

SETTLEMENT SYSTEM

Characteristics of Rural Settlements

The settlement system in the Bagmati Zone has 10,121 rural settlements, 190 towns and market centres (including Kathmandu, Bhaktapur, and Lalitpur), and 283 central places without commercial functions (Tables 2.1 & 2.2).

Out of a total of 10,594 settlements, excluding 190 towns and large market centres, 9,180 settlements have less than 50 households and 2,220 have less than five households. There are 1,414 settlements with more than 49 households. Out of them, 826 were successfully located on the map, and the remaining 588 settlements could not be located since an accurate large-scale map was not available.

Table 2.1: Rural Settlements as Identified in the Voters' Lists

Unit	Located settlements with more than 49 households	Unlocated settlements with more than 49 households	Less than 50 households	Total settlements
Bagmati	826	588	9180	10594
Kathmandu	113	133	647	893
Lalitpur	73	37	526	636
Bhaktapur	53	19	131	203
Kavrepalanchowk	116	119	2384	2619
Sindhupalchowk	148	94	1951	2193
Dhading	113	109	2173	2395
Nuwakot	184	72	1158	1414
Rasuwa	26	5	210	241

Source: Survey

The subregion, apart from the Kathmandu, Bhaktapur, and Lalitpur municipalities, is served by 77 small towns and market centres, with more than 19 functional units, and 110 markets centres with less than 19 functional units, a combined total of 187. There are 283 more central areas without any commercial activity, but they provide certain services in the Bagmati Zone.

The distribution of rural settlements by district is given in Table 2.1. Kavrepalanchowk has the highest number of rural settlements, followed by Dhading and Sindhupalchowk, while Bhaktapur has the least.

The rural settlements are of two basic types, i.e., compact and agglomerated. Generally, Newar settlements are compact in form and non-Newar settlements are agglomerated. However, in the

northern parts of Dhading, Rasuwa, and Sindhupalchowk, the settlements are compact (hamlet type) but not as large as the rural Newar settlements inside or outside the Kathmandu Valley. Old Newar settlements even have a street plan, paved streets, and a nucleus. Other non-Newar rural settlements generally do not have a nucleus, nor a street plan, nor paved streets.

Table 2.2: Number of Market Centres

	Centres with commercial activity	Centres without commercial activity	Total
Bagmati	187 (out of which 77 have been identified as having more than 19 functions)	283	470
Kathmandu	30	10	40
Lalitpur	27	14	41
Bhaktapur	17	-	17
Kavrepalanchowk	22	68	90
Sindhupalchowk	21	68	89
Dhading	26	56	82
Nuwakot	19	57	76
Rasuwa	25	10	35

Source: Central Service Map, Suspension Bridge Division, HMG/Nepal 1989 and Field Survey

Most of the rural settlements inside the Kathmandu Valley are fairly large and compact. Large and compact settlements are possible because of the productive land and more sophisticated agricultural technology. Many of these settlements could be converted into market centres with the acquisition of some functions.

The rural settlements outside the Kathmandu Valley are not as large and compact, apart from some Newar settlements. The settlements are relatively large along the productive river valleys. Otherwise, the rural settlements located along the hill slopes are fairly small and agglomerated with a fair degree of dispersion. The low productivity of land in the hills discourages large and compact settlements.

Rural settlements are basically agriculture-based. Most of the settlements are exclusively residential farming villages. These settlements virtually lack any provision for services. As noted above, only 470 settlements of different sizes provide services and a large number of rural settlements do not have any service functions.

The imperfect integration pattern of settlements is another obvious characteristic of the settlement system in the Bagmati Zone. Although an integrated hierarchy of functional settlements is in the process of development, and although the level is above those discernible in other parts of the country, the settlement system is still not very effective in providing potential access to market centres of different sizes for people living throughout the Bagmati

Zone. As noted earlier, the network of market centres is inadequate if measured in terms of their numerical strength and distribution with reference to a vast number of rural settlements. Out of the 187 market centres, only 77 have more than 19 urban functional units, and these centres provide basic services to the rural population in the immediate vicinity. There does not appear to be a hierarchical order of rural-urban links. The city of Kathmandu is the single dominant integrating force in the settlement system of the study area. Most of the market centres and rural settlements rely heavily on this city for various services. This has been facilitated by the roads converging on Kathmandu from all directions. This is also due to the low level of functional attractions in other cities, towns, and larger market centres, and the rural people very often prefer Kathmandu to these centres for high quality goods and services.

Population Size of Rural Settlements

Rural settlements have been grouped into four classes on the basis of their population sizes.

