CHAPTER II

DISTRIBUTION AND DENSITY OF POPULATION
(General and Rural)

General:
The study of distribution and density of population is fundamental to the understanding of an area. It is a manifest of the interplay of physical environments. It also furnishes a base for analysing other attributes of population. Such a basic study must, therefore, precede the discussion on changes in other characteristics of the population.

There are two features which distinguish the Inter-State Chandigarh Region from the States of Punjab and Haryana with regard to the distribution and density of population as in 1971. The first is the high degree of concentration of population and the second is the rapid change in its density during a short span of two decades.

In 1971, the region had an overall density of 345 persons per sq km as against the average density of 269 in Punjab and 227 in Haryana. About two-thirds (65.58 per cent) of the total population of the region resided in the rural areas, giving an average rural density of 233 persons per sq km as against 208 and 189 registered in Punjab and Haryana respectively. This brings out the fact
that the urban population, especially of the new town of Chandigarh, has greatly distorted the picture with regard to the overall density of the region.

According to the 1971 census, the entire population of 866,270 was confined to 156,607 households of the region. Out of this, 62,426 were in Punjab, 59,754 in Chandigarh Union Territory and 34,427 in Haryana State. The average population of a household was five compared to six in Punjab and seven in Haryana. Out of 1,018 villages covering an expense of 601,168 acres, 62 were uninhabited. The area of the villages ranged from a minimum of 66 acres to a maximum of 5628 acres with the average size of the village being 590.53 acres.

In 1951, the region had a density of 145 persons per sq km which was less than that of Punjab (182) and larger than that of Haryana (126). An absolute addition of 200 persons per sq km during 1951-71 is the highest ever recorded in the neighbouring states. This increase both in density and absolute numbers is contributed by various factors.

prior to 1951, the region was very backward, suffering from neglect on account of the dissected topography. This was made by the seasonal streams called chos, lack of means of communication, inadequate irrigation facilities
and general dearth of developmental processes. With the creation of Chandigarh, there was an over-all rejuvenation of the tract. The Five Year Plans and their emphasis on measures for increased agricultural production led to the construction of wells, tubewells, flood control measures etc. causing vital changes in the agricultural scene. The multi-purpose Bhakra Nangal project, besides other benefits, made irrigation by canals available to the north-western section of the region. However, the hilly and the eastern dissected plain did not get affected. The location of Chandigarh in the midst of the region has been followed by the construction of roads, which, besides linking all the towns of Punjab and Haryana have direct new links with important places like Delhi, Jaipur, Simla, Dehradun, Agra, Ganganagar, Jammu, Manali, Kasauli, Nahan etc. Even the villages have been connected by link roads with the main roads. The development of the means of transport has not only promoted economic growth of the region but also made the movement of people within and outside the tract easier. The availability of hydro-electric power, besides encouraging the setting up of industries, has revolutionized life in the villages. All these measures, undertaken under the Five Year Plans have led to the growth of irrigation, power, trade, industry, health, education etc. and have brought about remarkable changes in the socio-economic
character of the area. As a result, during 1951-71 there has been a lot of migration into the region, particularly into and around Chandigarh, leading to an unusual increase in the density of population and crowding of certain parts of the region.

Besides, the interior location of the Inter-State Chandigarh Region with regard to Punjab has led to an increase in the flow of migrants from densely populated border districts of Amritsar and Gurdaspur, where a sense of insecurity prevailed in the minds of people after the Indo-Pakistan War*1.

**DISTRIBUTION OF POPULATION BY SIZE OF VILLAGES:**

As per 1971 census, 65.58 per cent of total population of I.S.C.R. lived in 956 inhabited villages. It had 67.98 per cent of the working population of the region engaged in agricultural activities. Hence the role played by agriculture in controlling the spatial pattern of distribution cannot be underestimated. There are considerable variations in the size and spacing of a village. In fact, the distribution of population is intimately related to the agricultural productivity of land which in turn depends, among other things, on its physical resource base and the infrastructural facilities. The decrease in the slope of the land accompanied by a decline in the intensity of dissected topography from north-east to south-west accounts for a

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corresponding increase in the fertility of land, rise in water table, irrigated area and means of transport. As a result, the hilly area and the upper part of the dissected plain, with a badland topography and subsistence economy, are marked by small concentrations of population with wide apart spacing (Map 2.1). Their enumeration in the census is made under the name of Bhog and Majra which means a group of settlements. Towards the north-west and lower part of the upland and dissected plain, the concentration of population goes on increasing with a simultaneous decrease in the distance between the settlements. The upper upland plain and dissected plain are thus marked by large-sized settlements which are closely spaced, signifying dense concentration of population. However, the size of settlements becomes small near or along water courses. Some of the villages become uninhabited on account of vulnerability to floods while their size tends to be larger towards the central part of the interfluves with the recession of the danger of floods. Such a distributional pattern of the population is typical of all the interfluvial tracts with wheat culture, where the flood-plains are thinly populated and the concentration of population gradually increases towards the interior so
Inter-State Chandigarh Region
DISTRIBUTION OF VILLAGES BY SIZE OF POPULATION
1971

(Data by individual villages)

Map 21
much so that the axis of the interfluve has the thickest concentration of population\textsuperscript{1}. Thus the distributional pattern of population in the rural tract of the region is clearly associated with the productivity of land. The upland plain with more irrigation facilities and fertile soils has a thicker concentration of population than the hilly and eastern dissected plain.

