SYSTEM OF SMALL TOWNS AND MARKET CENTRES

Network of Small Towns and Market Centres

There is a good network of functional settlements in the Bagmati Zone subregion. These settlements belong to two distinct classes, i.e., those with commercial functions and those without commercial activities. There are altogether 283 central areas without commercial activities. Their number is relatively small in the districts of the Kathmandu Valley, whereas they are relatively numerous in other districts (Table 5.1). This spatial variation in the network of non-commercial settlements could be a meaningful indicator in measuring the development level of the market economy. Apparently the network of commercial settlements or market centres is poor in areas where the level of the market economy is low, and there is dominance of non-commercial central areas in such localities. This can be observed in a number of remote areas of the Kavrepalanchowk, Sindhupalchowk, and Dhading districts. The remote Himalayan district of Rasuwa is an exception, with a good network of commercial settlements. This is obviously attributable to the development of trekking activities in this Himalayan district.

Table 5.1: Network of Market Centres and Central Areas

Units	No. of Market Centres			No. of central areas without trading activities
	Larger centres with more than 19 functional units	Smaller centres with less than 20 functional units	Total	
Bagmati Zone	77	110	187	283
Kathmandu	15	15	30	10
Lalitpur	12	15	27	14
Bhaktapur	5	12	17	-
Kavrepalanchowk	12	10	22	68
Sindhupalchowk	9	12	21	68
Dhading	13	13	26	56
Nuwakot	8	11	19	57
Rasuwa	3	22	25	10

Source: Survey

There are all together 187 market centres in the Bagmati Zone. Out of these 77 are larger centres with more than 19 functional units, and the number of market centres with less than 20 functional units is 110. Kathmandu district has the highest number (30), followed by Lalitpur and Kavrepalanchowk districts (Table 5.1). In Bhaktapur district, trading activities take place in all central areas. The ratio of larger centres to smaller centres with less than 20 functional units is given in Table 5.2. It is relatively high in Kavrepalanchowk, Kathmandu, and Dhading districts. The ratio is very low in Rasuwa district. Bhaktapur district also has a low ratio.

Table 5.2: Ratio of Larger Market Centres

Unit	Larger Centres (No)	Smaller Centres (No)	Ratio of Larger Centres (No)
Bagmati Zone	77	110	1:1.4
Kathmandu	15	15	1:1
Lalitpur	12	15	1:1.2
Bhaktapur	5	12	1:2.4
Kavrepalanchowk	12	10	1:0.8
Sindhupalchowk	9	12	1:1.3
Dhading	13	13	1:1
Nuwakot	8	11	1:1.4
Rasuwa	3	22	1:7.3

Source: Survey

Two principles are distinctly involved in determination of the locational pattern of marke centres in the study area -1) the transportation principle and 2) the market principle. Th relative importance of the effect of these two principles is reflected in the locational arrangemen of the market centres. The market factor is dominant in areas where local trade is importan The route factor is dominant in areas where long-distance traffic has played a more importan role in the development of market centres. The fundamental spatial difference between th effects of these two factors is that the former produces an areal locational arrangement and th latter a linear pattern. The effect of the market factor can be observed in the Kathmandu Valle and the western part of the Nuwakot district (Figure 4). It is observable, to a lesser extent, i the Banepa area as well. These are the localities where the rich, local agricultural resource bas has greatly contributed to the development of local trade, which, in turn, has given rise to spatially regular distribution of market centres.

The local market centres, in general, are markedly located along the traditional highways (trails and long distance roads. The locational pattern is markedly linear rather than areal. About 8 per cent of the local market centres exhibit a linear pattern and only 20 per cent exhibit an area pattern. The repetition of the original spatial pattern has occurred in connection with th development of new market centres along the new motorable highways, although most of thes centres are no longer dependant on long-distance trade.

The distribution pattern of the local market centres indicates that they are highly clustere There is excessive concentration in a few favoured localities, without any tendency to dispersio in most parts of the study area. When the pattern is observed at the district level, th Kathmandu Valley appears to have a distribution tendency to dispersion. The absence regularity or dispersion in the distribution pattern of the local market centres is attributable t the negative effects of landform, uneven distribution of population and resources, and th historical processes of urban growth.

