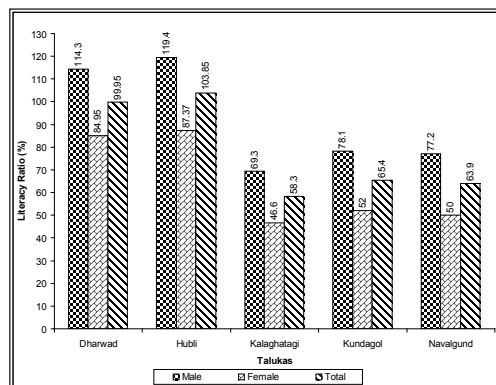


Fig 5

**Work Participation**

Economic structure is not itself a characteristic of population but, it may be argued that the occupational structure of a person unquestionably influences his personality, social behavior, political allegiance and ways of thinking. Economic activities performed by an individual are meant for his existence and survival and vary in space. Resultant economic structure of any society is always in a process of transformation owing to growth of science and technology, functional specialization and division of labour. Work participation provides key insight into the core issues of Women's economic independence and their ability to control income and expenditure, exercise some degree of personal autonomy and share in decision making.

**Work Participation Rate**

The total work participation rate or the percentage of the total workers to the total population has all the time been changing in taluks of Dharwad District. The percentage of total workers to the total population of Dharwad district was 36.33 per cent during 1991, and it further increased to 46.59 per cent during 2001. This shows 0.26 per cent increase in total workers. The taluka wise analysis of working population shows that amongst five taluks of area under study, the highest percentage of total workers was 45.39 per cent in Kundgol taluk during 1991, which is more than district average, it is followed by Navalgund (43.69 per cent) and Kalghatgi taluks (43.55 per cent). The lowest percentage of total workers was found in Hubli and Dharwad taluks i.e., 27.89 per cent and 42.76 per cent respectively. During the period 2001 the highest percentage of total workers was 45.11 per cent in Navalgund taluk followed by Kundgol 43.54 per cent and Kalghatgi taluks 42.97 per cent (Table 7).

### Total Main Workers

The main workers groups as defined in the 2001 census consists of cultivators, agricultural labourers, household industry workers and others. Of these four main workers groups, the agricultural laborers account to be more than 73 per cent of the total population. This clearly illustrates that the agricultural working population related to household industry such as processing, servicing, repairing etc., is in small proportion as compared to the other category of workers.

### The Cultivators

The cultivators are the self employed farmers who cultivate their own land. The area under study records a proportion of 26 per cent of cultivators as against the state average of 36.48 per cent. There is a minor in the percentage of cultivators in the various taluks of the Dharwad District. The proportion of cultivators varied from 16.24 per cent in Hubli taluk to 51.22 per cent in Kalghatgi taluk, the lowest percentage of cultivators was observed in Hubli taluk, while highest was recorded in Kalghatgi taluk followed by Navalgund (39.01 per cent) and Kundgol taluks 35.66 per cent in 1991. During 2001 the highest proportion of cultivators was recorded again in Kalghatgi taluk (48.06 per cent) followed by Navalgund taluk i.e., 41.58 per cent, and lowest proportion of cultivators was observed in Hubli (15.37 per cent) and Dharwad taluk (24.06 per cent). A comparative statement of proportion of cultivators during 1991 and 2001 exhibited slightly decreased trend as large population was involved in other service sectors.

### Agriculture Labours

The agriculture labours are a group of lands less workers who assist the cultivators by getting their weekly wages either in cash or any kind. The study area recorded a proportion of 34.64 per cent of agriculture labourers in 1991 and 22.59 per cent in 2001. There is a significant variation in distribution of these labours in different taluks. Amongst five taluks Kundgol taluk witnessed 52.76 per cent in 1991. While lowest was recorded in Hubli taluk (19.63 per cent) for the year 2001. The percentage of agriculture labours was highest in Kundgol taluk (43.84 per cent) followed by Navalgund taluk (37.13 per cent). While lowest proportion was recorded again in Hubli taluk (12.52 per cent).

### Household Industry Workers

The workers in the household industry are significant as compared to other working groups. However, the area under study recorded an average of 2.37 per cent in 1991 and in 2001 it decreased to 1.53 per cent. Dharwad taluk recorded highest percentage i.e., 19.93 per cent in 1991. While least proportion was found in Kundgol taluk (1.14 per cent) followed by Navalgund (1.50 per cent) taluk. During 2001 the highest proportion of household industry was recorded in Dharwad taluk (3.54 per cent) and lowest was recorded in Navalgund taluk (1.63 per cent). The proportion of household industry from 1991 to 2001 had decreased by 0.84 per cent.

