

CHAPTER II

GEOGRAPHICAL DISTRIBUTION AND GROWTH OF POPULATION

Introduction

The population of a country is usually unevenly distributed over the country's land area and Nepal is no exception to this pattern. The spatial distribution of population of a country is influenced by a host of environmental, historical, socio-cultural, economic, demographic and development factors. For example, environmental/geographical factors, such as climate, terrain, soils, natural resources, etc. could very well account for the variation in opportunities for economic activities in various regions of the country and could, therefore, indirectly affect the spatial distribution of population within a country¹. Similarly, the spatial distribution of population could be affected by the past and present political and/or development process. For example, an urban biased development process will induce people to move from rural to urban areas in search of new opportunities and amenities of life and thereby cause higher population growth and greater population density in urban, than in rural areas.

In this chapter, we will try to provide a brief description of the changes in population distribution, an analysis of the changes in the pattern of distribution and growth for the country as a whole and for the three ecologi-

¹ The environmental/geographical factors could also directly affect the spatial distribution of population by restricting people's physical mobility. For example, people may tend to be more reluctant to go and live in areas of extreme weather, even though there may be job opportunities in those areas.

cal zones and five development regions². These analyses are also made at the zonal and district level. The country is divided into 14 administrative zones and 75 districts. The classification by ecological zones and development regions will roughly provide the geographical / environmental and development perspectives of the spatial distribution of the population³.

A. DISTRIBUTION BY ECOLOGICAL ZONES AND DEVELOPMENT REGIONS

1. Distribution by Ecological Zones

Table 2.1 presents data on population distribution by ecological zones for the census years 1952/54-81. It may be noted that the population of the Terai has been increasing faster than that of the Hill and Mountain over the years covered by the censuses. The Terai accounted for only 35 per cent of the total population in 1952/54 and this had increased to 44 per cent by 1981. The corresponding figures for the Mountain and Hill declined from 65 per cent in 1952/54 to 56 per cent in 1981.

² The ecological zones are: 1) Mountain, 2) Hill and 3) Terai; while the development regions are: 1) Eastern, 2) Central, 3) Western, 4) Mid -Western 5) Far-western

³ The ecological zones (Mountain, Hill and Terai) reflect variations in the quality and availability of agricultural land, other resources and also climatic conditions. However, development and ecological factors are intertwined and, it is difficult to isolate the independent effect of developmental from that of environmental factors on spatial distribution of population, at least in the context of Nepal.

Table 2.1- Distribution of population by ecological zones, Nepal, census years 1952/54-1981

Year	Ecological Zones				Total
	Mountain	Hill	Mountain & Hill	Terai	
1952/54	—	—	5,349,988 (64.8)	2,906,637 (35.2)	8,256,625
1961	—	—	5,991,297 (63.6)	3,421,699 (36.4)	9,412,996
1971	1,138,610 (9.9)	6,071,407 (52.5)	7,210,017 (62.4)	4,345,966 (37.6)	11,555,983
1981	1,302,896 (8.7)	7,163,115 (47.7)	8,466,011 (56.4)	6,556,828 (43.6)	15,022,839

Note: The figure in the parenthesis indicates the percentage.

Source: Same as are those in Table 1.2.

2. Distribution of Population and Land in Different Ecological Zones and Development Regions

Table 2.2 provides percentage distribution of population and land in different eco-

logical zones and development regions, for the census years 1971-81.

It will be noted from Table 2.2 that the Hill zone accounts for the largest share, 42 per cent of the total area of the country, and

Table 2.2- Percentage distribution of population and land in different ecological zones and development regions Nepal, census years 1971-81

Ecological zones and development regions	Area in Sq. Km. (1981)	Percentage distribution of land & population		
		Land 1981	1971	Population 1981
Mountain	51,817	35.2	9.9	8.7
Eastern Development region	10,438	7.1	2.6	2.3
Central „ „	6,277	4.3	3.1	2.8
Western „ „	5,819	3.9	0.3	0.1
Mid-west. „ „	21,351	14.5	1.8	1.6
Far-west. „ „	7,932	5.4	2.1	1.9
Hill	61,345	41.7	52.5	47.7
Eastern Development region	10,749	7.3	9.6	8.4
Central „ „	11,805	8.0	15.1	14.0
Western „ „	18,319	12.5	15.7	14.3
Mid-west. „ „	13,710	9.3	7.6	6.9
Far-west. „ „	6,762	4.6	4.5	4.0
Terai	34,019	23.1	37.6	43.6
Eastern Development region	7,269	4.9	12.0	14.1
Central „ „	9,328	6.3	15.3	15.9
Western „ „	5,260	3.6	5.2	6.4
Mid-west. „ „	7,317	5.0	3.4	4.4
Far-west. „ „	4,845	3.3	1.7	2.8
Nepal Area/Number	147,181		11,555,983	15,022,839
Per cent	100	100	100	100

Source: Central Bureau of Statistics, 1975-Population Census 1971, Vol. I, Table 1; 1984-Population Census 1981, Vol. II, Table 3; 1984-Statistical Pocket Book 1984, Nepal.

48 per cent of the total population in 1981. The population distribution of each constituent development region within the Hill area is proportionate to its land size, excepting the Central Development region. The Central Development region of the Hill areas with only 8 per cent of the total national land area contained 14 per cent of the national population in 1981. It is to be noted also here that while the percentage share of the Hill areas in the total population continues to be the highest among the regions, its overall share had declined from 53 per cent in 1971 to 48 per cent in 1981. A similar decline is also noticed in each constituent region of the Hill zone.

The Terai accounts for the third largest share (23 %) of the total land area of the country and contained the second largest share (44%) of the total population in 1981. However, two of the constituent regions, the Eastern and Central Development regions of the Terai, together account for 11 per cent of the total land area and had 30 per cent of the country's population. The other three regions together accounted for the balance of 12 per cent of land area and 14 per cent of the population. It is also worth noting that the share of the Terai in the country's population recorded an increase by 6 per cent, from 38 percent in 1971 to 44 percent in 1981. And this increase was noticed in each development region of the Terai.

The Mountain presents a very interesting pattern of population distribution. This zone, which accounts for the second largest share (35 %) of the total area of the country, had only about 9 per cent of the total population in 1981. This glaring disparity between the land area and size of population can be found in almost every development region, but particularly so in the Mid-western Development region of the Mountain. The Mid-western Development region encompasses about one seventh

(14%) of the total land area of the country but contained only 1.6 per cent of the total population in 1981. The proportionate share of each development region of the Mountain zone in the total population had declined during the period between the last censuses. The decline in the proportionate share of each region of the Mountain and Hill zones in the total population with a corresponding increase in the proportionate share of each region of the Terai in the total population, may be attributed among others, to the net exodus of people from the former two zones (Mountain and Hill) to the latter (Terai) zone. During 1971-81, there was a net transfer of 0.41 million people from the Mountain and Hill to the Terai (see Chapter *VII: Internal Migration*).

3. Distribution by Development Regions and Administrative Zones

The distribution of Nepal's population by development regions and administrative zones over the ten years 1971-81, are given in Table 2.3.