- 1) Settlements with a population of more than 2,000
- 2) Settlements with a population of 1,000 to 2,000
- 3) Settlements with a population of 500 to 999
- 4) Settlements with a population of 250 to 499

Out of the total of 826 settlements located on the map, 546 have a population ranging from 250 to 499, 227 have a population of 500 to 999, 40 have a population of 1,000 to 2,000, and 13 have a population of more than 2,000. These settlements follow the order of 13: 40: 227: 546.

It is clear that smaller rural settlements with less than 500 people are predominant. Larger rural settlements are found mostly in the districts of Kathmandu Valley, while smaller settlements are dominant outside the valley. The distribution of different size classes of rural settlements at district level is given in Table 2.3. The distribution pattern of different size classes of rural settlements is closely related to the level of urbanisation, agricultural resource base, and terrain. Larger rural settlements are distinctly concentrated in close proximity to the valley's cities and the Banepa and Bidur areas. Settlements are relatively small in areas that are distant from larger urban areas. The agricultural resource base appears to have an influence on the size of rural settlements. Larger settlements are associated with rich agricultural resource bases in different locations. This can be particularly observed in the Kathmandu Valley, Kavrepalanchowk, and Nuwakot. The local terrain is also another factor in the development of different size classes of rural settlements. Diverse terrain with complex topography is associated with small rural settlements. This is clearly seen in most parts of Sindhupalchowk and Dhading and in the southern parts of Lalitpur and Kavre districts. The historical process of development also affects the size of rural settlements. It should be noted that all these factors influence the rural settlements in varying degrees and in various ways.

Locational Characteristics of Rural Settlements

The rural settlements are less numerous in the northern part of the region. The altitude, rocky barren slopes, and the inhibitive climate are agricultural constraints. Therefore, settlements are located in a few suitable locations only.

In the hilly areas, the rural settlements are distributed along the gently sloping hills, river valleys, and flatlands or *tar*. The number and size of the settlements depend on the availability of agricultural land.

The number and size of the small towns and market centres are determined not only by the number of rural settlements but also by their size, the prosperity of the area, and road links. Kathmandu, Bhaktapur, and areas of Lalitpur within the valley comprise around 16 per cent of the total number of rural settlements and 40 per cent of the market centres of the region. In addition, the three cities of Kathmandu, Lalitpur, and Bhaktapur probably provide the highest number of services and facilities in the whole of Nepal, and the functional magnitude is also higher compared to other areas. The remaining five districts, Kavrepalanchowk, Sindhupalchowk, Dhading, Nuwakot, and Rasuwa comprise 84 per cent of the rural settlements and 60 per cent of the market centres, excluding the cities of Kathmandu, Lalitpur, and Bhaktapur. Also, in terms of area, the above-mentioned five districts cover far more area than the valley's districts. This in turn indicates that the rural settlements in these districts have far less access to urban functions.

Table 2.3: Size Classes of Rural Settlements

Units	Size Classes				Total
	Population more than 2000	1000 to 2000	500 to 999	250 to 499	
Bagmati Zone	13	40	227	546	826
Kathmandu	4	10	44	55	113
Lalitpur	2	5	15	51	73
Bhaktapur	7	10	23	13	53
Kavrepalanchowk	-	5	30	81	116
Sindhupalchowk	-	2	27	119	148
Dhading	-	2	26	85	113
Nuwakot	-	5	57	122	184
Rasuwa	-	1	5	20	26

Source: Estimated from Voters' Lists of 1991 (Election Commission)

According to the model developed by C.B. Shrestha, the factors influencing the location of rural settlements in Nepal consist of two sets. One relates to access and the other relates to negative factors which should be avoided. The first set of factors consists of water source, fuel, building materials, agricultural fields, grazing land, and market centres. The second set of factors consists of ravages caused by malaria, flood havoc, and slope aspects. The change in the objective conditions of the second set brought about significant changes in the local rural settlement pattern. The eradication of malaria greatly encouraged the movement of rural settlements from the ridges to the valleys. Similarly, the construction of roads resulted in the movement of people to areas along the roads, for the purposes of greater accessibility to urban functions and

exploitation of the commercial advantages of favourable locations. Such developments are noticeable, either in areas with agricultural potential such as the Panchkhal, Chack *Khola*, and Tadi *Khola* areas, or along the newly constructed highways. The latter development has greatly encouraged the growth of small market centres.

Level of Urbanisation in the Context of Small Towns and Market Centres

The Bagmati subregion is the most urbanised region in Nepal, with six municipalities and 74 small towns and market centres. Its population is 33.56 per cent urban - including small towns and market centres. The Kathmandu district has the highest urban population (67%) while Sindhupalchowk has the lowest (1.80%) (Table 2.4). Three districts, i.e., Sindhupalchowk, Dhading, and Rasuwa are the least urbanised with an urban population of less than two per cent.