Figure 4: Scalogram

S.No.	Centres	Grade	Retailing																		Infrastructure			
			Convenience	Non-convenience	Catering	School	Campus	Service Industry	Industry	Post Office	Development Administration	General Administration	Cultural Club	Wholesale	Bank	Professional Service	Health Post	Hospital	Cinema Hall	Population	Tap Water	Electricity	All-weather Roads	Telephone
1.	Banepa	I																		12800				
2.	Bidur	II																		18900				
3.	Thimi	I																		17050				
4.	Chautara	II																		1300				
5.	Kirtipur	II																		7400				
6.	Lubhu	II																		5800				
7.	Barhabise	II																		1050				
8.	Dhulikhel	II																		7200				
9.	Chapagaun	II																		3950				
10.	Sankhu	II																		4750				
11.	Dhading Besi	II																		1200				
12.	Panauti	II																		2950				
13.	Dhunche	III																		400				
14.	Gajuri	III																		850				
15.	Pharping	III																		1000				
16.	Thaiba	III																		1400				
17.	Budhanilkantha	III																		1050				
18.	Harisiddhi	III																		4100				
19.	Siddhipur	III																		5750				
20.	Khopasi	III																		250				
21.	Thankot	III																		2300				
22.	Thecho	III																		4250				
23.	Dolalghat	III																		500				
24.	Dhikure	III																		850				
25.	Khanikhola	III																		800				
26.	Lamosangu	III																		400				
27.	Saibu	III																		400				
28.	Panga	III																		5300				
29.	Lamidanda	III																		500				
30.	Lele	IV																		850				
31.	Mangalsir	IV																		150				
32.	Bungamati	IV																		3200				
33.	Gamcha	IV																		350				
34.	Hanipauwa	IV																		500				
35.	Nala	IV																		3050				
36.	Kuntabesi	IV																		600				
37.	Sanga	IV																		1250				
38.	Thankot Checkpost	IV																		1100				
39.	Samundratar	IV																		250				
40.	Sundarijal	IV																		450				
41.	Kharanitar	IV																		850				
42.	Dharmasthali	IV																		1000				
43.	Kharipati	IV																		200				
44.	Melamchi	IV																		300				
45.	Betrawati	IV																		300				
46.	Sanothimi	IV																		1450				
47.	Deurali	IV																		400				
48.	Balambu	IV																		1900				
49.	Bode	IV																		3250				
50.	Tamaghat	IV																		350				
51.	Kalikasthan	IV																		150				
52.	Jaibire	IV																		350				
53.	Gotikhal	IV																		250				
54.	Chougada	IV																		500				
55.	Dapcha	IV																		350				
56.	Benighat	IV																		300				
57.	Khahare	IV																		250				
58.	Balephi	IV																		300				
59.	Sitapaila	IV																		900				
60.	Todke	IV																		250				
61.	Majhgaun	IV																		300				
62.	Indreyani	IV																		450				
63.	Sipaghat	IV																		300				
64.	Godawari	IV																		850				
65.	Gokarna	IV																		750				
66.	Baireni	IV																		350				
67.	Tokha	IV																		4150				
68.	Syaphrubesi	IV																		150				
69.	Malekhu	IV																		400				
70.	Khadichaur	IV																		100				
71.	Sunakothi	IV																		2850				
72.	Higne	IV																		50				
73.	Dharke	IV																		250				
74.	Chalnakhel	IV																		750				
75.	Mahadevbesi	IV																		250				
76.	Sangachowk	IV																		600				
77.	Adamghat	IV																		400				

Hierarchy of Small Towns and Market Centres

The question of the hierarchical organisation of urban centres is one of the basic elements in market town studies. Some authors are of the opinion that it is difficult to discover natural breaks in the distribution of functional settlements. According to them, there is more of a continuum in the rank-size distribution than discrete class groupings. Still, the overwhelming impression remains that there is an ordering of market centres and that there are regularities in the distribution of towns and market centres by rank size.

Traditional approaches to the study of the hierarchical structure of towns and market centres are usually based on a single variable, i.e., population size, functional type, functional character and so on. The modern trend is to use multiple variables. Using as many variables as exist in the local urban centres, the centres are grouped by applying the technique of factor analysis. Some simple statistical tools, such as arithmetical means and standard deviations, can also be used to determine the hierarchical structure of market towns and centres. In the present study, such academic exercises have been avoided, and an empirical approach has been developed, keeping in mind the conditions prevailing in the study area. This approach is based on three parameters -1) functional magnitude, 2) functional array, and 3) population size. It is assumed that the relative importance of market centres is the function of these three factors. Market centres have been grouped into four classes on the basis of the following criteria.

1. First order centres:
   a) more than 200 functional units,
   b) more than 80 per cent of 14 functional types, and a population of
   c) more than 10,000.

2. Second order centres:
   a) 100 to 199 functional units,
   b) more than 75 per cent of 14 functional types, and a population of
   c) more than 1,000.

3. Third order centres:
   a) 50 to 99 functional units,
   b) more than 50 per cent of 14 functional types, and a population of
   c) more than 400.

4. Fourth order centres:
   a) 20 to 49 functional units, and a population of
   b) less than 400.

Centres with less than 19 functional units have been excluded. The local conditions in the Bagmati Zone subregion lend weight to the notion that a hierarchy of market centres exists. The four-tier hierarchy recognised on the basis of the above-mentioned criteria reflects the ground realities of the study area.

In the hierarchical structure, three centres are at the apex. These centres are Banepa, Bidur and Thimi. There are nine centres (Kirtipur and Sankhu in Kathmandu district, Chapagaun and Lubhu in Lalitpur district, Dhulikhel and Panauti in Kavrepalanchowk district, Chautara and

Barahbise in Sindhupalchowk district, and Dhading Besi in Dhading district) in the second tier. There are 17 centres in the third tier and 48 centres in the fourth tier (Annex A).

