The chapter in its two parts provides an essential basis for the objective measurement of the degree of humanisation of natural landscape achieved in this hill region.

A. DISTRIBUTION OF POPULATION

The study of the distribution of population in a region of this type is a prime requisite for a correct understanding of the size and needs of manpower placed in the context of natural constraints and the history of human achievements. The distribution map (Fig. 15) by revealing great discontinuities in spatial patterns of population proves highly suggestive in emphasising the part played by both these factors.

The breaks introduced by relief and by vast expanses of uninhabited waste are so clearly brought out that one can readily visualise the intricate relationship between physical factors and the history of human occupancy. It is marked throughout the zone of settlement and more clearly in the 'zone of combat' near its limits.

Only a little over one third of the region forms the populated zone, another one third is partially or seasonally settled and the rest constitutes the uninhabited area (Fig. 10).

Despite the rugged relief, harsh climate and thin soil in greater part of the region, the physical limits of human settlements have reached 12,450 ft. above sea level. Within its different sections, the absolute limits are generally at
DHAULADHAR—PIR PANJAL REGION
DISTRIBUTION OF POPULATION
1961
DATA BY VILLAGES AND TOWNS
6000 ft. in the outer, 9000 ft. in the middle and over 12,000 ft. in the inner zones, the rise corresponding to the increasing heights of valleys from 2600 ft. to 10,000 ft. in the same order.

The region is thus of profound interest in supplying varying absolute and relative factors influencing the range of habitable and vacant zones.

By location, the area under study occupies an intermediate position between the populous area of Punjab together with Siwalik hill districts to the south and south-west and very sparsely populated Ladakh and Spiti to its north and northeast. The distributional patterns have periodically been affected by the historic inflows of people from the crowded south on the one hand, and from northern mountainous lands to adjoining parts of this region on the other.

The population is predominantly rural and 93% of the total of about 0.96 million (1961) lives in villages.¹

REGIONAL CHARACTERISTICS OF DISTRIBUTION OF RURAL SETTLEMENTS AND POPULATION

Its distribution within particular areas is patterned after the availability of every conceivable parcel of arable land. Barely 8% of the total and about 30% of the inhabited area is under plough carrying a bewildering variety of human crowding and a great heterogeneity of its spatial variations from one smaller tract to another.

¹ According to 1971 census figures, this region has about 1.2 million people.
The relatively smaller proportion of the land settled and cultivated by man on the one hand and intervening bigger and smaller chunks of uninhabited area on the other have resulted in a severe pressure on existing resources.

The large majority of people live in 5073 villages of different sizes having a population ranging from near 20 to 10,000 persons. The term village in this hill region is different from its prevailing concept in the plains of India. The village consists of a collection of hamlets and the homesteads scattered over a sprawling area of a hill-circuit of valleys and its sides. It bears a distinct name after the central group of hamlets. One hamlet group is generally isolated from the other by patches of uncultivable wasteland along ravines or hill ranges demarcating the closely inhabited portions of rural areas.

The hamlet-groups with fields around are locally known as 'Tikkas' in Kangra, 'Phatis' in Kulu-Seraj, 'Gaons' in Lahaul and 'Muhals' in many other parts. They were later on combined into 'Mauzas' or revenue and census villages, identical in some parts and yet different in others.
Table 7
Size and Proportion of Census Villages
1961

<table>
<thead>
<tr>
<th>With Persons</th>
<th>Less than 200</th>
<th>200-499</th>
<th>500-999</th>
<th>1000-1999</th>
<th>2000-4999</th>
<th>Over 5000</th>
<th>Uninhabited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Villages</td>
<td>4187</td>
<td>597</td>
<td>131</td>
<td>77</td>
<td>66</td>
<td>17</td>
<td>920</td>
</tr>
<tr>
<td>As % of total villages in the region</td>
<td>69.8</td>
<td>9.9</td>
<td>2.1</td>
<td>1.3</td>
<td>1.1</td>
<td>0.6</td>
<td>15.3</td>
</tr>
</tbody>
</table>

**SOURCE:** Computed from District Census Handbooks, 1961

---

These villages carry no permanent population but generally there are recorded rights in their land earmarked for grazing and sometimes for cultivation by persons living elsewhere in neighbouring villages. In some cases, a part of the land is held in the name of local temple which is customarily respected as "Devta's possession" and it is a sacrilege to inhabit it.

Sometimes, the land falling between two neighbouring villages which are at a considerable distance apart, is too high or far flung but is found usable partly for its trees, grasses or stones. As this land can't be conveniently put in either of the villages and there is a likelihood of encroachments on surrounding forests, it is demarcated as a separate unit and rights of use in its land are recognised by the Revenue department.

There are instances where a piece of land, once ploughed was left permanently or is continued to be cultivated seasonally by the owner. As the site was not found attractive for permanent living, he preferred to stay or leave for another village. Revenue is paid where private rights are held, otherwise traditional rights of users are laid down.
Table 8
Proportion of Population in Different Size
of Census Villages: 1961

<table>
<thead>
<tr>
<th>Population in Villages as Percentage of Total Rural Population of the Region (with persons)</th>
<th>200-499</th>
<th>500-999</th>
<th>1000-1999</th>
<th>2000-4999</th>
<th>Over 5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 200</td>
<td>19</td>
<td>10</td>
<td>11.4</td>
<td>20</td>
<td>12.6</td>
</tr>
</tbody>
</table>

SOURCE: District Census Handbooks, 1961

The data assembled in the tables show that about 80% of the villages are very small having less than 500 persons consisting of 45% of the region's rural population. There are only two villages with over 10,000 people carrying 2% of total population. But big villages are only artificially large, made into such revenue units just for administrative purposes. Wherever there is lesser interdependence of hamlets (a cluster of individual houses) separated by an extensive uncultivated waste that it could not be appropriated by any village, a small but compact hamlet-group is treated as a separate village. In the minds of people, administrative boundaries of a mauza (village) into which their hamlet might be included is not so important as is the identity of a cluster of houses inhabited locally by the members of a distinctive social unit. Even in the big-sized

---

4 This indeterminate nature of a village unit is to be kept in mind for understanding the significance of figures of population as distributed in villages of various sizes. Population for example, as shown residing in a village of 2000-5000 persons may really be the population of a mauza containing several small residential villages of less than 500 persons each, whereas a number of villages of less than 500 may really be contiguous hamlets of scattered houses that might just as well be shown as a large village" (Button J. H. 'General Census Report' 1931, 54-55)
revenue villages of Kulu, Kangra, Lahaul and parts of Chamba, the settlements actually comprise the group of scattered hamlets in closer proximity, as is common all over the region. Thus practically throughout the greater part of the region, leaving aside a small nucleus of the hamlets, the village settlement consists of a large number of scattered and outlying houses dotting the countryside, merging into various degrees of unevenness along valley peripheries. Ignoring the varying aggregations of the hamlet-groups into census villages adopted in different parts of the region and distances between them, an average size of the population of a hamlet needs to be marked. Over a larger part, it is found to be as low as 5 and on an average as high as 40. There are exceptions in central parts of main low Himalayan valleys and in some tracts of semi-compact settlements in middle-inner zones where the chief hamlet-group has about 150 persons on an average.

The relatively fertile and better watered valleys like those of Kangra-Palampur have greater number of small hamlets more or less evenly dispersed, forming localised concentrations in centres and stringing along streams or mountain-margins of valleys. On the other hand, the empty land separating one hamlet from the other becomes expansive. Here, the small arable patches, thin population and difficulty of communication have also resulted in scattering of settlements. A general security of life and very few feuds among people has prevailed because of the protection offered by the nature of terrain.
This has also encouraged the formation and scattering of tiny settlements in a larger part of the region. In tribal areas of Lahaul, Brahmour, Pangi and some other parts of middle zone valleys, one observes the nucleated and compact rural settlements, from hill standards. As very small extent of soil could be managed for cultivation, much of the land is unused, and the major villages are confined to pockets of agriculturally and irrigationally favoured locations. It is also the result of people with family descent found in many village castes or of greater inter-caste unity among the people living in tracts suffering from long snow-bound isolation during the winters.