It may be observed from Table 2.3 that the Mid-western Development region consisting of Rapti, Bheri and Karnali administrative zones, accounted for the largest share (28.8 %) of the total area of the country, and for the fourth largest share (13.02%) of the total population of the country in 1981. However, there was considerable variation among the constituent zones of this region. Rapti and Bheri accounted for 88 per cent of the population of the region, while Karnali accounted for only 12 per cent. It may also be noted that while the percentage share of the Mid western Development region remained more or less unchanged at about 13 per cent over the years, that of Rapti and Karnali recorded a steady decline. The decline was from 6.11 per cent in 1971 to 5.84 per cent in 1981 for Rapti, while for Karnali this was

Table 2.3- Percentage distribution of population and land in different development regions and administrative zones, Nepal, census years 1971-81

Development regions/ Administrative zones	Land area in sq. km. 1981	% of land	% of population	
			1971	1981
NEPAL	147,181	100.00	100.00	100.00
A. Eastern Dev. Region	28,456	19.33	24.21	24.69
Mechi zone	8,196	5.57	5.35	6.21
Koshi zone	9,669	6.57	9.18	9.48
Sagarmatha zone	10,591	7.19	9.68	9.00
B. Central Dev. Region	27,410	18.62	33.45	32.68
Janakpur zone	9,669	6.57	10.95	11.24
Bagmati zone	9,428	6.40	12.95	11.86
Narayani zone	8,313	5.65	9.55	9.58
C. Western Dev. Region	29,398	19.97	21.17	20.83
Gandaki zone	12,275	8.34	7.83	7.37
Dhawalagiri zone	8,148	5.54	3.25	3.02
Lumbini zone	8,975	6.09	10.09	10.44
D. Mid-western Dev. Region	42,378	28.79	12.88	13.02
Rapti zone	10,482	7.12	6.11	5.84
Bheri zone	10,545	7.16	4.98	5.57
Karnali zone	21,351	14.51	1.79	1.61
E. Far-western Dev. Region	19,539	13.28	8.29	8.78
Seti zone	12,550	8.53	5.17	5.29
Mahakali zone	6,989	4.75	3.12	3.49

Source: Central Bureau of Statistics, 1975-Population Census 1971, Vol. 1, Table I;

Central Bureau of Statistics, 1984-Population Census 1981, Vol. 1, Part 1, Table 3;

Central Bureau of Statistics, 1984-Statistical Pocket Book 1984, Nepal.

from 1.79 per cent in 1971 to 1.61 per cent in 1981.

The Western Development region, comprising three administrative zones, accounts for about 20 percent of the total land area of the country, and had nearly 21 percent of the total population in 1981. One also observes an interesting variation in the distribution of the population by administrative zones within this region. Two of the constituent administrative zones, Lumbini and Gandaki, account for nearly 86 per cent of the population of the region, while Dhawalagiri accounts for only 14 per cent. The proportionate share of the Western Development region in the total population of the country remained

more or less about 21 per cent over the last ten years 1971-81 but that of Gandaki and Dhawalagiri showed a steady decline. The decline for Gandaki was from 7.83 per cent in 1971 to 7.37 per cent in 1981, while for Dhawalagiri, this was from 3.25 per cent in 1971 to 3.02 per cent in 1981.

The Eastern Development region which consists of three administrative zones Mechi, Koshi and Sagarmatha, accounts for 19.3 per cent of the total land area and the second largest share (24.7%) of the total population of the country in 1981. There is no marked variation in population distribution among the administrative zones within this region. The proportionate share of the region

in total population had increased, though marginally, from 24.2 per cent in 1971 to 24.7 per cent by 1981. However, this gain was confined to only the Mechi and Koshi administrative zones, while Sagarmatha experienced a steady decline from 9.68 per cent in 1971 to 9.00 per cent in 1981.

The Central Development region consisting of Janakpur, Bagmati and Narayani zones presented a very interesting pattern of population distribution. This region which accounts for the fourth largest share (18.6 %) of the total land area of the country contained the largest share (32.7%) of the total national population in 1981. The Central Development region accounted for and continues to account for the largest share of the total population of the country although its share in the total population had declined marginally during the period between the last censuses 1971-81. However, this decline was confined to the Bagmati zone only. The share of the other two administrative zones (Janakpur and Narayani) in the total population increased during the same period. The proportion distribution of land area of the constituent administrative zones within this region are fairly evenly distributed.

The Far-western Development region, consisting of two administrative zones (Seti and Mahakali), ranked fifth in terms of its share in total land area and total population of the country in 1981. It accounted for 13 per cent of the total land area and had nearly 9 per cent of the total national population in 1981. The proportionate share of this region in the total national population had steadily increased, though marginally, from 8.3 per cent in 1971 to 8.8 per cent in 1981. And this increase was shared by each of the administrative zones of the region.

The changes in the regional distribution of population over the time are the result of the changes in boundaries, natural increase

and net migration among the regions.

4. Ranking the Zones and Regions by Population Size and Growth Rate

The various geographical zones and development regions are ranked according to population size and growth rate for the census years 1971 and 1981. The data is presented in Table 2.4 and Table 2.5.

It may be observed that a majority of the heavily populated regions are located in the Hill and Terai, while the absolute majority of the least populated regions are in the Mountain. Of the five most heavily populated regions, three are located, in the Hill and two are in the Terai, four of the five least populated region were located in the Mountain in both 1971 and 1981. There has also been an interchanging of positions over the last 10 years (1971-81) among the development regions, particularly within the Hill and Terai. The first and second positions were interchanged between the Western Development region of the Hill and the Central development region of the Terai; the third and fourth positions were interchanged between the Central Development region of the Hill and the Eastern Development region of the Terai, during that period.

When ranking the zones in terms of growth rates between 1971 and 1981, the Terai occupies the first position and the Mountain zone the last. The Hill occupies the intermediary position. All of the first five rapidly growing development regions are located in the Terai. Of the second five fast growing regions, three are located in the Hill and the remaining two are in the Mountain. Among the five lowest growth regions, three are located in the Mountain and two in the Hill zones.

From the preceding findings, it appears that the Mountain zone is not only less populated but a majority of the development regions

Table 2.4- Rank distribution of ecological zones and development regions by size, Nepal census years 1971-81

Ecological zones and Development regions	1971			1981		
	Population		Rank by size	Population		Rank by size
	Number	%		Number	%	
Mountain	1,138,610	9.9	C	1,302,896	8.7	C
EDR	304,352	2.6	11	338,439	2.3	12
CDR	353,923	3.1	10	413,143	2.8	10
WDR	34,380	0.3	15	19,951	0.1	15
MWDR	207,122	1.8	13	242,486	1.6	14
FWDR	238,833	2.1	12	288,877	1.9	13
Hill	6,071,407	52.5	A	7,163,115	47.7	A
EDR	1,105,590	9.6	5	1,257,042	8.4	5
CDR	1,741,594	15.1	3	2,108,433	14.0	4
WDR	1,816,940	15.7	1	2,150,939	14.3	2
MWDR	885,562	7.6	6	1,042,365	6.9	6
FWDR	521,721	4.5	8	604,336	4.0	9
Terai	4,345,966	37.6	B	6,556,828	43.6	B
EDR	1,387,558	12.0	4	2,113,442	14.1	3
CDR	1,770,236	15.3	2	2,387,781	15.9	1
WDR	595,110	5.2	7	957,969	6.4	7
MWDR	395,322	3.4	9	670,760	4.4	8
FWDR	197,740	1.7	14	426,876	2.8	11

Note: EDR= Eastern Development Region; CDR = Central Development Region; WDR-Western Development Region; MWDR = Mid-western Development Region and FWDR = Far western Development Region.

Source: Central Bureau of Statistics, 1975-Population Census 1971, Vol. 1, Table 1;
Central Bureau of Statistics, 1984-Population Census 1981, Vol. I, Part I, Table 3.

Table 2.5-Rank distribution of ecological zones and development regions by growth rate, Nepal, Census years 1971-81

Ecological zones and Development regions	Population		Annual growth rate (1971-81)	Rank by growth rate
	1971	1981		
Mountain	1,138,610	1,302,896	1.35	C
EDR	304,352	338,439	1.06	14
CDR	353,923	413,143	1.55	11
WDR	34,380	19,951	-5.44	15
MWDR	207,122	242,486	1.58	10
FWDR	238,833	288,877	1.90	7
Hill	6,071,407	7,163,115	1.65	B
EDR	1,105,590	1,257,04	1.28	13
CDR	1,741,594	2,108,433	1.91	6
W DR	1,816,940	2,150, 939	1.69	8
M W DR	885,562	1,042,365	1.63	9
FWDR	521,721	604,336	1.47	12
Terai	4,345,966	6,556,828	4.11	A
EDR	1,387,558	2,1 13,422	4.21	4
CDR	1,770,236	2,387,781	2.99	5
WDR	595,110	957,969	4.76	3
MWDR	395,322	670,760	5.29	2
FW D R	197,740	426,876	7.70	1

Note: EDR= Eastern Development Region; CDR = Central Development Region;
WDR-Western Development Region; MWDR = Mid-western Development Region and
FWDR = Far western Development Region.