The pattern converges well with the theoretical scheme in terms of the vertical arrangement of market centres. There are many small centres, a lesser number of medium-sized settlements, and a few large centres (Table 5.3). Relationships of successive orders of the market centres in the hierarchy can be expressed by means of ratio between the number of market centres of two successive class groups. This ratio is expressed by the letter K, a standard statistical symbol for a constant value. K-values in the hierarchical structure do not remain the same throughout the structure. Nor is there any sort of regularity in fall or decrease towards the upper or lower strata of the hierarchy. They are rather irregular, falling between 1.8 and 3 (Table 5.4). The different levels of market centres follow the order of 3:19, 17:48. Table 5.3 shows the distribution of different orders of market centres at the district level.

Table 5.3: Hierarchical Structure of Market Centres

	Order of Market Centres (No. of Centres)				
Unit	I	II	III	IV	Total
Bagmati Zone	3	9	17	48	77
Kathmandu	-	2	4	9	15
Lalitpur	-	2	5	5	12
Bhaktapur	1	-	-	4	5
Kavrepalanchowk	1	2	3	6	12
Sindhupalchowk	-	2	-	7	9
Dhading	-	1	2	10	13
Nuwakot	1	-	1	6	8
Rasuwa	-	-	1	2	3

Source: Survey

Table: 5.4 Pattern of K-values

Order	No. of Centres	K-value
First order I	3	
Second order II	9	3.0
Third order III	17	1.8
Fourth order IV	48	2.8

Source: Survey

Out of the three centres of the first order, Banepa and Bidur are municipal towns, and Thim has not yet been incorporated. All these three centres qualify for the higher level class in term of population, functional magnitude, and functional array. Banepa has all 14 functional type with all sub-categories, while Bidur and Thimi lack one functional type each, i.e., a cinema hall All of them can be designated as market towns.

All of the second order market centres have 13 functional types except Panauti, which lacks tw functional types - a cinema hall and health services. Although functionally important, thre centres of this order, e.g., Dhading Besi, Barahbise, and Chautara have a relatively smal population size (Figure 4).

In the third order, one obvious irregular feature can be noted in some centres with regard t population size. The population sizes of centres such as Thecho, Sidhipur, and Sunakothi ar larger than those of some important upper class (II) centres such as Barahbise, Dhading Besi and Chautara. Dhunche has a lower population size than several fourth order centres.

Some irregularities also exist in the fourth order. Some centres, e.g., Nala and Bode, are mor populous than Barahbise (II). Lele, a small centre located in Lalitpur district, has as many a 13 functional types, comparing well with most of the upper level centres in terms of functiona array. Some centres, such as Malekhu and Shipaghat, have a larger functional magnitude tha some of the third order centres.

Despite some irregular features, as noted above, the hierarchical structure of the local mark centres conforms well to the local conditions.

Population Size of Small Towns and Market Centres

Generally, it is common practice to determine the relative importance of urban centres in term of population size. It is very often considered as a measure for ordering urban centres. In th case of the development of rank-size ordering of urban centres, differences in populatio magnitude serve to distinguish different orders or levels in a rank-size hierarchy. Very often size-class groups are created to study the relative importance of market centres in terms o population. Following this practice, four size classes have been developed for the presen analysis. It is clear from Table 5.5 that the number of small centres exceeds the number o medium-sized centres, which, in turn, outnumber the large centres. It indicates that the numbe of market centres is successively larger as size classes become progressively less. At the ape there are three centres that have a population of more than 10,000 (Figure 5).

Table 5.5: Population Size Classes of Small Towns and Market Centres

Size Classes	Number of Centres	Ratio
More than 10,000	3	
5,000 to 9,999	5	1.7
1,000 to 4,999	22	4.4
Less than 1,000	47	2.1