Thus the widely diffused rural population is distributed in countless number of physically scattered hamlets but many times these are socially bound to each other as units of compact settlements. It has led not only to an intricate but sometimes a vague concept of a hill village. Both on the topographical maps and in the field, one comes across the difficulty of distinguishing a village from a small group of hamlets.

Cutting across the size and patterns of rural settlements, everywhere one marks the heavily populated valley plains, moderately populated alluvial strips and sparsely peopled hill sides.

The contours of 4000, 8000 and 10,000 ft. are much significant for marking out the upper limits of vertical tiers of major parts of different habitation zones. With increase in
heights, the largely settled and extensively cultivated low
Himalayas change firstly in partially populated, mostly forested
zone and ends in scarcely populated high Himalayas where
seasonal grazing is practised on a large scale (Fig. 10).

A rough calculation shows that out of every 100 persons,
approximately 53 live in the lowest altitudinal zone of
2000-4000 ft., 26 in 4000-6000 ft., and 18 and 3 are the high-
altitude dwellers living respectively within 6000-8000 ft and
8000 to over 10,000 ft. altitudes above sea level (Fig. 16).

This distribution corresponds with the proportion of
cultivated area in each zone. Although it is not possible to
work out exact share of cultivated area in each altitudinal
zone, roughly 19, 9, 3 and less than 1 per cent of total area
is under cultivation in the four habitation zones as enumerated
above.

As farming is the chief source of living for most of the
people, at the existing stage of rural economy, larger the area
available for cultivation, higher is the magnitude of rural
area carrying heavier population. The most populous areas are
observed along the southern margins spreading in southeast to
north-west direction. A large central tract makes an empty
quarter, and a thin line of settlements run through a wider
vacant portion forming the northern part of the region.
DISTRIBUTIONAL PATTERNS OF RURAL POPULATION

The contrast between heavily populated southern region with milder climate and the easier terrain and the sparsely populated northern region with harsher climate and most rugged topography is vividly marked on the distribution map (Fig.16). Broadly the following regional patterns emerge on this map, each having different arrangements of concentrations and scatterings:

1. Valley Population:
   i. Southern rimlands of denser distribution.
   ii. South east and south west margins of moderate distribution
   iii. Middle zone of 'stream-ribbon' distribution.


3. Northern empty quarter of sparse population.

4. The relatively vacant zones of little or no population.

1. (1) **Southern Rimlands of Denser Population:**

A densely populated belt with nearly uniform width of 12-15 miles touches the peripheries of the region along its south-central margins extending from the western borders of Kangra to eastern boundary of Mandi. It keeps to the south or west of Dhauladhar ranges and includes alluvial valleys of Mandi, Jogindernagar, Palampur and Kangra, for about 60 miles between 76°.7' to 76°.55' E longitudes. It marks a continuous zone of denser or evenly spaced settlements, the hamlets coming
within a mile of each other in the centres of stream valleys gradually lessening the tenacity of the clusters in various directions towards the interfluves. A series of heavy concentrations making well-spotted clusters are observed at places. The percentage of inhabited area under cultivation ranges between 30-60 per cent in centres of valleys and along their sub-alluvial fringes towards the mountain divides. Larger the proportion of cultivable and usable area, greater has been the scope of its becoming a tool in the hands of men in widespread scattering and vast crowding of his numbers.

The correlation between areal disparities of population, relief, surface forms of land and cultivation is at once apparent. It is noteworthy that a number of tributary catchments of Dees revines flowing transverse to the longitudinal course of main river have heavier numbers and a fairly dense population. Many smaller tributary streams locally known as 'Khads' have proved more useful for the use of their water. At the existing stage of social economy, the hill dwellers have been able to conveniently use the small streams for construction of watermills (i.e. gharets) and for drawing water from a suitable head along their course. It is taken off into an irrigational channel for watering the small cultivated blocks lying at a slightly lower elevation. These streams have proved more serviceable in modifying the cultural landscape and making it more conducive for denser population in their valleys.

Although the relatively easy slopes and fertile valley soils have initially influenced heavy clusters, the greater
development of traditional type of irrigation from these perennial streams has an indirect effect upon the size of population.

It has been encouraging the maximum intensification of agriculture in these rice growing, climatically favourable valleys and has supplied a base for sustaining such large numbers (Figs. 9 and 18).

1. (ii) Margins of Moderate Distribution:

The moderate distribution with distinct patterns is marked in areas far to the west and south-east of the southern rimlands described above. It includes basins of streams in Karsog-Chichhit (Mandi district in south east), Bhattiyan and parts of Chamba-Churah (Chamba district in west) mostly to the south of Dhaula-Dhar or along its western and southeastern extremities. The relatively small and loosely aggregated population clusters are marked, separated by a greater discontinuity of hamlets along their peripheries.

A correlation with relief and drainage maps explains the contrasts between the distributional pattern of southern rimlands and these valleys marginal to them. While in the main zone described above, a larger number of tributary streams crisscrossing the land have been sorting out the soil and redepositing its finer particles in central tracts, here a number of minor tributaries are frequently observed to join the major tributary creating a small basin around their junction with
the latter. The average area under cultivation is 14%, reaching 30% of the inhabited area near the central point of valley clusters. It is correspondingly reduced to 20 and 10% respectively along valley margins of interfluvial slopes and their tops (Fig. 17).

This tendency is found particularly in the south-eastern quadrant along streams of Beas and Sutlej drainage flowing north and south respectively from the water divide at 31°30′N latitude.

The same pattern is generally noticed at a number of places in Bhattiyat, lower Chamba and Chureh along the course of Beas-Ravi tributaries at their confluence with the main streams. As the density of streams is relatively less in Chamba portion in west as compared to south-eastern Karsog-Chichial, the tendency towards hydrographic pattern from stream-junction clusters towards tiny valley-heads is more discernible.

1. (iii) Stream-Ribbon Pattern of Linear Distribution:

Towards the heads of Ravi-Beas valleys in Chamba and Kulu (north of 31°50′ lat. in Kulu, and 32°40′ in Chamba), tongues of linear semi-dendritic protrusions branching off from denser concentrations in their south are marked. A common tendency towards linear aggregations or closer scatterings forming riverside ribbons of human settlements is observed. In Kulu, they keep more closely to the rivers and the zones of habitation and of uninhabited areas are sharply delineated by very rugged mountains on both sides. The fluvio-glacial deposits are observed on river-side terraces in upper Kulu and alluvial flats in lower Kulu. The distribution of these features corresponds with the
areas found initially suitable for human habitation in the main valley. In tributary valleys of Kulu-Seraj, such strips favourable for relatively greater population are of limited extent, except towards the stream junctions. The location of such sites also coincides with the ancient lake sites of limited lacustrine deposits.

There is usually a vacant strip between the distribution of population in the main valley and the side valleys found at a slightly higher level. It has given rise to a sort of closely tiered arrangement of the distribution. The total habitable area is small both because of lesser width of valleys and the difficult hillsides. Much over 50% of it has been put to plough for carrying a moderate cover of rural population. There is very little scope of its further spread beyond the present limits of inhabited area as these are largely identical with the limits of habitability in Kulu (Fig.10 and 17).

In Chamba part of this zone, the distribution strings river Ravi towards its upper valley in East-west and its Seul-Baira tributaries (along long. 76°.8' E) in north-south directions. Nearer we go to their valley heads in Brammour and upper Churah, stream-side ribbon becomes closely confined on approaching the greater ruggedness of marginal mountains.