In districts with municipalities, the majority of the urban population is concentrated in municipalities (Table 2.4). In Kathmandu, 92.5 per cent of the urban population dwells in Kathmandu city. Similar is the case with other districts as well. A hundred per cent of the urban population in Sindhupalchowk, Dhading, and Rasuwa belong to small towns and market centres. They are also the least urbanised districts.

Table 2.4: Percentage of Urban Population in the Bagmati Subregion

Unit	Market Centres	Total Population	Urban Population, Including Market Centres	Percentage Urban Population
Bagmati	77	2246868	54125	33.56
Kathmandu	15	668605	447514	66.93
Lalitpur	12	258474	150753	58.32
Bhaktapur	5	173097	83422	48.19
Kavrepalanchowk	12	324865	39036	12.017
Sindhupalchowk	9	260972	4700	1.80
Dhading	13	278488	5450	1.95
Nuwakot	8	245645	22550	9.18
Rasuwa	3	36768	700	1.90

Source: Voters' List 1991 and Census 1991

Note: Population of Municipalities derived from the 1991 Census

Location of Small Towns and Market Centres with Reference to Rural Settlements

The small towns and market centres in the Kathmandu Valley are closely spaced. In fact, the locational pattern of small towns and market centres in the valley is clustered. However,

market centres outside the valley are few and far between. The locational pattern of the small towns and market centres outside the valley is linear. Most of them are located along the highways and motorable roads. The concentration of market centres in certain localities closely follows the location of major rural settlements. This feature is discernible both outside and inside the Kathmandu Valley. The sparsely populated areas with widely scattered, small rural settlements in the south across the Mahabharat *Lekh* and in the northern mountainous areas are not associated with any recognisable market centre. In the north, the Rasuwa district is an exception, with a fair number of catering centres that have grown up around tourist traffic.

The ratio of small towns and market centres to rural settlements in the region comes to 1:137. This ratio, particularly considering the type of terrain and road network in the region, is an indication of the low accessibility level of rural settlements to urban functions. Only inside the Kathmandu Valley is the ratio low, not exceeding 1:60 (Table 2.5). This is also the area in the region with a well-developed road network. Therefore, the accessibility level of rural settlements to small towns and market centres is quite satisfactory. However, outside the Kathmandu Valley, only the settlements located along the roads have relatively easier access. Sindhupalchowk has the worst ratio of 1:244 and Bhaktapur has the lowest of 1:43. The proportion of urban population of municipalities and small towns and market centres is given in Table 2.6.

Table 2.5: Ratio of Rural Settlements to Small Towns/Market Centres

	Rural Settlements	Market Centres	Ratio
Bagmati	10,594	77	1:137
Kathmandu	893	15	1:60
Lalitpur	636	12	1:53
Bhaktapur	203	5	1:41
Kavrepalanchowk	2619	12	1:218
Sindhupalchowk	2193	9	1:244
Dhading	2395	13	1:184
Nuwakot	1414	8	1:177
Rasuwa	241	3	1:80

Source: Survey

Table 2.6: Proportion of Urban Population of Municipalities and Small Towns and Market Centres

(in percentages)

	Municipalities	Small Towns/Market Centres
Kathmandu	92.5	7.5
Lalitpur	77.8	22.2
Bhaktapur	73.3	26.7
Kavre (Dhulikhel, Banepa)	57.0	43.0
Nuwakot (Bidur)	83.6	16.0
Sindhupalchowk	-	100.00
Dhading	-	100.00
Rasuwa	100.00	100.00

Source: Survey

From Figure 1 it becomes clear that although this is the most urbanised region in the whole of Nepal, the overall picture is hardly satisfactory in terms of the ratio of market centres to rural settlements. The level of accessibility to urban functions is satisfactory only within the valley. Less than five per cent of the population in three districts, including Sindhupalchowk, Dhading, and Rasuwa have access to urban functions. Eight to 20 per cent of the population in the two districts of Kavre and Nuwakot have access to urban functions.

Ratio, either in terms of rural settlements or population, is not necessarily a true measure of the accessibility level of rural settlements to market centres in different areas. The virtual absence of market centres in areas away from the roads makes it clear that a large number of rural settlements do not have easy access to market centres. This situation should be seen in connection with the poor rural road network in Nepal. Rural road development is still in the preliminary stages and, in most cases, rural settlements can gain access to market centres only through foot trails. In such localities, visits to market centres are seasonal and periodic.

FIGURE 1

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PERCENTAGE OF POPULATION WITH
ACCESSIBILITY TO URBAN FUNCTIONS



BAGMATI ZONE SUBREGION
LEVEL OF ACCESSIBILITY
TO
URBAN FUNCTIONS