Source: Survey

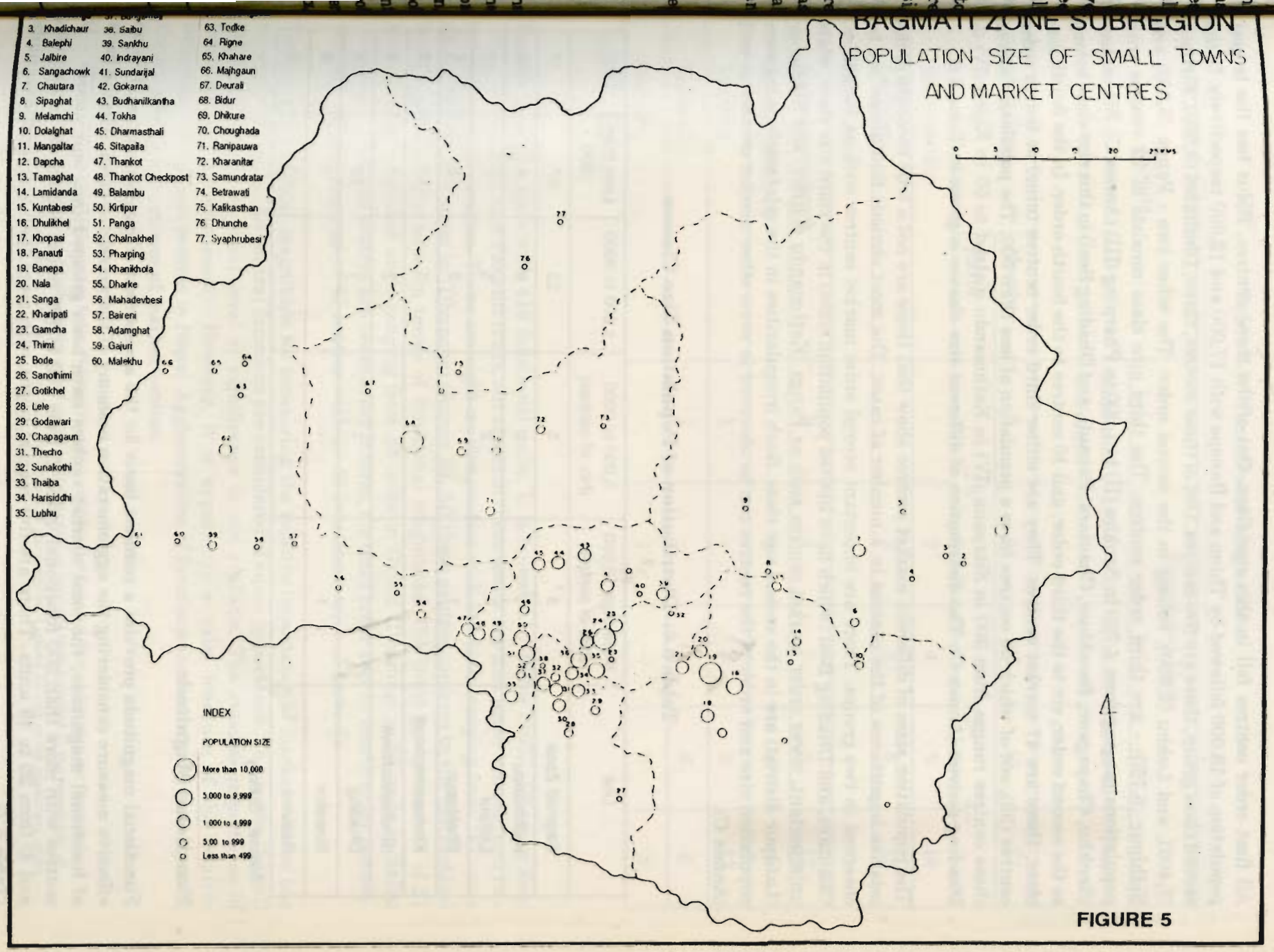
BAGMATI ZONE SUBREGION
POPULATION SIZE OF SMALL TOWNS
AND MARKET CENTRES
3. Khadichaur
4. Balephi
5. Jalbire
6. Sangachowk
7. Chautara
8. Sipaghat
9. Melamchi
10. Dolalghat
11. Mangaltar
12. Dapcha
13. Tamaghat
14. Lamidanda
15. Kuntabesi
16. Dhulikhel
17. Khopasi
18. Panauti
19. Banepa
20. Nala
21. Sanga
22. Kharipati
23. Gamcha
24. Thimi
25. Bode
26. Sanothimi
27. Gotikhel
28. Lele
29. Godawari
30. Chapagaun
31. Thecho
32. Sunakothi
33. Thaiba
34. Harisiddhi
35. Lubhu
36. Saibu
39. Sankhu
40. Indrayani
41. Sundarijal
42. Gokarna
43. Budhanilkantha
44. Tokha
45. Dharmasthali
46. Sitapaila
47. Thankot
48. Thankot Checkpost
49. Balambu
50. Kirtipur
51. Panga
52. Chalnakhel
53. Pharping
54. Khanikhola
55. Dharke
56. Mahadevbesi
57. Baireni
58. Adamghat
59. Gajuri
60. Malekhu
63. Todke
64. Rigne
65. Khahare
66. Majhgaun
67. Deurali
68. Bidur
69. Dhikure
70. Choughada
71. Ranipauwa
72. Kharanitar
73. Samundratar
74. Betrawati
75. Kalikasthan
76. Dhunche
77. Syaphrubesi
INDEX
POPULATION SIZE
More than 10,000
5,000 to 9,999
1,000 to 4,999
500 to 999
Less than 499

FIGURE 5

All first order centres fall in this size class. Out of the three centres, Bidur has the larges population of 18,000 followed by Thimi and Banepa with 17,000 and 12,600 respectively. In th second class group, there are five centres. Out of these centres, three, Dhulikhel (9,600), Kirtipu (7,400), and Lubhu (5,800), belong to the second order. The other two - Panga (5,300) an Sidhipur (5,750) - are third order centres. The third size class consists of 22 centres wit populations ranging from 4,700 in Sankhu (II) to 1,000 in Pharping (III) (Annex C). Six centre (Sankhu, Chapagaun, Barahbise, Chautara, Panauti, and Dhading Besi) in this size class belon to the second order, six to the third order, and 10 centres to the fourth order. In the fourth siz class, there are 47 market centres. They are either third order centres (nine) or fourth orde centres (38), out of which 30 centres have a population of less than 500. The population size o these centres ranges from 900 in Sitapaila (IV) in Kathmandu district to 50 in Rigne (IV) i Dhading district (Annex C). The distribution of different size classes is given in Table 5.6.