Last villages of Bara Banghal and Treta are marked near the meeting of headwater tributaries of Ravi and Seul rivers. In the lower middle courses of these streams, the marginal slopes are relatively less steep because of wider plateaux.
along mountain fronts and streams are less widely spaced in Churah, rainfall being greater than it is in Kulu. The reclaimability of soil towards forest margins along hillside ranges is also relatively greater. It has given a better recognised dendritic pattern of distribution, particularly in Churah and generally in Brahmpur.

The zones of distribution marked virtually along the river valleys also allude to the lines of least resistance along routes of earliest advance of population in the region. The general extension of its distribution from major settled areas in the south towards the valley heads point out the pioneers' march to these areas under increasing pressure of population and persecution of Moslems in the plains experienced in different periods. Once settled, because of the physical constraints and inaccessibility of valleys, people clung to caste-clan ties and to local cults helping them to persist in not moving out of the cul-de-sacs. In all these areas of moderate to heavy population discussed above, warmer valleys below 5000 ft. have an average yearly temperature of 22°c, rainfall of about 60 inches, three-fourths of which is confined to the summer season. The required amount of rainfall is generally assured, taking the region as a whole. The irrigation potential is considerable, an average 60% of net sown acreage is irrigated by perennial 'Kuhls' in Kangra-Palampur valleys, the areas are normally not snowbound for any part of the year and the growing season extends the year round. These valleys are found suitable for growing rice with maize along
higher hill slopes as staple food of the rural masses. Such climatic conditions have made them relatively productive and widely populous parts of the region, subject to availability of cultivable soil.

2. Pattern of Distribution Along Hillsides:

The rest of the population is found dispersed along the hillsides and mountain slopes marginal to the countless valleys and basins of the region to the south of Pir Panjal range.

The generally recognised dendritic pattern and arrangements in 'knots and ribbons' start disappearing away from the rivers as soon as we are upon the lower or the gentler slopes of bounding hills. Such tracts sprinkled with least population are most numerous in the regions of high ridges in the middle zone and rugged hills along Dhaul Dhar from Chamba-Kangra in the west to Mandi-Kulu in the east. The spur tops particularly in eastern and western margins and occasionally along south-central margins of the region, are thinly populated. The age-old process of pushing up the valley slopes in search of any arable parcels of land still continues. That is why the hamlets have little of any regular patterns and are found unevenly dispersed near the waterpoints and soil-patches amidst haphazard bits of isolating waste-land; as soon as we are upon the slopes of mountain front. These are largely a replica of the patterns of relief features of the region. The primary soil-slope factor becomes far less conducive for greater population. The gradually increasing heights of mountain ranges, an average 9000 ft. in low and 12,000 ft. in high Himalayas and accompanying climatic disadvantages for settlement mark out sharper transitions towards uninhabited areas.
3. The Sparse Population:

To the north of Pir Panjal lies a relatively empty quarter and a thin line of riverside distribution marks an outpost of the region's population. It is completely isolated from the zone of major concentrations and extensions to the south of this mountain range. It refers to the events of early population entering and advancing from Chamba and Kulu towards the western and eastern ends of Chandrabhaga river. That is why the area along its middle course, with Pangi to northwest and Lahaul to north-east, has relatively a sprinkling of population.

In this part a trend towards secondary grouping with breaks in their continuity is marked. Moderate to sparse population is distributed along Chenab river and only along its few major tributaries in lower portion of Pangi and Lahaul valleys.

Even the small extent of habitable area could be cultivated only to the maximum of 35%. Wherever the morainic soil upon riverside plateau terraces immediately fringing the bordering mountains is observed and irrigation has been manageable (though there is no shortage of water supply) the village settlements are marked (Figs. 9 and 17).

Besides aridity and high altitude of the valleys, the area suffers from a number of handicaps. The growing period is short, not extending beyond 6 months anywhere because of heavy snows and very low temperatures during the greater part of the year. Hardly one third of the population can depend
comfortably upon agriculture mostly comprising one-crop cultivation of coarse cereals. Only the resort to additional seasonal jobs and long persistence of polyandrous joint families has made it possible for the people to subsist on paucity of resources.

4. The Vacant Zones:

The stupendous rise of the central axis of the Himalayan ranges to the north of 32° lat., the wider tentacles of their spurs and sub-ranges have proved insurmountable and appear as distinct and practically vacant zones of sizeable dimensions. The zones of habitation, dense, moderate and sparse all put together, appear of limited extent as compared to these vacant spaces carrying no permanent population. Only parts of them may better be described as seasonally settled by man. Such 'no-population' areas are marked along both sides of Dhauladhar, Pir Panjal and Greater Himalayan ranges for about 4-8 miles with intervening alpine pastures seasonally frequented by the graziers. Larger parts of them consist of great heights, bare rocks, snowy wastes, amidst which grazing grounds are interspersed. Obviously, greater their extension from south towards northern parts of the region, lesser becomes the extent of habitation zone.

Within the extensive vacant quarter, areas within 6500-8500 ft. in outer and 10,500-11,500 ft. (at places extending down to 9000 ft.) in the inner zone to the north of Pir Panjal are largely forested.
Larger parts of them carry little permanent population and a number of ‘uninhabited or forest villages’ with recorded rights in their land are observed. Some of them are used for summer grazing and a few of them have cultivable land but no permanent population. As much as 15.3% of total villages in this region are returned as uninhabited. Their largest number is in Chamba district (one third of the total number) moderate in Mandi (9% of the total) and insignificant in Kulu, Kangra and Lahaul. As a vast land in Kulu-Lahaul is fully uninhabited, clearly defined from the habitation zone and Kangra is extensively populated, the number of such settlements is insignificant in both these areas. In Chamba and particularly in southeastern parts of Mandi district, village settlements are marked in suitable clearings in the forest zone and the uninhabited and inhabited zones are not clearly distinguished. For this very reason, they are called as partially or intermediately settled parts of the vacant zone carrying very large unpopulated tracts surrounding a few scattered villages.

Above the grazing grounds, except the stray mountain climbers or travellers crossing the passes, man has yet not touched these parts of the region.

FACTORS AFFECTING RURAL DISTRIBUTIONAL PATTERNS

In this Himalayan region, natural environment apparently and boldly appears to be primarily influencing the distribution

---

5 See footnote on page 104 of this chapter.
patterns of population. But had this been as simple as that, a larger area would have carried a much lower population. It has been aptly remarked that the direct impact of physical environment, of mountain isolation, rougher terrain and harsh climate, is only on the 'physical man'. 'The cultural man' overpowers remarkably these physical checks through the medium of cultural complexes evolved over a long period of time. These complexes appeared in the form of rigid yet adaptive caste-clan ties and devotion for local deities for seeking mental security. The determination to escape religious persecution of Moslems in the plains of Punjab, compulsions to find settleable corners to subsist, promoted the cause of early settlement. These ties and compulsions were regarded as man's proudest possessions even at the cost of his educational and general awareness for the outside world for a long time. This kept the human settlements growing and man getting accustomed to the difficult environments of the region. Thus the most vital factor responsible for such heavy numbers is temporal which has generated its own influence and local social and economic bonds helping the people to remain compulsorily place-bound even under most taxing conditions. The past events of history, the momentum of pre-existing situations and the mountain barriers have combined to result in broad outlines of the prevailing patterns.

Differential locations, their disposition, size and shape affording different degrees of accessibility and concentration have exercised their own influence.
The larger valleys or smaller basins merging into each other making a big valley plain like that of Kangra and opening directly to the plains have a relatively greater population. In the interior situations, only the ribbons of valleys, long and narrow when closed in by immediately steep-flanking mountains have a locally greater population. The example of Kulu is most relevant in this respect. The location of populated zones in various parts of the region with reference to various categories of major landforms and land-uses put on the relief profiles (Fig. 6) appended to first chapter confirm their association with these factors.