Source: Computed from Table No. 2.4.

in this zone also grew less quickly compared with other regions. And even though the Hill zone occupied the first position in terms of population size, the growth rate of each region in the Hill is lower than that of each region in the Terai.

5. Distribution by Administrative Zones

Table 2.6 presents the percentage distribution of the population by administrative zones. Among the administrative zones, Bagmati, Janakpur and Lumbini continued to retain first, second and third positions in terms of their share in the total national population. Karnali zone had throughout

occupied the last position. Gandaki also retained its seventh position between 1971 and 1981. However, there were also some changes in the relative positions of the various administrative zones during the same time. Some of the development regions could be grouped together on the basis of the interchanges in their rankings. For instance, the fifth and sixth positions appear to have been interchanging over the years between Sagarmatha and Koshi. The second grouping consists of Rapti, Mechi, Seti, Bheri, Dhawalagiri and Mahakali zones who variously occupied the eighth, ninth, tenth, eleventh, twelfth and thirteenth positions during the last intercensal period 1971-81.

Table 2.6-Percentage distribution of population by administrative zones, Nepal, census years 1971-81

Administrative zones	Population in per cent	
	1971	1981
Mechi	5.35	6.21
Koshi	9.18	9.48
Sagarmatha	9.68	9.00
Janakpur	10.95	11.24
Bagmati	12.95	11.86
Narayani	9.55	9.58
Gandaki	7.83	7.37
Dhawalagiri	3.25	3.02
Lumbini	10.09	10.44
Rapti	6.11	5.84
Bheri	4.98	5.57
Karnali	1.79	1.61
Seti	5.17	5.29
Mahakali	3.12	3.49

Source: Same as are those in Table 2.3.

6. Distribution by Districts

A district is the lowest administrative tier of the country. Each development region consists of a few districts and there were 75 districts in 1981. Under the current decentralization scheme of the government, districts have been adopted as the basic units for planning and administrative purposes. It is, therefore, appropriate to examine the distribution of districts by size of population and changes in such distribution over the 10 year period 1971-81.

The frequency distribution of 75 districts according to population size is shown in Table 2.7.

It will be noted from this table that between 1971 and 1981 there was no significant change in the distribution of districts having a population less than or equal to 99,999. However, there was a significant evening out of the concentration in the modal class interval, followed by a progressive shift in this

distribution towards the higher class intervals of the range. The number of districts in the modal class interval, 100,000-199,999 persons, were reduced from 41 in 1971 to 28 in 1981, consequently, the frequencies (i.e. the number of districts) in the higher class intervals increased during the last intercensal period (1971-81). The number of districts in the class intervals of 200,000-299,999 and 300,000-399,999 inhabitants increased by 50 and 43 per cent respectively during the last intercensal period. There were no districts in the class intervals of 400,000-499,999 and

Table 2.7- Distribution of districts according to population size, Nepal, census years 1971-81

Population	Number of Districts	
	1971	1981
Less than 50,000	7	6
50,000 - 99,999	8	9
100,000 - 199,999	41	28
200,000 - 299,999	12	18
300,000 - 399,999	7	10
400,000 - 491,999	-	3
500,000 or more	-	1
Total	75	75
Maximum (thousand)	353,756	534,692
Minimum (thousand)	7,436	7,021
Mean (thousand)	154,080	200,305

Source: Central Bureau of Statistics, 1984: Population Census 1981, Vol. I, Part I, Table 3; Central Bureau of Statistics, 1975-Population Census 1971, Vol. I, Table 1.

500,000 and over in 1971. In 1981, the number of districts in the former and latter categories were three and one, respectively

It may be further observed from table 2.8 that the proportion of people living in districts of higher size categories has increased considerably and consequently, there has been, decline in the proportion of people living in small size categories particularly in the class interval of 100,000-199,999 population, during the last intercensal period. The

Table 2.8- Distribution of districts according to population size, Nepal, Census years 1971-81

Size of population	Number of districts		Population		Per cent		Per cent accumulated	
	1971	1981	1971	1981	1971	1981	1971	1981
500,000 or more	-	1	-	534,692	-	3.56	100.00	100.00
400,000 - 499,999	-	3	-	1,334,549	-	8.88	100.00	96.44
300,000 - 399,999	7	10	2,245,707	3,505,384	19.43	23.33	100.00	87.56
200,000 - 299,999	12	18	2,752,028	4,293,871	23.82	28.58	80.57	64.23
100,000 - 199,999	41	28	5,802,698	4,433,030	50.22	29.51	56.75	35.65
90,000 - 99,999	2	4	190,986	378,888	1.65	2.52	6.53	6.14
80,000 - 89,999	2	3	171,279	262,736	1.48	1.75	4.88	3.62
70,000 - 79,999	-	1	-	74,649	-	0.50	3.40	1.87
60,000 - 69,999	3	1	199,073	68,797	1.72	0.46	3.40	1.37
50,000 - 59,999	1	-	57,946	-	0.50	-	1.68	0.91
40,000 - 49,999	-	1	-	43,705	-	0.29	1.18	0.91
30,000 - 39,999	-	1	-	30,241	-	0.20	1.18	0.62
20,000 - 29,999	3	2	82,186	42,346	0.71	0.28	1.18	0.42
10,000 - 19,999	3	1	45,644	12,930	0.40	0.09	0.47	0.14
Below 10,000	1	1	7,436	7,021	0.07	0.05	0.07	0.05
Total	75	75	11,555,983	15,022,839	100.00	100.00		

Source: Central Bureau of Statistics, 1975- Population Census 1971, Vol. 1, Table 1;
 " " " 1984- " 1981, Vol. 1, Part 1, Table 3.

proportion of people living in districts having a population of 300,000 and above increased from 19 per cent in 1971 to 36 per cent in 1981 almost doubled. On the contrary, the proportion of people living in districts having a population of 100,000 to 199,999 declined from 50 per cent in 1971 to 30 per cent in 1981 or by 40 per cent.

These findings not only point out an increase in the number of districts of higher size categories but also the increasing proportion of people living in the higher size categories over the years.

7. Distribution by Size of Settlement

The percentage distribution of the population by size of settlements in 1971 and 1981 is shown in Table 2.9. The classification starts from a low of "less than 500 persons" and ends up with "50,000 and above" category.

It will be observed from Table 2.9 that the proportion of Nepal's population residing in small settlements of less than 4,000 persons each recorded a marked decline with a consequent increase in the share of the population in settlements of higher size categories of 4,000 and above. The number of localities having a population less than 4,000 decreased from 3,451 in 1971 to 1,224 in 1981, while the number of settlements with a population of 4,000 and above increased by 195 per cent, from 580 in 1971 to 1,711 in 1981. The proportion of population residing in very small settlements of less than 2,000 persons recorded a decline from 13 per cent in 1971 to only 1.3 per cent in 1981. The number of very small settlements (i.e. each having a population of less than 2,000), declined by 85 percent from 1,077 in 1971 to 158 in 1981.

The majority of people living in very small

Table 2.9- Distribution of the localities by size of population, Nepal, Census years 1971-81

Year	Size of population	Number of locality	Population	Percent	Percent accumulated
1971	100,000 or more	1	150,402	1.30	100.00
1981		1	235,160	1.57	100.00
1971	50,000-99,999	1	59,049	0.51	98.70
1981		2	173,419	1.16	98.43
1971	20,000-49,999	5	149,849	1.30	98.19
1981		22	666,439	4.44	97.27
1971	10,000-19,999	17	223,136	1.93	96.89
1981		101	1,250,428	8.32	92.83
1971	5,000-9,999	229	1,387,840	12.01	94.96
1981		1,016	6,604,790	43.97	84.51
1971	4,000-4,999	327	1,442,740	12.48	82.95
1981		569	2,540,533	16.91	40.54
1971	3,000-3,999	790	2,701,908	23.38	70.47
1981		634	2,231,148	14.85	23.63
1971	2,000-2,999	1,584	3,926,758	33.98	47.09
1981		432	1,119,768	7.45	8.78
1971	1,000-1,999	974	1,437,103	12.44	13.11
1981		105	162,808	1.08	1.33
1971	500-999	91	72,263	0.63	0.67
1981		44	34,773	0.23	0.25
1971	Less than 500	12	4,935	0.04	0.04
1981		9	3,573	0.02	0.02

Source: Central Bureau of Statistics, 1977- The analysis of the population statistics of Nepal, Table 2.6, page 38;
Central Bureau of Statistics, 1984- Population census 1981, Vol. I, Part I, Table 3

settlements of less than 2,000 population very often are deprived of basic amenities/facilities of life, such as schools, medical care, electricity and safe water supply. And this problem is likely to be more acute in smaller settlements with a population of less than 500, particularly so if such settlements are located in inaccessible areas, such as mountainous tracts, as in the case of Nepal.