The population sizes of different market centres show that these are not a true measure of th relative importance of the centres in a number of cases. The most obvious limitations can b observed in two groups. There are important second order market centres such as Barahbise Chautara, and Dhading Besi (which have limited population sizes) in the third size class, whil unimportant, lower order market centres such as Panga (Kathmandu district) and Sindhipu (Lalitpur district) are in the second size class. Such irregularities in the relationships betwee population size and order of the centres can be observed in some other market centres as wel (Annex C).

Table 5.6: Distribution of Population Size Classes

Unit	More than 10,000 (No. of centres)	5,000 to 0000 (No. of centres)	1,000 to 4999	Less than 1000	Total
Bagmati Zone	3	5	22	47	77
Kathmandu	-	2	9	4	15
Lalitpur	-	2	5	5	12
Bhaktapur	1	-	2	2	5
Kavrepalanchowk	1	1	3	7	12
Sindhupalchowk	-	-	2	7	9
Dhading	-	-	1	12	13
Nuwakot	1	-	-	7	8
Rasuwa	-	-	-	3	3

Source: Survey

Functional Magnitude

Functional magnitude provides a common basis for the assessment of market centres. It is a effective measure considering the agglomeration economy of the market centres. On the bas of functional magnitude, the local market centres have been grouped into four classes - 1 centres with more than 200 functional units; 2) from 100 to 199 units; 3) from 50 to 99 units and 4) from 20 to 49 units. There are five market towns with more than 200 functional unit (Table 5.7).

Table 5.7: Functional Magnitude

Units		Functional Units				
		More than 200 units	100 to 199	50 to 99	20 to 49	Total
Bagmati Zone	Number	5	8	21	43	77
	Ratio	1.6		2.6	2.0	
Kathmandu		-	2	4	9	15
Lalitpur		-	2	5	5	12
Bhaktapur		1	-	-	4	5
Kavrepalanchowk		2	1	5	4	12
Sindhupalchowk		-	2	3	4	9
Dhading		1	-	3	9	13
Nuwakot		1	-	1	6	8
Rasuwa		-	1	-	2	3

Source: Survey

Banepa is at the apex with 418 functional units. It is followed by Bidur (360)[1], Dhading Besi (327), Thimi (275), and Panauti (221), out of which three towns are first order centres, and two are second order centres. There are eight market centres with functions ranging from 187 units (Barahbise) to 117 units in (Dhunche) (Annex B). All these centres conform to the hierarchical level, except for Dhunche, in terms of functional magnitude. The third group consists of 21 centres with functional units ranging from 88 units in Gajuri (Dhading) to 56 units in Saibu (Lalitpur). All these centres are lower order centres, six third order and 16 fourth order centres. At the bottom is a group of 43 centres with 20-49 functional units (Figure 6).

The use of functional magnitude for measuring the relative importance of market centres has certain limitations. All central functions are considered of equal importance. To assume that all functions are of an equal level of significance is not realistic. The relative importance of functions varies considerably. However, it is apparently a valid measure of the relative importance of market centres in Nepal. Agglomeration of functions increases progressively with the increasing importance of market centres.

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1 Functional units located at Batar, Pipaltar, Devighat, and Nuwakot have not been included in the functional magnitude of Bidur. Similarly, the units located in Shrikhandapur have not been included in the magnitude of Dhulikhel. These centres now fall in the municipal areas of these towns. Centres falling in the municipal areas are, however, not treated as individual market centres.