As puzzling number of people go on expanding within the same tracts undergoing slow social changes, the human occupancy literally retains the results of long-standing socio-cultural system evolved from the early days of settlement to support a large and fast growing population on a proportionately smaller part of scarce resources.

**URBAN POPULATION**

The region contains eleven towns out of which nine are situated in outer zone to the south of Dhula Dhar; the other two being Chamba and Kulu to its north.  It makes the thickly populated low Himalayan valleys contiguous to the plains relatively more urbanized having 80% of region's urban dwellers.

In the region as a whole, 74% of its total population lived in urban tracts in 1961, falling within 2 to 8% limits of town dwellers recorded in various parts of Himalayan areas, with the single exception of Jammu-Kashmir which had 17% of urban population.
At one end, Dharamsala, Yol and Mandi have over 10,000 people and at the other Nagrotas, Joginder Nagar, Bakloh and Kulu have less than 5000 people each. The remaining four towns of Chamba, Dalhousie, Palampur and Kangra have population ranging between 5000-10,000 persons.

A large number of these hill towns are valley towns at 2500-4000 ft. altitude occupying a peripheral or central situation in their valleys at sites which could provide a good size of flat terrain for making them compact urban agglomerations. Besides their situation, by becoming the focal points of roads and greater nodality places like Kangra, Chamba, Mandi and Kulu, achieved, their population expanded strengthening their role as administrative plus service centres of local hinterlands.

The fact that they were shifted from their first sites shows the initial care exercised by early hill rulers in founding them as suitable seats of their ancient principalities dating back to early years of present era. As capitals of these four hill states now districts, they became centres of multiple functions and of early urbanisation in hill areas.

The other set of towns like Dharamsala, Dalhousie, Bakloh and Manali (added in 1971) are mostly hill stations or tourist resorts at 4000-6000 ft. altitude situated on spur-tops, valley heads or ridges. They are the creations of British Government during the heyday of their rule in India or the products of their way of thinking. Unlike the old valley towns created at lower elevations for administering and integrating
the scattered population all around, the hill stations came into being more for serving the climatic needs of Europeans and wealthy Indians than for looking to the needs of local people. For this reason, with the exception of Dharamsala being a district Headquarter, the size of their permanent population is small.

The level of urbanisation in this region with a larger area under hill and mountain ranges has remained low. The scattered, predominantly rural and a larger tribal and scheduled caste's population has kept it suffering from comparative backwardness of its economy. It was but natural because urban areas do not exist in isolation and are organic part and parcel of much wider areas within which they function as their focal points. 'It is the nature and extent of resources, level of production, nature of occupational pattern and quantity and quality of social and economic overheads in wider areas or zones of influence which reflect themselves in the prosperity or otherwise of any urban area.'

From this viewpoint, the smallest towns in this region even now appear as overgrown villages, one third to one fifth of their population consisting of cultivators. A larger proportion of non-workers in hill towns implies a measure of economic strain and hardships. As they have grown more on the support of migratory population, they have for long been lacking in economic strength and urban vitality.

---

Report of Commission on Development of Small Towns in Hill and Border Areas (Ministry of Health, Government of India) 1963-64. The above discussion has been drawn relevantly from this Report.
The urbanisation is a needful relief in a hill region suffering from long-standing lack of diversification and stagnation of agrarian economy. The rather haphazard development of these towns till 1961 could not make them an integral part of a much larger and multi-dimensional progress for an overall development of their hinterlands.

SUMMARY AND CONCLUSIONS:

The region illustrates the absolute checks placed by high and rugged relief and low temperature on its habitability. The lowest and highest limits of human settlements are broadly at 2500 and 12,000 ft. above sea level.

The distribution is limited to a small part of the region which could be inhabited between these two limits and could be brought under plough. Within the inhabited portion, soil-slope relations, history and trends of settlement and secondarily the controllability of stream waters for irrigation have influenced the spatial patterns of distribution.

To the south of Pir Panjal range, the population forms a relatively closer net of hamlets observed along southern rimlands corresponding with the distribution of valley flats, river side terraces, usable interfluvial tracts and gentler low hill slopes. The numerous small streams are found congenial for practising intensive irrigated cultivation of land raising its productivity for the denser population.

In areas far to the west and south-east of southern rimlands, moderate distribution forming small clusters along limited alluvial strips in the valleys is marked. With the expansiveness
of unculturable patches, discontinuity of hamlets increases towards the hill peripheries. Towards the heads of the Beas valleys in Chamba and Kulu, tongues of linear semi-dendritic protrusions breaking off from denser concentrations in the south are observed. These riverside ribbons on fluvio-glacial terraces, valley and plateau-flats in Kulu, Brahmour and Churah describe hydrographic patterns, setting apart the uninhabited areas from settled zones towards valley heads and marginal mountains. The rest of the population is dispersed along hill-sides and mountain slopes marginal to countless valleys. They are haphazardly distributed amidst bits of isolating wasteland along mountain fronts. To the north of Pir Panjal, a thin line of riverside distribution is isolated from the zone of major concentrations and extensions to south of the range.

Morainic soil upon riverside plateau terraces located at the foot of rubble-cones fringing the bordering mountains, is capable for being placed under unescapable irrigation. The linear pattern of population distribution runs parallel to the belt of irrigated agriculture.

The urban population is small, only 7% of the total, and the towns are also small-sized, many of them of village origin. They are generally administrative headquarters or local distribution centres. The lack of strength of local rural economy, drift of population into agriculture and slow growth of manufacturing in towns, has resulted in slow diversification of agrarian structure, low labour returns in villages and low additional opportunities in non-agriculture sector in towns.
The compulsions of hilly terrain and a wide prevalence of subsistence economy in rural hinterlands have not been capable of pushing up large towns, reflecting the integrated growth of overall economic development.

B. DENSITY OF POPULATION

The useful abstraction of arithmetic density of population becomes all-the-more-crude and its application involves two major difficulties in this mountain region.

These are the wide expanses of uninhabited area setting apart the narrower populated zones and a low degree of homogeneity confined only to limited pockets. Such are the great cultural contrasts besides variations of natural environment, mode of subsistence and form of settlement that neither high nor low density can invariably be considered the products of any single combination of factors.

AREAS AND THE DENSITIES:

From the standpoint of population-resource ratio, the 'area' has a three-fold concept in this region, and the relationship among three types, their extent and relative distribution in its different parts need to be followed for analysing the density patterns (Fig. 2)

Total geographical area is distinguished from its actually settled portion, which alone is cadastrally surveyed by the Revenue Department for assessment of land and for demarcating it as an areal unit directly usable by man. From the viewpoint of human use, it carries greater meaning for forming an idea
of habitability and pressure of population on known local resources. It is exclusive of large forest blocks, big empty chunks covered by mountain ranges, steep barren slopes under permanent snow and rock waste. For the sake of distinction, hereafter the settled area will be called 'inhabited area'. The third type is that of cultivated area included in inhabited area on which a vast majority of rural population virtually subsists. It stands as a reliable index of measuring relative degree of its crowding on farmland.