The major contributors to that part of the population living in small settlements are the Western Development and Mid-western Development regions of the Mountain. It

will be observed from Table 2.10 that the proportion of population in small size settlements declined sharply in most regions between 1971 and 1981, indicating a shift towards proportions in higher size settlements.

At the other extreme, the proportion of persons living in settlements of 50,000 and over, each recorded an increase from 1.8 percent in 1971 to 2.7 percent in 1981 and also the number of these localities increased from 2 in 1971 to 3 in 1981 (see Table 2.9). These settlements are mainly located in the Central Development Region of the Hill, followed

Table 2.10- Percent distribution of population according to size class of settlements in different ecological zones and development regions, Nepal, Census years 1971-1981

Ecological zones/ Development region	Year	total	Size class of settlements										Index of dissimilarity*	
			less than 500	500 to 999	1,000 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 to 4,999	5,000 to 9,999	10,000 to 19,999	20,000 to 49,999	50,000 to 99,999		100,000 and above
Mountain	1971	100	0.39	4.08	19.20	35.63	23.25	9.98	7.47	-	-	-	-	
	1981	100	0.27	2.61	7.53	20.58	29.31	21.67	18.03	-	-	-	-	(28.31)
EDR	1971	100	0.21	1.41	23.89	40.07	16.67	10.22	7.53	-	-	-	-	
	1981	100	0.22	-	7.37	27.45	26.09	21.43	17.44	-	-	-	-	(29.85)
CDR	1971	100	0.10	2.77	10.73	35.14	27.58	12.45	11.23	-	-	-	-	
	1981	100	0.10	0.60	2.81	11.49	27.45	29.07	28.48	-	-	-	-	(33.87)
WDR	1971	100	4.40	15.75	40.76	22.19	-	-	16.90	-	-	-	-	
	1981	100	8.08	68.02	23.90	-	-	-	-	-	-	-	-	(36.41)
MWDR	1971	100	0.93	11.72	33.60	38.60	15.15	-	-	-	-	-	-	
	1981	100	0.33	7.06	21.46	31.27	26.90	10.69	2.29	-	-	-	-	(18.24)
FWDR	1971	100	-	1.10	10.20	30.08	35.58	16.10	6.94	-	-	-	-	
	1981	100	-	0.29	1.64	17.96	39.81	22.09	18.21	-	-	-	-	(21.49)
Hill	1971	100	0.01	0.31	12.26	23.33	26.38	13.26	10.33	0.68	1.00	0.96	2.48	
EDR	1981	100	-	0.01	0.88	11.25	23.63	25.34	30.16	2.52	1.81	1.12	3.28	(31.02)
	1971	100	-	0.23	11.32	39.95	29.31	13.25	5.94	-	-	-	-	
CDR	1981	100	-	-	0.85	19.91	30.05	24.72	21.53	2.94	-	-	-	(29.16)
	1971	100	-	0.11	8.53	23.09	20.04	15.10	16.45	2.35	2.30	3.39	8.64	
WDR	1981	100	-	-	1.03	3.89	13.20	19.89	38.81	4.28	3.95	3.79	11.15	(33.58)
	1971	100	-	0.55	16.55	38.62	25.31	11.18	6.66	-	1.13	-	-	
MWDR	1981	100	-	0.04	1.08	12.35	24.54	29.37	29.22	1.23	2.17	-	-	(42.59)
	1971	100	0.06	0.09	9.90	24.04	40.16	15.19	10.54	-	-	-	-	
FWDR	1981	100	-	-	0.51	9.44	32.33	26.28	28.87	2.57	-	-	-	(30.63)
	1971	100	-	0.71	15.81	39.14	21.62	11.09	11.63	-	-	-	-	
Terai	1981	100	-	-	0.32	18.07	28.42	29.66	23.53	-	-	-	-	(36.92)
	1971	100	-	0.17	10.90	35.86	19.23	12.06	15.54	4.19	2.05	-	-	
EDR	1981	100	-	-	0.03	0.70	2.39	6.76	64.20	16.32	8.18	1.42	-	(67.55)
	1971	100	-	0.12	7.61	33.92	13.78	12.47	18.38	8.99	4.73	-	-	
CDR	1981	100	-	-	-	0.79	1.57	5.22	50.37	26.83	10.79	4.43	-	(54.24)
	1971	100	-	0.26	15.68	33.67	23.15	11.31	14.39	1.54	-	-	-	
WDR	1981	100	-	-	-	0.57	1.63	7.34	79.50	6.52	4.44	-	-	(64.34)
	1971	100	-	-	7.56	54.54	18.90	9.44	4.50	5.06	-	-	-	
MWDR	1981	100	-	-	0.20	0.85	4.46	8.74	61.53	16.21	8.01	-	-	(72.19)
	1971	100	-	0.25	7.80	22.90	17.86	19.65	25.59	-	5.95	-	-	
FWDR	1981	100	-	-	-	0.76	3.93	8.93	65.95	12.29	8.14	-	-	(44.67)
	1971	100	-	-	7.52	38.65	26.04	8.56	19.23	-	-	-	-	
Nepal	1981	100	-	-	-	0.60	3.57	3.27	50.23	25.68	16.65	-	-	(48.41)
	1971	100	0.04	0.63	12.44	33.98	23.38	12.48	12.01	1.93	1.30	0.51	1.30	
	1981	100	0.02	0.23	1.08	7.45	14.85	16.91	43.97	8.32	4.44	1.16	1.57	(46.84)

Source: Central Bureau of Statistics, 1975- Population Census 1971, Vol. I, Table 4;
Central Bureau of Statistics, 1984- Population Census 1981, Vol. II, Table 5

Note: EDR = Eastern Development Region; CDR = Central Development Region, WDR = Western Development Region;
MWDR = Mid-western Development Region, FWDR = Far-western Development Region

* The index of dissimilarity is defined as half the sum of absolute differences.

by the Eastern Development region of the Terai (Table 2.10). If the settlements having a population of 20,000 and above are considered as really urban we find that these areas constituted 3 per cent of the total population in 1971 and 7 per cent in 1981. The number of settlements with a population of 20,000 and above increased by 257 per cent from 7 in 1971 to 25 in 1981 (see Table 2.9.)

It will also be noted from Table 2.10 that the "Index of Dissimilarity"⁴ shows a shift of 46 percentage points in the distribution of Nepal's population between 1971 and 1981. This shift has largely been due to the decline in the proportion of population in small size settlements with less than 4,000 persons and an increase in the share of settlements of higher size categories. The major shift (more than 40 percentage points) in the distribution of population by size of settlements is noted in all regions of the Terai, particularly in the Western and Eastern Development regions.

B. GROWTH BY GEOGRAPHICAL, DEVELOPMENT AND ADMINISTRATIVE DIVISION

In addition to the unequal sizes of their population, the various regions, zones and districts also experienced different growth rates between 1971 and 1981. These varying growth rates, resulting from differentials in fertility, mortality and migration have also been largely responsible for the uneven distribution of the population within the country. The percentage increase in the population of the various ecological zones and development regions, during the last intercensal period are discussed here.

1. Growth by Geographical/Ecological Zones

Table 2.11 presents intercensal population growth rates by ecological zones, for the

Table 2.11- Intercensal population growth (exponential) rates by ecological/ geographical zones 1952/54-81

Zone	1952/54-61	1961-71	1971-81
Mountain	-	-	1.35
Hill & Mountain	1.42	1.85	1.61
Hill	-	-	1.65
Terai	2.04	2.39	4.11
Total	1.64	2.05	2.62

Source: Same as are those in Table 1.2.