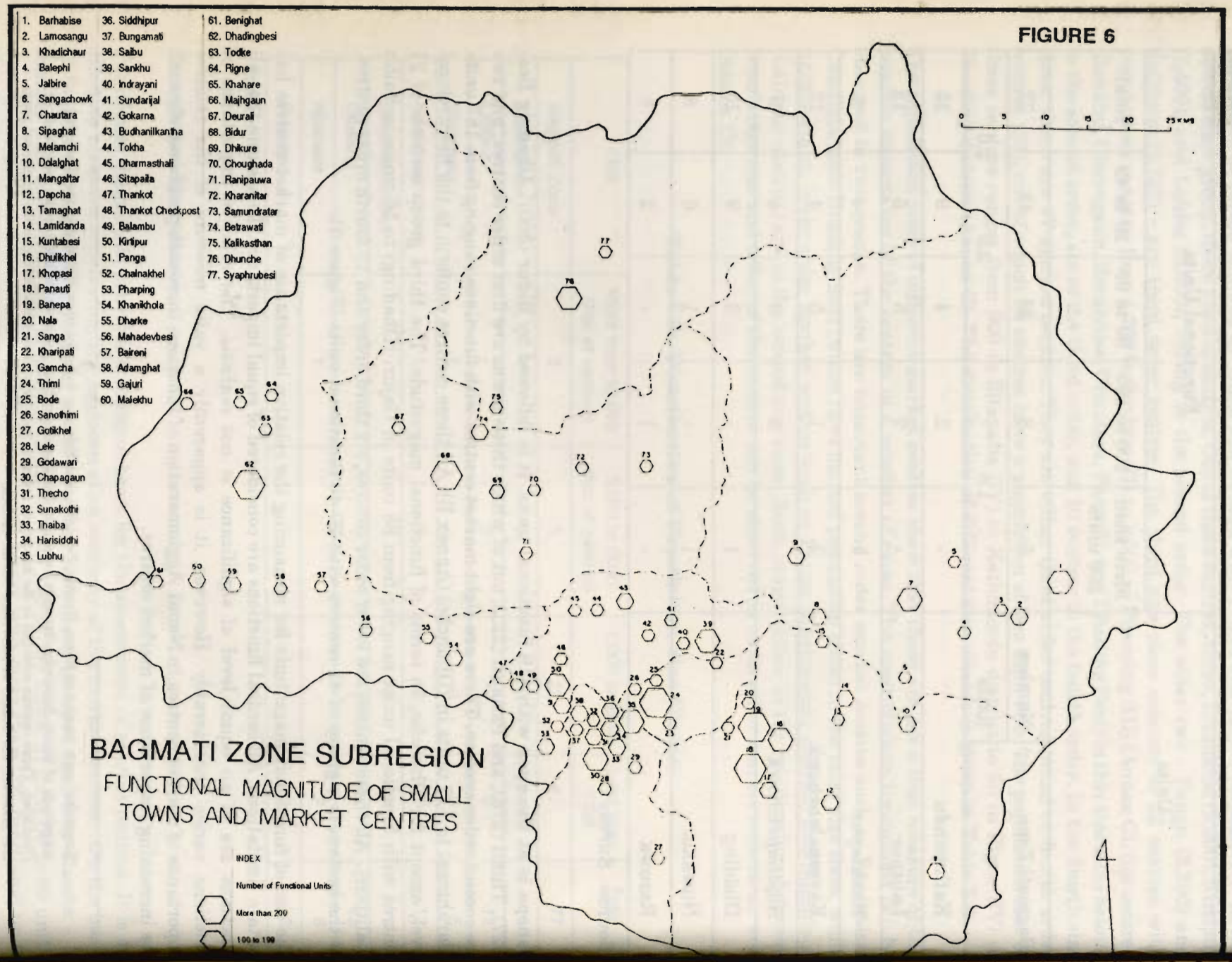
FIGURE 6
1. Barhabise
2. Lamosangu
3. Khadichaur
4. Balephi
5. Jalbire
6. Sangachowk
7. Chautara
8. Sipaghat
9. Melamchi
10. Dolalghat
11. Mangaltar
12. Dapcha
13. Tamaghat
14. Lamidanda
15. Kuntabesi
16. Dhulikhel
17. Khopasi
18. Panauti
19. Banepa
20. Nala
21. Sanga
22. Kharipati
23. Gamcha
24. Thimi
25. Bode
26. Sanothimi
27. Gotikhel
28. Lele
29. Godawari
30. Chapagaun
31. Thecho
32. Sunakothi
33. Thaiba
34. Harisiddhi
35. Lubhu
36. Siddhipur
37. Bungamati
38. Saibu
39. Sankhu
40. Indrayani
41. Sundarijal
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61. Benighat
62. Dhadingbesi
63. Todke
64. Rigne
65. Khahare
66. Majhgaun
67. Deurali
68. Bidur
69. Dhikure
70. Choughada
71. Ranipauwa
72. Kharanitar
73. Samundratar
74. Betrawati
75. Kalikasthan
76. Dhunche
77. Syaphrubesi
0 5 10 15 20 25 KMS
BAGMATI ZONE SUBREGION
FUNCTIONAL MAGNITUDE OF SMALL TOWNS AND MARKET CENTRES
INDEX
Number of Functional Units
More than 200
100 to 199

Functional Array

The relative importance of market centres may be determined by assessing the number of types of central functions and the degree to which they tend to be associated in each place. Table 5.8 clearly shows that the types of function increase with ascending order of market centres. All higher order market towns (I and II), apart from Panauti, have more than 12 functional types, and most of them accommodate different route types as well (Annex F). Out of the town order centres (III and IV), 27 centres have less than eight functional types, and 20 other centres have only eight or nine types. Locational variations are not distinctly reflected in the range of functional types in the market centres. It is more related to the order of the market centres (Figure 7). Among the lower order centres, the functional types are relatively limited in the highway catering centres, e.g., Lamidanda, Adamghat, Dharke, and Mahadev Besi and in the newly developed centres, e.g., Rigne (Dhading) and Sangachowk (Sindhupalchowk).