### Table 9

**Classification and Type of Areas**

<table>
<thead>
<tr>
<th>Zones/Tabisls</th>
<th>Total Area</th>
<th>Inhabited Area</th>
<th>Cultivated Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As % of area of the whole region</td>
<td>As % of total area</td>
<td>As % of total area</td>
</tr>
<tr>
<td>A. Outer zone of low Himalayas</td>
<td>26.7</td>
<td>96</td>
<td>19.1</td>
</tr>
<tr>
<td>Middle zones of low and high Himalayas</td>
<td>43.3</td>
<td>24.4</td>
<td>6.5</td>
</tr>
<tr>
<td>Trans-Pir Panjal zone(northern) of high Himalayas</td>
<td>30</td>
<td>6.2</td>
<td>0.6</td>
</tr>
<tr>
<td>B. Lahaul</td>
<td>20.4</td>
<td>0.9</td>
<td>0.4</td>
</tr>
<tr>
<td>Pangi</td>
<td>10.0</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Brahmoor</td>
<td>6.7</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>Churah</td>
<td>6.2</td>
<td>47</td>
<td>7</td>
</tr>
<tr>
<td>Chamba</td>
<td>4.4</td>
<td>72</td>
<td>13</td>
</tr>
<tr>
<td>Bhaddiyat</td>
<td>2.8</td>
<td>89</td>
<td>15</td>
</tr>
<tr>
<td>Kulu</td>
<td>13.6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Seraj</td>
<td>7.7</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Karsog</td>
<td>2.8</td>
<td>69</td>
<td>18</td>
</tr>
<tr>
<td>Chichliot</td>
<td>4.0</td>
<td>99</td>
<td>13</td>
</tr>
<tr>
<td>Jogindermager</td>
<td>5.0</td>
<td>99</td>
<td>13</td>
</tr>
<tr>
<td>Mandi</td>
<td>2.3</td>
<td>99</td>
<td>33</td>
</tr>
<tr>
<td>Kangra</td>
<td>5.7</td>
<td>97</td>
<td>30.4</td>
</tr>
<tr>
<td>Palampur</td>
<td>8.8</td>
<td>72</td>
<td>16</td>
</tr>
<tr>
<td>Region as a Whole</td>
<td>33</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

It is noteworthy that in the region as a whole, only 38% of total area is permanently settled, one fifth of which is under cultivation equivalent to an average of 8% of the total area. The outer zone is the smallest and has a little over one fourth of total area of the region under study. Still it is largely habitable, thickly settled resulting in obliteration of the difference between total and inhabited areas. On the other hand, the size of inhabited area gets reduced to less than 1/13 on an average, total area increasing by about three times, on proceeding from outermost low Himalayas towards inner zone of high Himalayas thereby enormously magnifying the difference between two sets of areas. It implies the uncongeniality of conditions for human settlement in atleast three-fourths of high Himalayas. In individual tahsils of the region, more than 90% of southern outer tracts is habitable, decreasing to an average 45% in the middle and to less than 10% in northern inner zones. But even in higher Himalayas where habitability of land suffers a big decline, greater the extent of empty land around middle and inner ranges, lower becomes the arithmetic density while the density of people on many strips of its inhabited area goes to rise.

At the regional level, the arithmetic density of population was 112 per sq. mile in 1961 over an area of 9000 sq. miles, varying between 7 and 461 in fourteen of its different tahsil units. The corresponding inhabited area density was 280 per sq. mile varying between 72 and 846 in the same type of areas.
### Table 10
**Density of Population**

<table>
<thead>
<tr>
<th>Zones/ Tahsils</th>
<th>Arithmetic Density</th>
<th>Inhabited Area Density</th>
<th>Nutritional Density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( Per Sq. Mile )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Outer</td>
<td>284</td>
<td>291</td>
<td>1484</td>
</tr>
<tr>
<td>Middle</td>
<td>82</td>
<td>338</td>
<td>1280</td>
</tr>
<tr>
<td>Inner</td>
<td>10</td>
<td>163</td>
<td>1678</td>
</tr>
<tr>
<td>B. Lahaul</td>
<td>8</td>
<td>809</td>
<td>2168</td>
</tr>
<tr>
<td>Pangi</td>
<td>13</td>
<td>78</td>
<td>1398</td>
</tr>
<tr>
<td>Brahmour</td>
<td>50</td>
<td>168</td>
<td>1607</td>
</tr>
<tr>
<td>Churah</td>
<td>93</td>
<td>196</td>
<td>1364</td>
</tr>
<tr>
<td>Chamba</td>
<td>175</td>
<td>241</td>
<td>1375</td>
</tr>
<tr>
<td>Bhattiyat</td>
<td>191</td>
<td>217</td>
<td>1300</td>
</tr>
<tr>
<td>Kulu</td>
<td>57</td>
<td>842</td>
<td>1209</td>
</tr>
<tr>
<td>Seraj</td>
<td>83</td>
<td>846</td>
<td>1209</td>
</tr>
<tr>
<td>Karsog</td>
<td>161</td>
<td>254</td>
<td>869</td>
</tr>
<tr>
<td>Chichist</td>
<td>184</td>
<td>184</td>
<td>1168</td>
</tr>
<tr>
<td>Jogindermarar</td>
<td>184</td>
<td>155</td>
<td>1182</td>
</tr>
<tr>
<td>Mandi</td>
<td>461</td>
<td>465</td>
<td>1295</td>
</tr>
<tr>
<td>Kangra</td>
<td>407</td>
<td>410</td>
<td>2089</td>
</tr>
<tr>
<td>Palampur</td>
<td>276</td>
<td>375</td>
<td>1693</td>
</tr>
<tr>
<td>REGION AS A WHOLE</td>
<td>112</td>
<td>280</td>
<td>1324</td>
</tr>
</tbody>
</table>

**Source:** Computed from Tahsil Revenue Records and Census Data, 1961.

Among the comparable Himalayan states, only Nepal with 174 persons per sq. mile had a density exceeding both the regional and Himachal Pradesh's corresponding figures of 112 and 125, more than two-thirds of the region bearing lower than Himachal's average density in 1961. From east to west, Arunachal Pradesh with an average density of 11 per sq. mile, Bhutan 47, Sikkim 59, Mountain districts of Uttar Pradesh with generally less than 100 and Jammu & Kashmir with 6.6, all stood as
relatively thinly populated areas. In west-central Himalayas, this region is one of the densely populated areas. Intraregionally, many of the individual tracts are comparable to those in Kashmir, Kumaon and Nepal in having crowded low and middle valleys with 300-500 persons while its scantily peopled north has as few persons as 2-5 per sq. mile anywhere in corresponding higher Himalayas.

The higher regional and local densities are products of cultural advancement as indicated by development of terraced and irrigated agriculture and a caste-community life serving as agent of fixation in a generally unattractive hillier terrain.

The nutritional density, or pressure of overwhelmingly agricultural population on this type and magnitude of cultivated area, is critically placed. On regional level it comes to 1384, ranging between 869 and over 2000 persons per sq. mile of cultivated area. The highest figures are marked equally in outermost low and in innermost high Himalayan valleys reaching a saturation point in both parts of the region. It is caused by a very dense population in the former and an abnormally low proportion of cultivable area in the latter.

The analysis of the causes responsible for low cultivation, little increase possible in its acreage or difficulty in providing much needed irrigation in parts of the region, help in understanding the causes of variations in population densities.
The cultivated area decreases from one fifth of total area in outer zone of low Himalayas to infinitesimally small size in the high Himalayan inner zone where the incidence of natural limits on habitability increases towards its high-level villages.

In the outer zone, with its settled area mostly below 4000 ft. situated to the south and west of Dhaula Dhar, 19% of total and 20% of inhabited areas is cultivated. As the two proportions are almost the same, the total acreage is considerable, most of it yields profitably to terracing and practice of intensive cultivation. Yet such a large fraction of region’s population occupies it that very little margin is left out to increase either the per capita acreage under cultivation or its output in foreseeable future.

In high Himalayas partly in outer and partly in middle zone with an average altitude of 4000 ft. and above 5 to 8% of total and 12 to over 50% of inhabited areas is under cultivation in individual tracts (Fig. 17). In western parts, extending to the north of Dhaula Dhar, the maintenance and extension of directly usable area as a workable base for subsisting population is already an uphill task. In its eastern parts, the losses from landslips and erosion of marginally cultivated land are as serious as are the efforts of struggling peasantry to gain new pieces of land for cultivation. While much of the land is not amenable to intensive and irrigated cropping, most of the new land cleared from
forests can be used gainfully for horticulture for which the average hill farmer is incapable of applying technological innovations or of making heavy initial investments.