Census years 1952/54-81.

It may be observed that the population growth rate of the Terai is not only higher than that of the Hill and Mountain but the growth rate of the former continued to increase while the growth rate of the latter declined over the years, particularly during the period 1971-81. The growth rate of the Hill and Mountain declined from 1.85 percent per annum during 1961-71 to 1.61 per cent during 1971-81. While the growth of the Terai increased from 2.39 per cent per annum during 1961-71 to 4.11 per cent during 1971-81. This decline in growth rates of the Mountain and Hill on the one hand and increase in growth rate of the Terai on the other, may have as one of its causes the exodus of people from the former to the latter. During 1971-81, there was a net transfer of 0.41 million people from the Mountain and Hill to the Terai (see Chapter VII: *Internal Migration*). The growth rate of the Terai has been and continues to be higher than the national growth rate. During 1971-81 the population of the Terai grew at the rate of 4.11 per cent per annum as against 2.62 per cent per annum for the country as a whole. The higher growth rate of the Terai may have as one of its causes the net inflow of international and internal migrants into this zone. During 1971-81, as many as 415,554 internal (life-time) and 83,284 external migrants moved into the

⁴ 'Index of Dissimilarity' between 1971-81, indicates the shift that had taken place in the distribution over the last 10 years.

Terai and this has accounted for 19.57 per cent of the growth rate of the zone during the above period. There is also evidence to show that fertility in the Terai is the same as in other zones of the country, while the mortality in the Terai is lower (see Chapter XI: *Estimates of Fertility and Mortality*). This could also partially account for the higher growth rate of the population in the Terai.

2. Growth by Development Regions and Ecological Zones

Table 2.12 presents data on population distribution and intercensal growth rates by development regions and ecological zones for the census year, 1971-81. Among the development regions the growth rate is highest in the Far-western Development region, followed by the Eastern Development region, the Mid-western Development region, the Western Development region and Central Development region. However, the growth rates of the development regions are not uniform across the geographical zones of the country. For example, the growth rate of the Far-western Development region was found to be the highest among the development regions during the intercensal period 1971-81. This was observed only in the Terai and Mountain zone. But in the Hill, the growth rate of the Central Development region was found to be the highest, although the Central Development region has had the lowest growth rate among the development regions as a whole. It is to be noted also that the Western Development region, although ranked fourth among the development regions in terms of growth, experienced a negative growth rate in the Mountain zone. This may imply net out-migration of people from the Mountain area particularly those located in the Western Development region.

Although the growth rate of the Terai

remained consistently high across all the development regions it was growing very fast in the Far-western Development region, followed by the Mid-western Development region and Central Development region. The growth rate of the Terai is relatively low in the Central Development region.

3. Intra-regional Variation in Growth Rates

It is to be further noted that the pattern of growth rate of a development region and that of an administrative zone within a region may not be the same (see Table 2.13). For example, the growth rates of Eastern, Mid-western and Far-western Development regions were higher than the average for all Nepal, during the last intercensal period, 1971-81. However, the growth rates for each administrative zone within the Eastern and Mid-western Development regions were not higher than the national average. Sagarmatha administrative zone of the Eastern Development region and Rapti and Karnali administrative zones of the Mid-western region have had growth rates lower than the national average. However, in the case of the Far-western Development region, each administrative zone has had a growth rate higher than the national average. Similarly, the growth rate of each administrative zone of the Central and Western Development region is not lower than, the national average although the overall growth rates of these two development regions are lower than the national average. The growth rates of Janakpur and Lumbini of the Central and Western Development region are higher than the national average.

It should also be noted from Table 2.13 that the growth pattern of an administrative zone is not necessarily the same as that of its constituents, i.e. districts. For example, Mechi experienced the highest growth rate among the administrative zones during the last intercensal period 1971-81. However,

Table 2.12- Distribution of population and population growth rates by ecological zones and development regions, Nepal, Census years 1971-1981

Development regions	Year	Ecological Zones											
		Mountain			Hill			Terai			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
East Dev. Region	1971	150,941	153,411	304,352	545,100	560,490	1,105,590	718,422	669,136	1,387,558	1,414,463	1,383,037	2,797,500
	1981	170,848	167,591	338,439	633,054	623,988	1,257,042	1,098,055	1,015,387	2,113,442	1,901,957	1,806,966	3,708,923
	Exp. Growth rate	1.24	0.88	1.06	1.50	1.07	1.28	4.24	4.17	4.21	2.96	2.67	2.82
Central Dev. Region	1971	177,145	176,778	353,923	880,782	860,812	1,741,594	906,699	863,537	1,770,236	1,964,626	1,901,127	3,865,753
	1981	213,292	199,851	413,143	1,089,381	1,019,052	2,108,433	1,235,942	1,151,839	2,387,781	2,538,615	2,370,742	4,909,357
	Exp. Growth rate	1.86	1.23	1.55	2.13	1.69	1.91	3.10	2.88	2.99	2.56	1.25	1.27
Western Dev. Region	1971	17,414	16,966	34,380	885,889	931,051	1,816,940	307,065	288,045	595,110	1,210,368	1,236,062	2,446,430
	1981	10,378	9,573	19,951	1,074,819	1,076,120	2,150,939	499,345	458,624	957,969	1,584,542	1,544,317	3,128,859
	Exp. Growth rate	-5.18	-5.72	-5.44	1.93	1.45	1.69	4.86	4.65	4.76	2.69	2.23	2.46
Mid-western Dev. Region	1971	105,876	101,246	207,122	436,987	448,575	885,562	204,046	191,276	395,322	748,909	741,097	1,490,006
	1981	125,836	116,650	242,486	521,695	520,670	1,042,365	346,974	323,786	670,760	994,505	961,106	1,955,611
	Exp. Growth rate	1.73	1.42	1.58	1.77	1.49	1.63	5.31	5.26	5.29	2.84	2.60	2.72
Far-western Dev. Region	1971	120,163	118,670	238,833	256,659	265,062	521,721	104,015	93,725	197,740	480,837	477,457	958,294
	1981	146,078	142,799	288,877	300,490	303,846	604,336	229,149	197,727	426,876	675,717	644,372	1,320,089
	Exp. Growth rate	1.95	1.85	1.90	1.58	1.37	1.47	7.90	7.47	7.70	3.40	3.00	3.20
Total	1971	571,539	567,071	1,138,610	3,005,417	3,065,990	6,071,407	2,240,247	2,105,719	4,345,966	5,817,203	5,738,780	11,555,983
	1981	666,432	636,464	1,302,896	3,619,439	3,543,676	7,163,115	3,409,465	3,147,363	6,556,828	7,695,336	7,327,503	15,022,839
	Exp. Growth rate	1.54	1.15	1.35	1.86	1.45	1.65	4.20	4.02	4.11	2.80	2.44	2.62

Source: Central Bureau of Statistics, 1975- Population Census 1971, Vol. I, Table 6;
Central Bureau of Statistics, 1984- Population Census 1981, Vol. II, Table 5

Table 2.13- Population increase between 1971-81 by development region, administrative zone and district, Nepal