Table 5.8: Functional Array

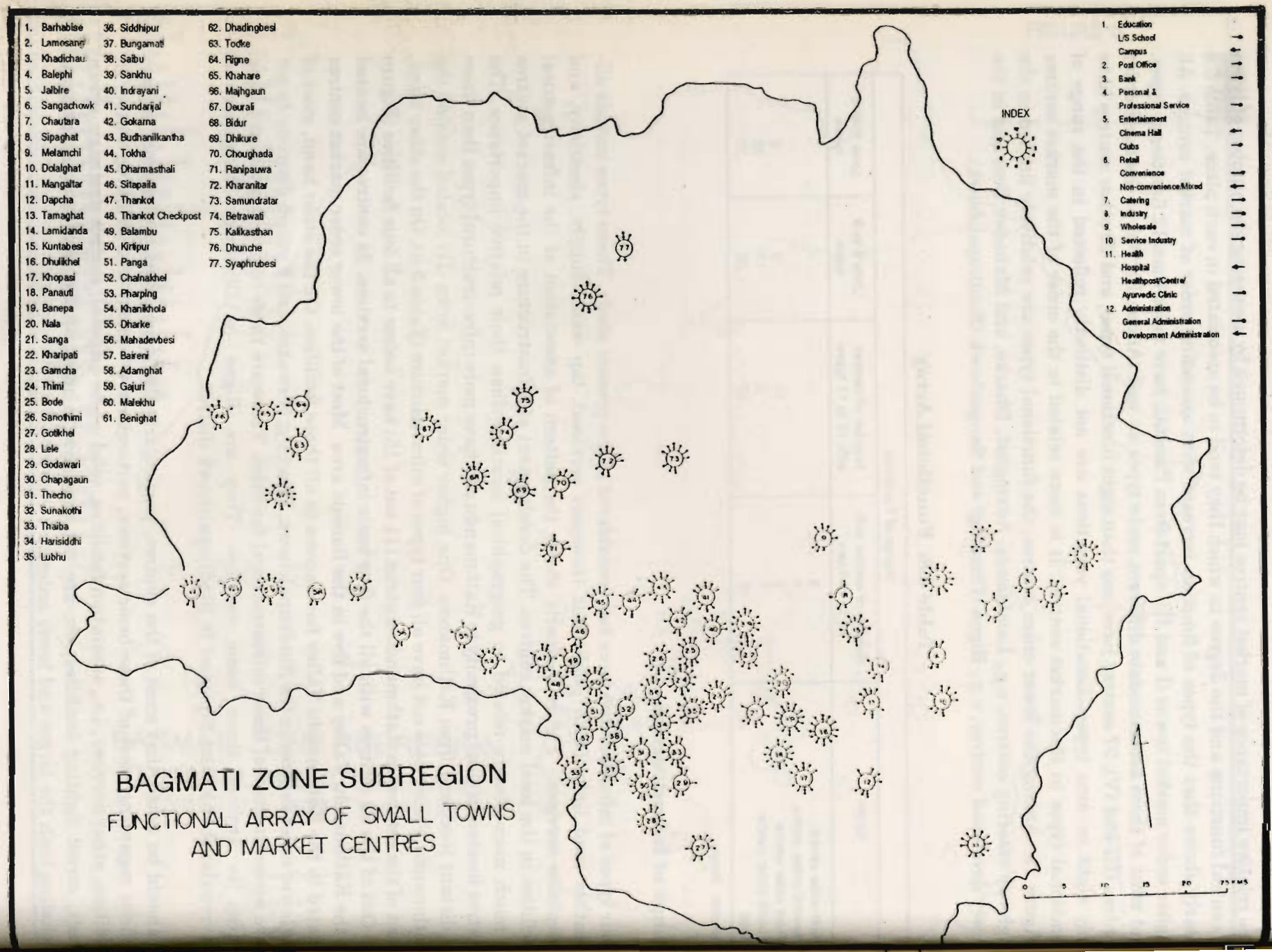
	Range of Functions			
Order	Number of centres with 12 to 14 types	Number of centres with 10 to 11 types	Units 8 to 9 types	Less than 8 types
First order centre	3	-	-	-
Second order centre	9	-	-	-
Third order centre	2	10	3	2
Fourth order centre	1	5	17	25
Total	15	15	20	27