The north-western and south-western parts of the region have more closely spaced villages which are larger in size than the eastern section of the undulating plain and the hilly area, because they are less dissected by the chos and have a high percentage of scheduled Caste population (Map 2.2). Otherwise, these areas have undergone more socio-economic changes during the British and post-Independence period than the eastern section. In the lower part of the undulating plain, the concentration of rural population is less, especially between the Ghaggar and Markanda rivers. The physical resource base, land tenure system and historical background have been instrumental for the sparseness of population in this part of the region.

Another distinctive feature of the distribution of rural population of the region is the contrast between

the population of peripheral villages around various towns like Chandigarh, Kharar, Kurali and Kalka with the rest of the countryside (Map 2.1). The settlements in the former are large in size and this is attributed to the diversified economy of the villages adjoining towns which is evident from the high proportion of non-agricultural workers. The roads and railway lines are also areas of marked concentration of thick population because mobility within the region becomes easier.

Thus the pattern of distribution of population is dependent on productivity of land and functional importance of towns in the regional economy. The population is thin in the east and north-east of the region and goes on increasing towards the upland plain, central areas of the interfluves and peripheral villages of towns.

**DENSITY OF RURAL POPULATION.**

Keeping in view the average rural density of 233 persons per sq km, the Inter-State Chandigarh Region can be divided into three types of areas for the purpose of discussion of the spatial patterns of rural population (Map 2.3):

A  Areas of thick population with an average density exceeding 300 persons per sq km.

B  Areas of thin population with an average density of less than 200 persons per sq km.

C  Areas of moderate density ranging between 200 and 300 persons per sq km.
Inter-State Chandigarh Region
DENSITY OF RURAL POPULATION
1971

Density per sq. km:
- 500
- 400
- 300
- 200 → Average 233
- 100
- X Uninhabited villages
- U Urban area
- DNA Data not available

(Data by Individual Villages)

Map 2.3
Broadly speaking, the administrative boundary between the State of Haryana on the one hand and Punjab and the Union Territory of Chandigarh on the other, separates the two areas of low and medium density from the high density region.

Thickly populated areas with density exceeding 300 persons per sq. km.

These constitute 31.2 per cent* (298 villages) of the region. They are concentrated in:

1) North western section of the tract:

Among the areas of high concentration of population, the north-western section of the region includes a fan-shaped expanse of villages enclosed by a line drawn from the southern tip of Morinda and Kharar joining the boundary of the Union Territory of Chandigarh in the south and a line joining the northern tip of Kurali to the boundary of Chandigarh in the north. This is an area where the impact of Chandigarh has been maximum both in agricultural and non-agricultural avenues. This belt is a rich agricultural area having level land, fertile soils, irrigation by canals, wells and tubewells, high literacy rate, well developed means of communication and consequently a better economy. Here the proportion of the area under cultivation is more than 80 per cent, though the percentage of irrigated

*1. The 62 uninhabited villages have not been included in the calculation of the percentage.
area to the net cultivated area is highly variable (Maps 1.5 and 1.6). The small part of Ropar tehsil has more than 80 per cent of land under irrigation as water is available from the Bhakra Canal and its distributaries. In the stretch between Kurali and Morinda, the percentage varies between 5 and 30 per cent due to the water table being very low while in the villages between Kharar and Chandigarh, 45 per cent of the land is irrigated. As a result of the development of irrigation and the adoption of new technology including agricultural machinery, chemical fertilizers, better quality of seeds and improved methods of cultivation, there has been a considerable increase in the production of commercial crops like wheat, rice and sugarcane. The products of truck farming like potatoes, chillies and vegetables have become more popular while the production of oilseeds has diminished.