Dev. Region/Adm Zone/District	Increase in population between 1971-81		Dev. Reg./Adm Zone/District	Increase in population between 1971-81	
	percentage increase	compound annual growth rate(%)		percentage increase	compound annual growth rate(%)
NEPAL	30.00	2.62	Lamjung	8.91	0.85
A. Eastern D.R.	32.58	2.82	Tanahun	41.29	3.46
1. Mechi Zone	50.97	4.12	Syaigja	1.20	0.12
Taplejung	42.57	3.55	Kaski	45.81	3.77
Panchthar	5.44	0.53	Manang	-5.58	-0.57
Ilam	27.82	2.45	8. Dhawalagiri zone	20.50	1.87
Jhapa	93.68	6.61	Mustang	-52.01	-7.34
2. Koshi Zone	34.21	2.94	Myagdi	67.23	5.14
Morang	77.31	5.73	Parbat	8.18	0.79
Sunsari	54.23	4.33	Baglung	24.60	2.20
Dhankuta	20.56	1.87	9. Lumbini Zone	34.50	2.96
Tehrathum	-22.51	-2.50	Gulmi	4.55	0.45
Sankhuwasabha	13.21	1.24	Palpa	0.85	0.08
Bhojpur	-0.93	-0.09	Nawalparasi	110.74	7.45
3. Sagarmatha Zone	20.89	1.90	Rupandehi	55.78	4.43
Solukhumbu	-16.22	-1.77	Kapilbastu	31.59	2.75
Okhaldhunga	12.03	1.14	Arghakhanchi	20.81	1.89
Khotang	30.17	2.64	D. Mid-western D.R.	31.42	2.73
Udayapur	41.90	3.50	10. Rapti Zone	24.21	2.17
Saptari	21.27	1.93	Pyuthan	14.80	1.38
Siraha	24.17	2.16	Rolpa	3.20	0.31
B. Central D. R.	27.00	2.39	Rukum	37.60	3.19
4. Janakpur Zone	33.37	2.88	Salyan	7.50	0.72
Dhanusha	30.84	2.69	Dang	58.74	4.62
Mahottari	11.15	1.06	11. Bheri Zone	45.44	3.75
Sarlahi	127.16	8.20	Banke	63.33	4.91
Sindhuli	24.62	2.20	Bardiya	95.54	6.71
Ramechhap	2.60	0.26	Surkhet	58.38	4.60
Dolakha	15.81	1.47	Dailekh	6.70	0.65
5. Bagmati Zone	10.07	1.75	Jajarkot	14.73	1.37
Sindhupalchok	12.57	1.18	12. Karnali Zone	17.07	1.58
Kavrepalanchok	25.28	2.25	Dolpa	15.35	1.43
Lalitpur	18.93	1.73	Jumla	-43.95	-5.79
Bhaktapur	45.04	3.72	*Kalikot	774.89	21.69
Kathmandu	19.34	1.77	Mugu	69.94	5.30
Nuwakot	17.52	1.61	Humla	-31.23	-3.74
Rasuwa	72.64	5.46	E. Far-western D. R.	37.75	3.20
Dhading	3.02	0.30	13. Seti Zone	33.12	2.86
6. Narayani Zone	30.44	2.66	Bajura	21.69	1.96
Makwanpur	48.63	3.96	Bajhang	14.17	1.32
Rautahat	3.88	0.38	Achham	40.09	3.37
Bara	36.66	3.12	Doti	-7.79	-0.81
Parsa	40.66	3.41	Kailali	100.12	6.94
Chitwan	41.34	3.46	14. Mahakali Zone	45.41	3.74
C. Western D. R.	27.89	2.46	Kanchanpur	145.37	8.98
7. Gandaki Zone	22.46	2.03	Dadeldhura	-8.33	-0.86
Gorkha	29.75	2.60	Baitadi	39.19	3.31
			Darchula	31.00	2.70

Source: Same as are those in Table 2.12

* Tibrikot district in 1971 is renamed as Kalikot in 1981. Kalikot district also includes some areas of the adjoining districts

Mechi zone also included in it a district (Panchthar) which grew very little at the rate of less than one per cent (0.53 %) per annum] for the corresponding period. These findings clearly show that what is true for a region may not be true for each of its constituents. Therefore, understanding the process of inter-regional variation is as important as understanding the factors determining intra-regional variation in population size and growth.

4. Growth (1971-81) by Administrative Zones

It may be observed from Table 2.13 that the growth rates of the six administrative zones, Karnali, Bagmati, Dhawalagiri, Sagarmatha, Gandaki and Rapti, are lower than the national average. Mechi and Karnali zones have had the highest (4.12 %) and lowest (1.58% growth rates during the last intercensal period, 1971-81.

5. Growth (1971-81) by Districts

An example of how the growth of population has not been uniform over space, is clearly evident from the distribution of districts according to their annual compound rates of growth for the decade 1971-81 (see Table 2.13). Among the districts Kalikot experienced the highest growth rate (21.7% per annum) followed by Sarlahi (8.2% per annum) and Nawalparasi (7.5 % per annum), while Mustang experienced the lowest growth rate (-7.3 % per annum) during the last intercensal period. It may be further observed that during 1971-81, as many as nine⁵ districts experienced absolute decline in their population, drawing at least two from each region of the country, excepting the districts in the Central Development region (see Table 2.14). A majority of these districts are located in the Mountain.

Sixty-six districts experienced positive growth rates, 32 have higher and 34 have

lower than the average national growth rate, As many as sixteen districts grew at the rate of 4 per cent or higher per annum. Three districts each of the Eastern and Western Development regions, two districts each of the Central and Far-western Development regions and six districts in the Mid-western Development region experienced a growth rate of 4 per cent or higher per annum during the last intercensal period (see Table 2.14).

Table 2.14-Distribution of districts according to annual geometric rate of population growth, Nepal, Census years 1971-81

Annual Growth Rate (+-) (%)	Number of districts by development regions				
	EDR	CDR	WDR	MWDR	FWDR
- 7.99 to-7	-	-	1	-	-
- 6.99 to-6	-	-	-	-	-
- 5.99 to-5	-	-	-	1	-
- 4.99 to-4	-	-	-	-	-
- 3.99 to-3	-	-	-	1	-
- 2.99 to-2	1	-	-	-	-
- 1.99 to-1	1	-	-	-	-
- 0.99 to 0	1	-	1	-	2
0 to 0.99	1	3	5	3	-
1 to 1.99	4	6	1	3	2
2 to 2.99	3	3	3	-	1
3 to 3.99	2	5	2	1	2
4 to 4.99	1	-	1	3	-
5 to 5.99	1	1	1	1	-
6 to 6.99	1	-	-	1	1
7 to 7.99	-	-	1	-	-
8 to 8.99	-	1	-	-	1
> 9	-	-	-	1	-
Total	16	19	16	15	9

Source: Same as are those in Table 2.3.

Note:- EDR=Eastern Development Region;
CDR=Central Development Region;
WDR=Western Development Region;
MWDR=Mid-western Development Region and
FWDR=Far-western Development Region.

6. Factors Affecting Regional Distribution of Population

The changes in the regional distribution of population are the outcome of the interplay

⁵ These districts are Tehrathum, Bhojpur, Solukhumbu, Manang, Mustang, Jumla, Humla, Doti & Dadeldhura

between such factors as net migration, natural increase and changes in boundaries. Understanding the net contribution of each of the factors to regional variations in population requires reliable regional data on birth, death and migration as well as information on boundary changes over the years. But no such data is available. In the absence of reliable vital statistics an attempt has been made to estimate some of these parameters. And these are provided in Table 2.15.

It may be observed from Table 2.15 that: the regional variations in population growth rates are mostly due to variations in net migration rates among the regions. The regional variations in population growth rates is reduced (see the difference between columns 4 and 5) once the inter-regional variations in migration are allowed for, except for the growth rate of the Far-western Development region which still remained very high and this may have as one of its causes the

Table 2.15-Natural increase rates, exponential growth rates and rates of in and out migration by development regions, Nepal, Census years 1971-81

Region	Birth rate* 1981	Death rate 1981	Rate of natural increase (1971-81)	Exponential growth rate (1971-81)	Estimate of net** migration (1971-81)
EDR	46.47	21.77	2.47	2.82	+3.42
CDR	40.41	15.11	2.53	2.39	-1.39
WDR	41.16	16.36	2.48	2.46	-0.16
MWDR	44.89	16.39	2.85	2.73	-1.18
FWDR	39.82	5.52	3.43	3.20	-2.32

Note: EDR=Eastern Development Region; CDR=Central Development Region; WDR=Western development Region; MWDR=Mid-western Development Region and FWDR=Far-western Development Region.

* Calculated from adjusted age scheduled fertility (see Chapter XI: Estimates of Fertility and Mortality).