Thus, besides the poverty and inadequacy of cultivated area initially caused by its unfavourable location and altitude, the tendency of agricultural population in an undeveloped region to continue concentrating in a few favourable localities has compounded an already serious resource situation.

REGIONAL PATTERNS OF DENSITY:

For a detailed discussion and spatial analysis of population density, the patterns emerging on two maps, one showing inhabited area density and the other portraying nutritional density (Figs. 18 and 19) are used as basis of the following account. The density in relation to total areas has not been found meaningful in local parts of this region.

The categorization of different density areas has been done on the basis of inhabited area densities prevailing in various parts.

1. Areas with Very High Densities: Inhabited area density above 1200 persons per sq. mile.

Such rural pockets of extremely high density are observed in high Himalayas on both sides of Pir Panjal where good quality land for human occupation is in short supply in proportion to an excessive number of people who have little choice to diffuse themselves away from their concentrations. In lower Himalayas, the largest number of such densely populated villages is marked in southeastern part of the region along Jogindernagar-Chichiot belt in Handi zone.
FIG. 19

POPULATION CHANGE IN TOWNS
_____4000 PERSONS
_ ........1000 » »
D - DECREASE

FIG. 20

POPULATION GROWTH 1951-61
DATA BY REVENUE CIRCLES

PERCENTAGE INCREASE
(Rural Areas)

DHAULA DHAR-PIR PANJAL
REGION

NUTRITIONAL DENSITY
1961
DATA BY REVENUE CIRCLES

PER SQUARE KM PER SQUARE MILE
1000 2500
800 2000
600 1500
400 1000
200 500

PER PER

10

1000

100

1000

1000

In high Himalayan valleys of Beas to the north of Manali, in main Pangi villages of Chenab basin towards extreme northwest of the region and towards the head of Chandra river in Lahaul, inhabited area density has reached the maximum of 1600 in otherwise sparsely populated areas.

The first two tracts are prized as locally rich in soil productivity, security of irrigation and agricultural produce and in cultural traditions. Both are the termini of routes from southern heavily populated zone of lower Himalayas. The environs of Manali are specially noted for development of horticultural and tourist resources, for the increasing arrivals of affluent class of Lahaulis from other side of Pir Panjal settling in business and orchards and for controlling the buffer trade between Lahaul and Kulu.

The concentration of all these activities on practically the same extent of inhabited area around Manali and rapid growth of population within last two decades have made it a high-density tract.

In Pangi in the northwest, a compact group of rural habitations with more than 1200 persons per sq. mile are close to its centre because of the varied administrative developments, and standing as cultural heart of the area's tribal life. A few village pockets in Brahamour and Lahaul towards the head of Bavi and Chandra valleys fall into this range of high densities because area available for habitations and human use is
extremely limited within huge mountain waste with no scope for its expansion. The growth in population goes on unchecked particularly because of extended joint families absorbing the surplus numbers.

In lower Himalayas, such high densities form a virtual continuity of rings through the main valleys of Jogindernagar extending northwest, south-easterly to the south of 32°.3' lat. and along the east of 76°.40' long. In the direction of Mandi the number of villages with such heavy densities goes on decreasing.

The causes lie in local diversity of economic activities near the town of Jogindernagar and arterial roads passing through a wider belt of agriculturally good soil and along settlements controlling trade, produce of tea gardens and salt mines, administrative functions and ancillary rural developments.

As we move towards eastern mountain along Kulu-Mandi empty fringes, such heavy densities are marked only in stony localities where inhabited area is smaller with reference to increasing population consequent upon increasing multiple functions of these villages or rapid addition in its immobile numbers. Some of these villages are located along old route between Jogindernagar-Mandi and Kulu valleys. It needs to be pointed out that notwithstanding the increase in density contributed by diversity of non-agricultural activities, productivity of agricultural hinterland generally stands as a foremost influencing factor. That is why, despite greater
proportion of inhabited area under cultivation in Mandi valley (south of 31°45' N and to west of 77°E) its lesser productivity results in far less frequency of high density villages as compared to Jogindernagar valley although the most thickly-populated town of Mandi stands closeby. Also, because a part of the rural population in the hinterland of highly developing town of Mandi has left their villages to get advantage of jobs in the town more paying than less remunerative cultivation around. A rapid field survey revealed that greater need and higher labour wages have drawn about 35% of young people from surrounding villages indirectly responsible for their less high densities and stagnant agriculture, even at a stone's throw from such a growing town.

To the south of Mandi, there are a number of very high density rural tracts with 1200 frequently exceeding 1600 persons per sq. mile. These are broadly delineated in two north-south lines along Juni and Bakhli (Beas tributaries) valleys of Chichiot and along their contact with the marginal hills found identical with productive alluvium and their inhabited area hardly sufficient for rapid growth and increasing functions of many of the nodal villages.

A small outlying tract lying to the north of Kangra town marks the western limit of rural area carrying more than 1200 persons per sq. mile. This is the functional heart of fertile Kangra valley, in the vicinity of Kangra-Nagrota-Yol towns, imparting necessary occupational diversification to the economy of area's prized irrigated agriculture.
The pressure of population on farmland is still greater both in high and low Himalayan areas as detailed above, nutritional density ranging between 1500-2000 per sq. mile of cultivation on an average. In high Himalayas almost everyone primarily depends on a small cultivated core of inhabited area surrounded by fringes of rough grazing and mountain waste. In low Himalayan tracts, inhabited areas is much larger but culturable waste, village pastures and barren land are equally higher leaving relatively smaller proportion of area under plough. As the number of people crowding upon the latter is considerable, nutritional density rises at the same time increasing the gap between the two densities. Only in such areas of concentration in high density tracts, a general relationship between the number of people and carrying capacity of land can be marked.

2. Areas with High Densities: Inhabited area density 800-1200 persons per sq. mile.

This range of high densities is very frequently observed over eastern half of the region from Lahaul in the north to Kulu-Seraj to its south and from east-central Kangra in the west to Chichiet in southeast. Westwards in rest of Kangra and whole of Chamba, the village pockets of this order are few and far between assuming the appearance of outliers of high densities of the eastern region.

To the north of Pir Panjal, it is widespread in two Lahaul valleys of Bhaga and Chandrabhaga rivers. To the south of it one comes across many such densely populated villages in
similarly placed high Himalayan valley of Budhil river which is a major tributary of Ravi in Brahmour. The corresponding nutritional densities are generally between 1000-2000 persons, rising to over 2500 in parts of Lahaul.

The lowest level of villages in all these areas is between 7000-9000 ft., the climate in winters keeps them physically isolated and ill-suited for growing crops. Such conditions of a highly mountainous terrain has put a check on larger human settlements with permanent population above 11,000 ft. It leaves less than 1% of total area of Lahaul as inhabited and cultivated, its glacial tributary valleys are completely devoid of population and its laboriously irrigated cultivated patches isolated from each other by great distances are found only along the three main valleys. These conditions are indicative of no scope for enlarging very densely settled area, and of a general insufficiency of agriculture as a basis of living.

The physical barriers have created an isolationist tendency, divisive customs and religious practices among Buddhist mongoloid tribals of Lahaul, standing for long in the way of their cultural assimilation with non-tribal Hindus of this region. That Lahaul’s population has outgrown the present capacity of most of its densely inhabited area is partly confirmed by the recent trend towards migration of Lahaulis to the environs of Manali in Kulu.