The nutritional density in this tract ranges between 300 and 500 persons per sq km. touching 1000 in small pockets around the urban centres. Moreover, there is a progressive increase in the nutritional density as one approaches the core of the region (Map. 2.4)

ii) Peripheral villages around towns, predominantly around Chandigarh:

The peripheral villages around all towns have a density of more than 300 persons per sq km. The urban
Inter-State Chandigarh Region
NUTRITIONAL DENSITY
OF RURAL POPULATION
1971

Density of Population
per square kilometre

ABOVE 800
600 - 800
400 - 600
200 - 400 ➔ Average 324
BELOW 200
X UNINHABITED VILLAGE
U URBAN AREA
DNA DATA NOT AVAILABLE

(Data by Individual Villages)

Map 24
functions of these centres have attracted people. There has been migration to towns or the villages around them. That explains the sharp rise in density: both arithmetic and nutritional. There are pockets with a density of 500 persons per sq km around Chandigarh, Kurāli, Kharar, Morinda, Dera Bassi and Kalka and it touches 1000 in several cases. The highest density is around Chandigarh City excluding the piedmont section bordering its northern outskirts. Density of more than 500 persons per sq km is common here and it even touches 1,477 in a village in the south west. The vast scope for employment in Chandigarh is the obvious reason for the high density. Migrants from far and near - Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Himachal Pradesh and Bihar have been attracted because of its diachronic growth. The migrants have been absorbed in non-agricultural activities of the city. The cost of living being high and accommodation scarce, many people preferred to live in the adjoining villages, which have facilities like educational institutions, health clinics, post offices, water and electricity. Besides, the proximity of their place of work and good transport encouraged them to live in these adjoining villages. The percentage of these workers employed in non-agricultural activities ranges between
iii) Along roads especially Chandigarh-Kalka highway:

Along the Chandigarh-Kalka road, population density is high because there are significant industrial units: Hindustan Machine Tools at Pinjore and a cement factory at Surajpur besides the urban estate of Panchkula which the Haryana Government started building up in late 60's. These units have attracted a great number of people who either live there or in the villages along the highway.

3. Sparsely populated areas: A density of less than 200 persons per sq km covers 40.4 per cent (386 villages) of the I.S.C.R. region. Most of such areas occur in:

i) The upper hilly region, ii) lower dissected plain, iii) southern part of the region constituting Rajpura Tehsil, iv) floodplains of the Ghaggar, Markanda, Tangri and other streams.

The upper hilly region has a density of 150 persons per sq km on the whole. The piedmont region forming the extreme western side of this section is an exception and has a very low density ranging between 50 and 60 persons per sq km. The main reasons for this low density are its rugged topography, infertile soils, prevalence of gully erosion and difficult means of transportation. Of this area,
17.7 per cent (11 villages) are uninhabited because seasonal streams play havoc with the terrain and do not leave any place habitable. Consequently, the productive capacity of land is very low. The area has a poor economy with only 30 per cent of its land under cultivation.

Further away, the intervening area between Sukhna Cho and the Ghaggar river has a density between 150 to 300 persons per sq km. A large part of the area in between the Ghaggar river and Som Nadi has been made unfit for cultivation by the close spacing of drainage channels and their gully erosion. This is evident from the fact that less than 20 per cent of the land is under cultivation. The bad-land topography, infertile soils, absence of irrigation facilities and dearth of bridges across the chos are responsible for the low density of population. The area around Dera Bassi forming the central part of the dissected plain has many uninhabited villages which are located either on or close to the river bed or have been subject to disastrous floods because they are in the low lying area. The narrow belts marked by the river courses are also regions of low density because of floods, waterlogging, alkaline soils and inadequate means of transport. The floodplains of the southern section of the undulating plain of Tangri, Markanda and Pegna nadi are the narrow strips of low density of population made so by floods and coarseness of land.
C. Moderately populated tracts between 200 and 300 density constitute 28.4 per cent (272 villages) of the region. They are concentrated in the upper and middle upland plains, the eastern edge of the Naraingarh hilly area and in patches in Kalka Tehsil. The upper and middle upland plain forms the biggest expanse. It is a triangular belt formed by joining the southern boundaries of Morinda, Banur and Kharar. The hilly area with a considerable percentage under cultivation has moderate density due to monolithic economy of agriculture on a rugged terrain.

CONCLUSIONS:

1) There have been considerable changes in the density and pattern of population distribution in the region as compared to the adjacent States of Punjab and Haryana. The overall density of 145 persons per sq km of 1951 rose to 345 persons per sq km in 1971.

2) The rural concentration of population is closely related to the agricultural productivity of land. The settlements are characterized by agglomerated villages throughout the region. They are small and far apart in the north and north-east as compared to the rest of the region where they become big and closer. The size of villages becomes big near the urban centres and along roads.
3) There is a progressive increase in the density of population from all directions towards the core of the region, i.e. Chandigarh, depending on the physical characteristics of land. The fringe areas of urban centres, tracts along roads and the north-western section are the areas of high density. The low density areas include the hilly region and floodplains of seasonal streams. The submontane belt, lying north of Chandigarh, despite being close to the capital, is a belt of the lowest density in the region.