### Other Workers

All workers i.e. those who have been engaged in some eco-

nomical activities during the last year but not classified as 'cultivators' or agricultural labour or workers in household industry are recorded as other workers. This type of workers who come under this category are factory workers, all government servant, municipal employees, teachers in educational institutions, those engaged in trade - commerce, business, mining and quarrying, construction, political and social workers, professional and community service activities etc., The study area records 31.60 per cent of population engaged in other services in 1991 whereas in 2001 it increased to 48.57 per cent. Amongst the five taluks Hubli taluk recorded highest percentage i.e., 61.58 per cent followed by Dharwad taluk (16.30 per cent) in 1991. While lowest proportion was evident in Kundgol taluk (10.43 per cent) in 2001. Data shows that Hubli taluk recorded maximum percentage of other workers i.e., 69.41 per cent followed by Dharwad taluk (59.63 per cent), and lowest proportion was found in Kundgol taluk (13.76 per cent). It is interesting to note that urbanized taluks exhibited highest proportion of population engaged in other workers while the taluks predominant in primary occupation showed lowest proportion of household industry.

### Marginal Workers

The working population related to other than main workers are called marginal workers. This group constitutes 6.57 per cent to the total working population of the region. At the taluk level the proportion varies from 3.97 per cent (Hubli taluk) to 15.63 per cent (Kalghatgi taluk). Out of five taluks two taluks are below the study area average 3 and remaining three taluks are above the study area average.

### Conclusion

The decadal variation of population in the study area witnessed only marginal increase from 1901 to 1931. Thereafter the increase has been impressive both in terms of number and percentage. The year 1921 can in fact be considered as a turning point in the population of the region. The study area registered lower growth rate of population than the state average. It is needless to mention that the study area had experienced negative growth of -8.28 per cent due to epidemics and influenza which caused many deaths and also migration of population to other regions. It has been noticed that the study area has registered an increase of 16.72 and 25.26 per cent during 1941-51 and 1951-61 respectively. During 1991-2001 the growth rate increased to 16.25 per cent as against 8.24 per cent in 1931-41. The total area of Dharwad district is 4,263 square kilometers, which accounts 2.22 per cent of the total area of the state. In 1991 the total population was 13,74,895, out of which 6,52,726 (47.47%) resided in rural areas and 7,22,169 (52.52%) in urban areas. According to 2001 census actual population increased to 16,04,253, of which 7,22,336 (45.02%) lived in rural settlements and 8,81,917 (54.97%) in urban areas. In 1991 male population was 3,74,100 (51.48%) and female 3,74,100 (51.48%). According to 2001 census this figure has increased to 8,23,204 (51.31 %) male and 781049 (48.69%) female.

### REFERENCE

- Ahmed K.S. (1941): Environment and the Distribution of Population in India. Indian Geographical Journal, 16, pp. 117-134. | 2. Agarwala S.N. (1977): India's Population Problem. McGraw Hill, New Delhi. | 3. Bala R. (1986): Trends in Urbanisation in India. Rawat Publications, Jaipur. | 4. CSIR (1984): Science and Technology for Rural Development. Basic Issues, New Delhi. | 5. Chandna R.C. (1986): A Geography of Population : Concepts, Determinants and Patterns. Kalyani Publishers, New Delhi. | 6. Chandna R.C. and Sindhu M.S. (1980): Introduction to Population Geography. Kalyani Publishers, New Delhi. | 7. Census of India (2001): Indian Census in Perspective. Office of the Registrar, General Government of India, New Delhi. | 8. Gosal G.S. (1984): Population Geography in India. In Geography and Population Approaches and Applications by John I. Clarke (ed.) Pergamon Press, Oxford, pp. 203-214. | 9. Government of India (1984): Sample Registration Bulletin, Vol. XVIII, No. 1, New Delhi. | 10. Kaur, Susheel and Chandna R.C. (1983): Changes in the Industrial Structure of India's Male Working Force 1961-81. Population Geography, Vol. 5, No. 1&2. | 11. Krishna G. and Chandna R.C. (1973): Sex Composition of Haryana's Population. Geographical Review of India, June. | 12. Lal H. (1988): Jansankhya Bhugol. | 13. Ojha R.P. (1989): Janasankhya Bhogol. Pratibha Prakashan. | 14. Parikh Kirit S. (ed.) (1977): India Development Report (1977) (IGIDR). Oxford University Press, New Delhi. | 15. Ramachandran R. (1979): Behavioural Approach and the Place of Per Capita. A Paper Presented at UGC sponsored Short Term Course at Punjab University, Chandigarh. | 16. Singh R.L. (1971): India A Regional Geography. National Geographical Society of India, Varanasi. | 17. Sharma D. (1991): Determinants of Fertility of Urban Population - A Case Study of Kullu Town. Punjab University, Chandigarh (Unpublished Ph.D. Thesis). | 18. Smita (1983): Fertility Correlation of Urban Population - A Case Study of PU Campus Residents. Unpublished M.Phil. Dissertation, Punjab University, Chandigarh. | 19. Tompson W.S. and Lewis D.T. (1965): Population Problems. Tata McGraw Hill Publishing Co. Ltd., New Delhi. | 20. Verma S.D. (1956): Density and Patterns of Population in Punjab. National Geographical Journal of India. |