** Net migration rate=Net life time migrants during the intercensal period 1971-81, as percentage of the total population in 1981. Note that the 1981 Population Census does not provide information of life time migrants for the exact intercensal period (1971-81). From the census classification, the volume and direction of mobility of life time migrants could be obtained only for the period 1970-81 and beyond (see, Central Bureau of Statistics, 1984-Population Census 1981, Vol. 11, Tables 7 and 8). Assuming the change within the period 1970 and 1981, as constant every year (i. e. linear change), we have calculated the volumes of life time migrants for the 10-year period 1971-81.

higher natural increase of this region resulting from a low death rate in the face of high fertility. Drastic changes in boundaries could also produce the high growth rate of the Far western Development region.

It may be further noted that during the last intercensal period 1971-81 all the regions except for the Eastern Development region experienced a net exodus of population. The Eastern Development region experienced a net positive migration, i.e. received more people than it sent out. The net positive migration, rate was 3.42 per cent of the total population of the Eastern Development

region in 1981. The net negative migration rate was highest in the Far-western Development region (-2.32 %), followed by the Central Development region (-1.39%), Midwestern Development region (-1.18%), and the Western Development region (-0.16%).

C. POPULATION DENSITY

1. Overall Situation

An examination of population density will be an indicative of pressure of population, on land. The population density is measured by i) population per square km. of total area and (ii) population per sq. km. of arable land.

To appreciate the magnitude of population pressure on at least one important aspect of resource endowment of the country, i.e. agriculture, it is possibly more appropriate to measure density in terms of population per sq. km. of arable land than that of population per sq. km. of total land area. Agriculture is the main source of the economy of Nepal. It accounted for 56 per cent of GDP in 1984⁶.

The changing pattern of density of population in Nepal at the national and regional level from 1971 to 1981 are provided in Table 2.16.

It may be observed that the density of

population increased from 79 persons per sq. km. of total land area in 1971 to 102 persons in 1981, implying an increase of 30 per cent during the last 10 year period⁷. And this increase was noticed in all the geographical zones of the country but most prominently in the Terai. The density of population is highest in the Terai followed by the Hill and Mountain for both 1971 and 1981. It may be further observed that the over all population density of the Terai is not only higher than that of the overall density of the Hill and Mountain but also the population density of almost each region of the Terai is

Table 2.16-Density in various ecological zones and development regions Nepal, Census years 1971-81

Ecological zone and development region	Density (Population per sq., km.)		Change in density (1971=100)	
	1971	1981	1971	1981
Mountain	22.0	25.1	100	114
Eastern Development region	29.2	32.4	100	111
Central	56.4	65.8	100	117
Western	5.9	3.4	100	58
Mid-west.	9.7	11.4	100	118
Far-west .	30.1	36.4	100	121
Hill	99.0	116.8	100	118
Eastern Development region	102.9	116.9	100	114
Central	147.5	178.6	100	121
Western	99.2	117.4	100	118
Mid-west.	64.6	76.0	100	118
Far-west.	77.2	89.4	100	116
Terai	127.8	192.7	100	151
Eastern Development region	190.9	290.7	100	152
Central	189.8	256.0	100	135
Western	113.1	182.1	100	161
Mid-west. ,, ..	54.0	91.7	100	170
Far-west. ,, ..	40.8	88.1	100	216
Nepal	78.5	102.2	100	130

Source:- Same as are those in Table 2.19.

⁶ The World Bank 1986. *World Development Report*, Washington D. C, p. 184.

⁷ Density, measured in terms of population per sq.. km. of arable land has also increased by 30 per cent from 505 persons in 1971 to 657 persons in 1981 (see Table 2.17).

higher than that of the density of each region of the Hill and Mountain except for the Far western Development region. The density of population of the Far-western Development region in the Terai was consistently lower than the density of the corresponding region in the Hill in both 1971 and 1981.

The fastest growth in density occurred in the Far-western region in the Terai followed by the Mid-western, Western, Eastern and Central regions. Only the Western region of the Mountain had a negative growth in density during the last intercensal period (see Table 2.16).

2. Development Regions

Table 2.17 presents data on density per sq. km. of total land and per sq. km. of arable land for the development regions from 1971 to 1981.

It may be observed that the density

measured per sq. km. of total land is highest in the Central Development region and lowest in the Mid-western Development region. However, density if measured in terms of population per sq. km. of arable land, is highest in the Far-western Development region and lowest in the Eastern Development region. It shows that density of an area varies with the measure of density one employs to determine it. A low density area in terms of total land may turn into a high density area in terms of arable land. For example, the Far-western Development region is a low density area if viewed in terms of people per sq. km. of the total land area. However, the Far-western Development region would be considered the most densely populated area if measured in terms of people per sq. km. of arable land.

Table 2.17- Density of population by development region, Nepal, for census years 1971-81

Development regions	Density per sq. km. of total area		Density per sq. km. of arable land	
	1971	1981	1971	1981
Eastern Development region	98.3	130.3	387.3	513.5
Central „ „	141.0	179.1	506.6	643.4
Western „ „	83.2	106.4	585.0	748.1
Mid-western „ „	35.1	46.1	609.0	800.3
Far-west. „ „	49.0	67.6	686.7	945.9
Nepal	78.5	102.1	505.2	656.7

Source: Central Bureau of Statistics, 1975- population Census 1971, Vol. I, Table 1;
Central Bureau of Statistics, 1984- population Census 1981, Vol. I, part I, Table 3;
Central Bureau of Statistics, 1984- Statistical Pocket Book 1984, Nepal.

The rank-order of each of the regions in terms of density of population, remained more or less unchanged during the intercensal period, 1971-81. And this holds whether density is measured in terms of population per sq. km. of total or arable land.

3. Administrative Zones

In terms of the total area the five most

densely populated administrative zones in descending order were Bagmati, Narayani, Janakpur, Lumbini and Koshi in 1971. The rank order of each zone in 1981 was the same as that in 1971, except for the positions of Narayani and Lumbini. Narayani and Lumbini interchanged their rank-order during the last intercensal period (see Table 2.18).

Table 2.18- Density of population by development region, administrative zones and districts, Nepal, as in censuses 1971 and 1981

Development region/ zone/ district	Density per sq. km. of total area		Density per sq. km. of arable land	
	1971	1981	1971	1981
1	2	3	4	5
NEPAL	78.5	102.1	505.2	656.7
A. Eastern Development Region	98.3	130.3	387.3	513.5
I. Mechi Zone	75.4	113.8	282.9	427.1
Taplejung	23.2	33.1	982.8	1,401.2
Panchthar	117.5	123.9	306.4	323.1
Ilam	81.9	104.7	276.6	353.5
Jhapa	154.2	298.7	221.7	429.4
11. Koshi Zone	109.7	147.2	392.9	527.3
Morang	162.6	288.2	295.6	524.2
Sunsari	177.8	274.1	341.6	526.9
Dhankuta	120.8	145.7	273.2	329.4
Tehrathum	175.7	136.2	375.1	290.6
Sankhuwasabha	32.8	37.2	765.1	866.2
Bhojpur	129.1	127.9	1,185.3	1,174.2
III. Sagarmatha Zone	105.7	127.7	478.2	578.1
Solukhumbu	31.8	26.6	759.4	636.2
Okhaldhunga	114.4	128.2	1,258.8	1,410.2
Khotang	102.6	133.6	2,018.5	2,627.6
Udayapur	54.6	77.5	325.3	461.6
Saptari	229.3	278.1	341.8	414.4
Siraha	254.5	316.0	396.7	492.6
B. Central Development Region	141.0	179.1	506.6	643.4
IV. Janakpur Zone	130.9	174.6	492.6	656.9
Dhanusha	280.2	366.6	508.0	664.7
Mahottari	324.2	360.3	515.6	573.1
Sarlahi	139.4	316.7	306.7	697.8
Sindhuli	59.2	73.7	1,051.4	1,310.3
Ramechhap	101.8	104.4	336.7	345.5
Dolakha	59.3	68.7	1,190.7	1,378.9
V. Bagmati Zone	158.8	189.1	690.3	821.9
Sindhupalchok	81.2	91.4	1,903.9	2,143.2
Kavrepalanchok	175.6	220.0	433.7	543.3
Lalitpur	402.6	478.8	1,055.1	1,254.9
Bhaktapur	925.7	1,342.6	1,248.9	1,811.4
Kathmandu	895.6	1,069.0	1,467.3	1,751.3
Nuwakot	154.1	181.1	382.2	449.2
Rasuwa	11.3	19.6	196.6	339.4
Dhading	122.7	126.4	494.5	509.4

Table 2.18 cont...