To the south of Pir Panjal, although the migratory Gaddis of Brahmour have been going out more from their outlying
villages in face of rapidly increasing size of their families, the Budhil valley as heartland of 'Gadheran' (the homeland of Brahmour Gaddis) is noted for its big semi-nucleated villages (from hill standards), the greatest degree of habitability and locally better cultivable land. Each village contains on an average 36 houses, around 240 people and all its cultivated land belonging mostly to the members of locality belonging to closely knit links of one caste. In contrast to the outlying parts of Brahmour, this central tract has high-density villages with far greater crowding per sq. mile of cultivated area on hardly a little over one third of its inhabited portion.

Next to it in almost the whole of 50 miles long north-south strip of main Kulu, Inner Seraj and part of Outer Seraj valleys, only 7% of total area is inhabited but 60-70% of it is often cultivated (Fig. 17). It is illustrative of the fact how preponderantly agricultural population of Kulu-Seraj is distributed on a slice of its land running generally close to the valley floor and ploughed to the maximum of its limits.

The depositional landforms either along rivers or their patches along mid-mountain flanks supply the soil basis for supporting hill peasantry. Its smaller extent, difficult amenability to soil management and irrigation is sharply contrasted with wide mountainous topography undergoing intense erosion thereby dispelling the occupation of man. Even if some little land is broken for fresh cultivation, a part of that already cultivated was found to have gone out of use under
increasing landslips, loss in minimum depth of soil and its depletion. Overcrowding both on inhabited and cultivated area, the latter even one third less than former, is the natural result. The population has grown unchecked because of long-prevailing joint family structure encouraged by the need for the supply of free family labour in view of land scattered at different elevations as in Seraj. Ladies and children are valued as without huge labour inputs, it is not possible to wrest food from the land even at existing level of subsistence productivity. Local 'devta cult' (village deities) sometimes discourages to plough or irrigate new land and casteism also keeps people confined to their village homes even if they have an alternative piece of land to cultivate outside. All these factors are complementary to each other and have acted together in creating a great pressure of population both on inhabited and cultivated areas, increasing unabated in each inter-censal period.

In east-central Kangra and parts of adjoining central valley of Palam, habitable area is favourably located from the standpoint of irrigation, soil-depth, relatively greater continuity of cultivable land and double-cropping. Much more than three-fourths of the area has been occupied and an average 50% of it under cultivation. The environments have proved favourable for growth of marketable paddy, potatoes and tea supplying sound basis for supporting high population density despite endless fragmentation of holdings.
The internal migration of peasants from southern, drier margins and return of the native ruralites from erstwhile canal colonies in Montgomery-Lyallpur districts of West Punjab to these irrigated valleys have resulted in greater concentration of population on already high-density area.

As the recent use of more productive varieties of seeds and scientific fertilizers, the yields have increased even from fragmented holdings. These inputs and the consequent prosperity linked with other economic activities have made it possible for still larger numbers to eke out their living.

The tendency for a larger number of people depending upon agricultural land directly or indirectly has been giving rise to higher nutritional density.

3. Areas with Moderately High Densities: Inhabited area density: 400-800 persons.

This range of inhabited area densities is widely met in all parts of the region. For this reason the varying conditions causing the need to be recounted for relating the same population-resource ratio with different stages of human occupancy, of economic and demographic growth prevailing in different parts of the region. In the east, these are largely marked in tributary valleys of Kulu and almost whole of outer Seraj. The usable area is marked more in their central parts starting from low riverside elevations and ending in its small patches at higher mid-mountain levels.

The degree of habitability is reduced from low to high levels but the scope to add to the usable area by encroaching
upon adjoining forests is slightly greater at the latter sites. The overall densities get moderated firstly because the village territory is strung along the whole incline of the mountain and secondly by the addition of the share of usable land per head of settler along mid-mountain patches. Larger area occupied by fewer families at high levels offsets higher densities of settlers concentrated on lower inhabited area at low levels.

Throughout Kullu zone stretching between Kulu in the east and Kangra in the west, quite a number of villages generally situated in sub-central parts of river valleys, more towards their hill margins, are moderately populated. Many people owning land there trickled from densely-populated pockets with the extension of cultivation partly up the marginal hill slopes. Caste-community ties and a relative ease of living acted as agents of fixation in keeping the bulk of people in their original villages and not at newer lands of their adoption. This pattern of land-ownership versus residential homes also came into being as a result of once widespread shifting cultivation much of which lost its productivity and was reverted to forests. But haphazardly scattered nature of cultivated patches possessed by a household with a permanent residence elsewhere in its ancestral village, as associated with earlier system, persists. It has given a higher density in ancestral villages and a moderate one in others. That is why the villages with great diversity intensity of population are found juxtaposed to each other in this part.
In a wider belt of sub-central Kangra, parts of eastern and western Palam valley and its southern hill margins, the enquiries have brought out different operative factors. Despite the fertility of soil, the productive and occupational diversity of land is virtually absent, neither there are cash crops nor fringe benefits of non-agricultural pursuits as in some other parts of these valleys discussed earlier in this chapter. 

Subsistence agriculture with little surplus for sale prevailing till 1961 was hardly adequate for a rapidly growing rural population. These parts thereby turned into out-migrational areas from where people have gone out from each family in trade, services and military jobs. Culturally there has been easier contacts and greater mixing with people in adjoining tracts of Punjab through marriages, business and migrations. The proportion of working population has become the lowest in this rural part of the region, reduced to less than 40% of total population on an average. The dispersal of population equally in all parts of the valleys has been encouraged by easier movement of people because of spread of irrigated agriculture over flatter terrain. It afforded them security of caste-community bonds at the same time. The inhabited area density has thus fallen to less than 800 persons per sq. mile.

Towards mountain margins of Dhauladar and southern dry hills of Palampur, the inhabited area is seen circumscribed by larger wasteland, near forest blocks, hills and the ravines. A large proportion of it has been made usable for rough grazing adding gradually to the area occupied by the settlers.
This process has released the pressure of population on inhabited area and the prevailing lower density contrasts with smaller size of settled area, small fields and heavy concentrations of people in central tracts of the valleys more to the south. While in central valley of Kangra, there is little land available for extension of cultivation, wherever great initial labour and investment of money has been put, some pieces of cultivable soil have been reclaimed from the waste and forest strips in sub-montane parts. The nutritional densities which are generally in 1000-1500 range towards central valley locations, have fallen to less than 1000 persons per sq. mile of cultivated area towards and along the mountain margins.

Chamba is unique in having pockets of higher than moderate density as few and far between. The 'Inhabited density' between 400-800 persons is virtually towards the higher side of density grades in this part of the region. Densities are moderately high only in central part of Chamba valley proper in east-west direction from the town of Chamba and that of central Churah, north-southwesterly along river Saind. These are commonly-marked in all main hamletted villages located on river terraces or plateaus rather than up the hill slopes.

In eastern part of the region, moderately high range of densities is only one step higher to their lowest grade but in its western part in Chamba, it stands as next lower to the highest prevailing density. It is ascribed also to the influence of routes on history and growth of settlements. Through Kangra-Kulu-Mandi and Lahaul passed the ancient trade routes.
linking plains of Punjab to trans-Himalayan Asia. Bound then grew up villages, big enough as halting places adding to their demographic importance. The old route from Jogindernagar to Kulu passing through Uhl valley and across easterly branch of Dhaula Dhar along Kulu-Mandi border contributed to the growth of bigger and densely-populated villages in otherwise mountainous area far less attractive for larger rural population. Chamba had no such trunk routes and has long been insulated from external influences of this nature which could play equally significant part in initiating the growth of many such villages.

In higher valleys of Brahmour, Lahaul and parts of Pangi, moderate densities arose where the restrictive influence of physical conditions did not favour a large-scale settlement or people left out for other villages in the region, the pressure upon habitable land remaining less than excessive. But cultivated land being limited even for small number of people, the degree of crowding on it is in no way less.