1	2	3	4	5
VI. Narayani Zone	132.7	173.1	381.4	497.5
Makawanpur	67.5	100.3	476.9	708.8
Rautahat	284.3	295.3	398.8	414.3
Bara	196.1	268.0	304.7	416.4
Parsa	149.4	210.2	437.5	615.5
Chit wan	82.8	117.0	354.5	501.0
C. Western Development Region	83.2	106.4	585.0	748.1
VII. Gandaki Zone	73.7	90.2	727.7	891.2
Gorkha	49.4	64.1	1,423.8	1,847.4
Lamjung	82.9	90.3	1,034.1	1,126.3
Tanahun	102.3	144.5	338.3	478.0
Syangja	230.8	233.5	1,940.8	1,964.0
Kaski	75.2	109.7	421.9	615.2
Manang	3.3	3.1	450.7	425.5
VIII. Dhawalagiri Zone	46.2	55.7	1,155.4	1,392.3
Mustang	7.5	3.6	411.4	197.4
Myagdi	25.2	42.2	535.1	894.8
Parbat	240.3	259.9	1,543.4	1,669.7
Baglung	96.8	120.6	2,306.1	2,873.5
IX. Lumbini Zone	129.9	174.7	446.0	599.9
Gulmi	198.2	207.2	1,689.5	1,766.4
Palpa	154.9	156.2	564.0	568.8
Nawalparasi	67.8	142.8	332.2	700.1
Rupandehi	178.9	278.7	301.4	469.5
Kapilbastu	118.1	155.4	263.6	346.9
Arghakhanchi	109.1	131.9	1,738.5	2,100.2
D. Mid-west. Development Region	35.1	46.1	609.0	800.3
X. Rapti Zone	67.3	83.6	833.1	1,034.8
Pyuthan	104.9	120.4	1,427.6	1,639.0
Rolpa	86.7	89.5	1,486.8	1,534.4
Rukum	33.5	46.0	1,665.1	2,291.0
Salyan	96.8	104.0	1,678.0	1,803.9
Dang	56.8	90.1	336.1	533.5
XI. Bheri Zone	54.5	79.3	411.6	598.6
Banke	53.8	87.9	306.2	500.1
Bardiya	50.3	98.3	180.7	353.4
Surkhet	42.8	67.8	374.9	593.8
Dailekh	103.9	110.9	1,873.6	1,999.1
Jajarkot	38.8	44.5	1,437.9	1,649.7
XII. Karnali Zone	9.7	11.4	1,040.3	1,217.9
Dolpa	2.4	2.8	492.5	568.1
Jumla	48.5	27.2	2,584.3	1,448.4
*Kalikot	5.8	50.3	111.2	972.7
Mugu	7.3	12.4	1,749.5	2,973.0
Humla	5.2	3.6	3,690.5	2,537.9

Table 2.18 cont...

	1	2	3	4	5
E. Far-west. Development Region	49.0	67.6	686.7	945.9	
XIII. Seti Zone	47.6	63.3	792.7	1,055.2	
Bajura	28.0	34.1	1,941.2	2,362.3	
Bajhang	31.7	36.2	1,456.1	1,662.3	
Achham	78.7	110.2	1,744.2	2,443.4	
Doti	82.0	75.6	2,037.7	1,879.0	
Kailali	39.8	79.7	263.1	526.6	
XIV. Mahakali Zone	51.7	75.1	562.3	817.7	
Kanchanpur	42.8	105.0	234.4	575.1	
Dadeldhura	61.6	56.5	792.2	726.2	
Baitadi	84.7	117.9	919.9	1,280.5	
Darchula	29.7	38.9	773.8	1,013.7	

Source: Same as those as in Table 2.19.

*Same as are in footnote * of Table 2.13.

The five most densely populated administrative zones according to arable land were Dhawalagiri, Karnali, Rapti, Seti and Gandaki in 1971. The rank-order of each of the zones in terms of density remained almost unchanged from 1971 to 1981 except for Rapti and Seti zones. The position of Rapti declined from third in 1971 to fourth in 1981, while Seti improved its position from fourth to third during the same period.

The population density according to people per sq. km. of arable land was lowest in Mechi, followed by Narayani and Koshi zones in both 1971 and 1981. On the other hand, the lowest density administrative zones according to population per sq. km. of total land area, were Karnali, followed by Dhawalagiri and Seti in both 1971 and 1981. It shows that the areas considered having the lowest density in terms of total land area are also the areas having the highest density according to arable land.

4. Districts

Bhaktapur, Kathmandu and Lalitpur districts continued to retain first, second and third position in terms of density per sq. km. of total land area in both 1971 and 1981, while fourth and fifth positions were occupied by

Mahottari and Rautahat in 1971 and Dhanusha and Mahottari in 1981 (see Table 2.18).

In 1971 the five most densely populated districts according to arable area, in descending order were Humla, Jumla, Baglung, Doti and Khotang. In 1981 the most densely populated district was Mugu, followed by Baglung Khotang, Humla and Achham. The least densely populated districts according to total land area were Dolpa and Manang in both 1971 and 1981. The least populated districts according to arable area were in descending order Bardiya and Jhapa in 1971 and Mustang and Tehrathum in 1981. The changes in rank order of the districts are mostly due to changes in boundaries and/or migration and natural increase.

5. Distribution of Districts by Density and Development Regions, 1971-81

The districts are classified on the basis of density and these are also presented in Table 2.19. It may be observed that although the densities of population for the absolute majority of the districts have been and continue to be very low, the number of districts belonging to the *very low* density category (3-271 persons per sq. km. of total area) had declined from 69 in 1971 to 62 in 1981 with a corresponding

Table 2.19- Distribution of districts by density and development regions Nepal, 1971-81

Density group (Persons /sq. km. of land)	EDR		CDR		WDR		MWDR		FWDR		Total	
	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981
very low (3.1 to 271)	16	11	13	12	16	15	15	15	9	9	69	62
Low (271-538.9)	-	5	4	5	-	1	-	-	-	-	4	11
Medium (538.9-806.8)	-	-	-	-	-	-	-	-	-	-	-	-
High (806.8-1074.7)	-	-	2	1	-	-	-	-	-	-	2	1
Very high (1074.7 & above)	-	-	-	1	-	-	-	-	-	-	-	1

Source :- Central Bureau of Statistic, 1975- Population Census 1971, Vol. I, Table 1;
Central Bureau of Statistics, 1984- Population Census 1981, Vol. I, Part 1, Table 3.

Note: 1. Total area of 1981 has been used to calculate density for each district in 1971.

2. Categorization of density group is based on 1981.

increase in the number of districts in the category of *low* density districts (271-539 persons per sq. km. of total area). The number of low density districts increased from 4 in 1971 to 11 in 1981. The number of districts in the *high* density category (807-1075 persons per sq. km. of total area) declined from 2 in 1971 to 1 in 1981 with a corresponding increase in the number of districts in the category of *very high* density districts (1075 persons and above per sq. km. of total area), from none in 1971 to 1 in 1981.

6. Intra-regional Variation in Density

We have so far discussed inter-regional variations in population densities. However, there also exists intra-regional variations in population densities. In other words population densities of the constituents of a region/

zone are not necessarily the same as those of the region/zone (see Table 2.18).

It may be observed from Table 2.18 that the densities (per sq. km. of total area) of two out of three administrative zones of the Eastern Development region are higher than the average density observed for the Eastern Development region in 1981, while the density of the remaining administrative zone was lower than the average of the Eastern Development region. Similarly, the densities of the districts, the constituents of an administrative zone, are not the same as the average density of the zone. Densities for some districts were higher and for some lower than the average of an administrative zone.

These intra-regional variations in densities should be properly noted while analyzing the regional variations in densities.