4. Areas with Moderate to Low Densities: Inhabited density: Below 400 persons.

The lowest inhabited area densities within this range are widely distributed in western part of the region in all subcentral thin to moderately populated valleys in Chamba. The southern and western margins of Kangra, mountain front of Dhaula Dhar throughout Kangra-Palampur and a few villages along western slopes of this range in Mandi are also similar low density areas. In the extreme southeast, village area figures were not available and inevitably the density of each
muhal (a group of a large number of villages) has been determined to stand for the similar type of approximate densities of the constituent villages. The low density is generally the product of location, altitude and traditional trends of land occupancy.

All these areas mostly comprise hill and mountain slopes with the least of terraces and plateau flats. It needs to be recapitalized that in this type of region, unlike the depositional flats of irrigated agriculture located along high or low Himalayan valleys, the areas under discussion here comprise weathered highlands at various levels, its terrain hardly feasible for practising terraced paddy cultivation even if favoured by climate. Most of these lands are thus maize-growing which has a low carrying capacity for food needs of heavier population.

The inhabited area extends all around the homesteads as there is no scarcity of mountainous and forest waste used for grazing and residential needs of man. But except in low valleys of Chamba and Karsog, the adjoining forest and wasteland occupy too high, steep and rough a ground to yield any fresh cultivable area for growing cereal crops. Thus the cultivable core remains small and practically constant in most most of the areas. The possibility for denser population gets precluded thereby, but per head share of inhabited area of population is greater resulting in a density less than 400 persons per sq. mile, etc.
Most of these parts have an isolated location in one way or the other, away towards valley heads and from the traditionally favoured alignment of main valleys. A greater scattering of already low-sized population caused by another compulsive factor has turned these parts into low density tracts. Many families split up as soon as they could get a piece of land in a hamletted village at lower elevation to compensate for one crop or its poor yields at their high elevation village, inadequate enough to stand the growing human needs.

For those left at latter sites, cultivation is casual. They keep large flocks of sheep and cattle which it is possible for them to feed upon pastures and extensive usable area around habitations. An interplay of these factors have led to the emergence of spread of population over a proportionately larger area keeping down the inhabited area density to less than 400 persons per sq. mile. As for nutritional density, it stands at 1500-2000 persons per sq. mile of agricultural area, one of the highest in the region. This is characteristic of such pockets in Pangi, upper Ravi valley of Brahmoor and those along the extensions of main ranges to the north and east of Jogindernagar valley. In each case, limits of cultivation have reached as cultivable patches remained confined to a few favourable soil-slope complexes within inhabited area. Towards low hill and mountain slopes falling within 3000 to about 6000 ft. extending from Chamba in southwest to Karsog in southeast, many parts are notable for recent enlargement in cultivable area as indicated by islands of 'abadis'(settlements)
within forest blocks found workable for bringing them under plough. It has given rise to relatively lower pressure upon agricultural land, nutritional densities having gone to 1000-1500 range and in some far-flung newer villages to less than 500 persons.

By inter-relating the two density patterns and set of conditions causing them, an abnormal rise in inhabited area density is checked firstly because limited and difficult cultivation has proved far less attractive for concentration of population than for livestock and secondly because a recent initial phase towards addition in usable-cum-cultivable land through encroachments on forests has appeared. It is a phenomenon peculiar to this region that an initial shortfall in densities following any increase in area under plough and settlements, is negated in the longer course of time. The people from other local areas experiencing difficult living start coming in such pockets of 'opportunities'. It results in little or no relief in pressure upon cultivated area. If, on the other hand, an area suffers from continued scarcity of cultivable land inhabited area densities remain at the low mark because of plentiful of usable land around but the degree of crowding in relation to the cultivated area remains heavy.

**URBAN AREAS:**

The density of population on urban land is tremendously high in Palampur and next to it in Kangra, Chamba and Mandi (average 7010 persons per sq. mile). Firstly these towns are relatively more compact and secondly they have a far insignificant
number of persons possessing cultivated holdings within urban limits or joint-family way of living has persisted longer. The lower densities (average 2512 persons per sq. mile) in other towns as of Nagrota, Yol, Kulu, Dharamsala and Jogindernagar are attributed to scattered character of the urban settlement, sprawling in form and with relatively higher proportion of persons depending upon cultivation within their limits. Characteristically the towns which have grown from villages, still containing fairly large agricultural population, have lower urban density in marked contrast to another set of towns which have an overwhelmingly non-agricultural occupational structure.

SUMMARY AND CONCLUSIONS:

This region stands well-populated among Himalayan areas and is one of the densely populated in west-central Himalayas. Relatively speaking, it reflects a fair degree of cultural advancement as indicated by its widespread terraced irrigated agriculture and effective caste-community bonds. It has caused overcrowding in its main low Himalayan valleys, as great as anywhere else in most of the comparable populous valleys, while high Himalayas are as scantily peopled as elsewhere in parts close to the central axis of the mighty range. There are too many local variations in density of population, caused by a striking combination of apparently conflicting factors, sometimes too baffling to be brought easily in sharper focus.
Too many contrasts in cultural and natural environment, forms of settlement, social organization and history hardly make it possible to interpret or correlate either high or low density with any one totality of factors. The region has considerable dichotomy of the concept of areas to which population is related. In terms of total areas, the arithmetic density decreases from low Himalayas in south to high Himalayas to the north. It follows an enormous increase in empty area not suitable for permanent human settlement around mountain ranges in the latter.

Despite the fact that human genius stimulated by environmental pressures has found out land on more and more inaccessible hill slopes, caste-bonds and blind belief in the hold of local god-cults have acted as agents of fixation specially in parts of the mid zone and generally in all hill and mountain interiors. That is why the density in relation to inhabited area rises locally in high-level valleys, where the usable land has remained virtually constant or in comparatively better habitable pockets and in centrally located and relatively nucleated villages witnessing more of recent socio-economic developments. The tendency towards the split up of joint families getting pronounced, people from outlying parts have the inclination to move to favoured localities of latter type. Generally speaking, lesser the mixing of tribal people with others outside their mountain-locked homes, greater becomes the pressure of population on settled area within.
Southwards in low Himalayan valleys, the distinction between arithmetic and inhabited area densities disappears as virtually the whole of geographic area gets occupied by man for all intents and purposes. This part is thickly populated and localised tracts carrying higher densities are found identical with tracts rich in cash crops, those experiencing a chain-combination of varied economic activities or in mountain-locked villages to which a large size of joint-family labour and growing number of people stick on grounds of natural compulsions and caste-community-ties.

The densities get moderated in such parts of this zone where the life conditions have been encouraging easier movement, widespread use of land and the consequent dispersal of population. They get lowered down also in parts of valleys with greater unsuitability of agricultural conditions, in villages where sometimes pieces of land are owned by people without choosing to live there permanently. If the old trend is suggestive, even in small pockets of new opportunities for cultivators, initial shortfall in density of population is soon negated, other things being equal, by in-movement of land-hungry and affluent people from other parts.

The higher proportion of settled area under cultivation in low Himalayan valleys, on an average more than double that of higher Himalayas, is insufficient for about seven times its population. In thinly populated high valleys, although size of population is lower yet any increase in area under plough has
either been out of question or only a little. This phenomena and the greatest dependence of people upon agricultural land has operated to give rise to higher order of nutritional densities in many areas both in the outer and inner parts of the region.

If a true relationship between number of people and carrying capacity of land is to be gauged, it can be done only in such cultivated areas with heavy concentration of people all over this region. An interplay of permissive factors accelerating the improvements of environments and growth of population in low valley zone and of restrictive factors retarding the expansive use of natural conditions and any big increases in permanent population in high hill and mountain zone is clearly identified. But the cumulative tendency for population to get concentrated in a few local areas of traditionally established attraction or historical momentum—long-over, has not undergone any radical changes.

Thus an anigmatic situation is created, higher densities emerging in sparsely populated higher Himalayas more widespread than in thickly populated low valleys despite their improved cultivation or diversification of local economy.