Source: Survey

Range of Infrastructure

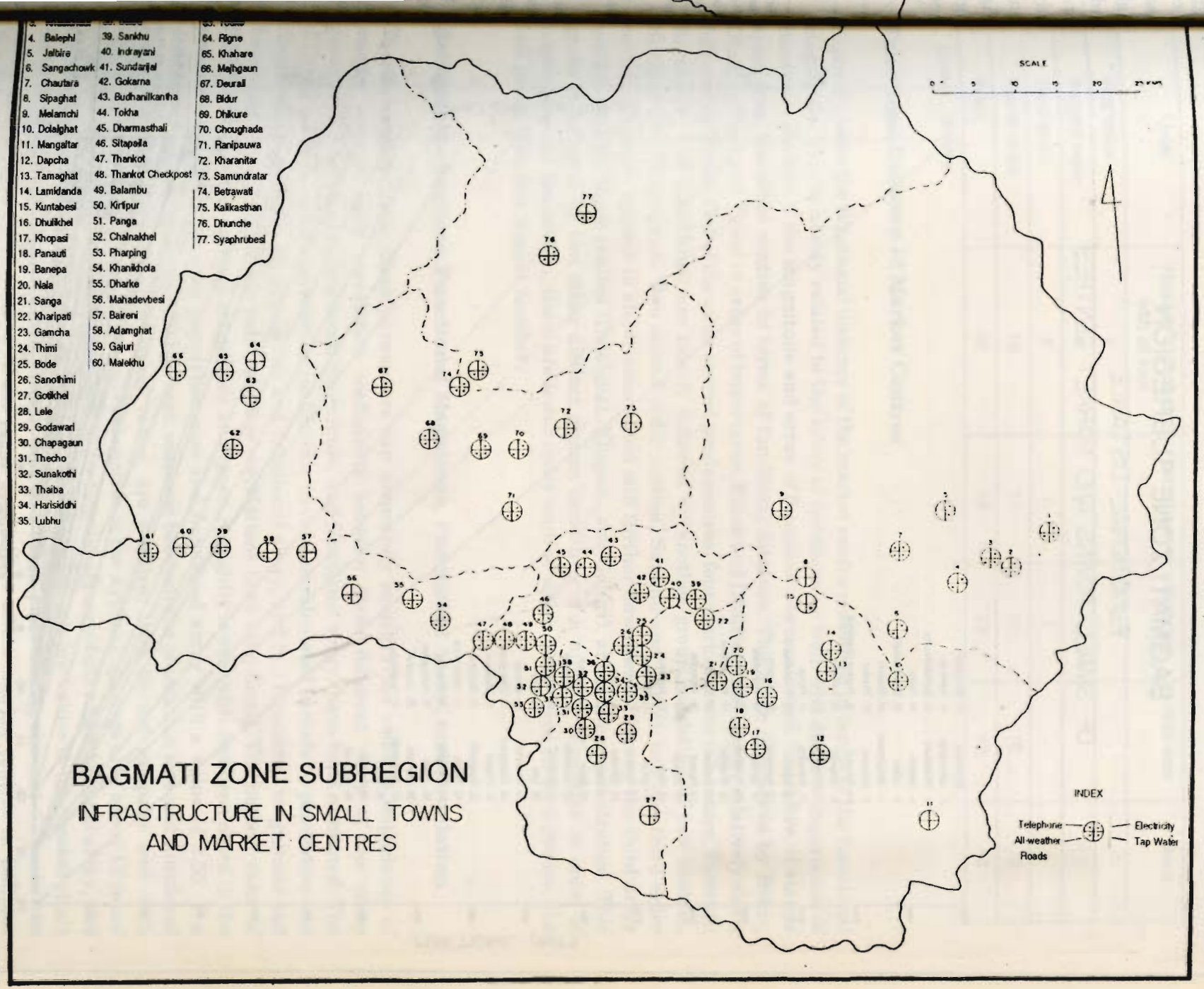
Four types of infrastructure have been considered in the present study. These types include all-weather road links (with public bus transport services), tap water supply, electricity, and telephone services. Figure 8 clearly shows the pattern of association of the infrastructural facilities in the local market centres. The development of infrastructure in the market centres is much more closely related to geographical locations than their relative importance. The centres located in close proximity to Kathmandu city have more infrastructural types than those at distant locations from Kathmandu. One higher order market town (II) located outside the Kathmandu Valley does not have all four types of infrastructure (Table 5.9). On the other hand, most of the centres in Kathmandu district (11 out of 15) have access to all four facilities (Figure 9). Out of the 32 centres with all the four basic infrastructural services, 24 centres are located in the Kathmandu Valley and five in the Banepa area. Most of the lower order market centres located in the Kathmandu Valley have access to all these facilities. On the other hand, most of the lower order centres in the Sindhupalchowk, Dhading, Nuwakot, and Rasuwa districts do not have access to most of these infrastructural facilities. There are three centres that do not have access to any of these basic services. They are Rigne in Dhading, Mangaltar in Kavrepalanchowk, and Sipaghat in Sindhupalchowk district.

It should be noted that most of the centres, particularly the larger ones, suffer from serious deficits regarding most of these basic services, particularly telephone and drinking water. In addition, other services, i.e., sanitation facilities, solid waste disposal, surface drainage, urban roads, street lighting facilities, etc are not available in most of the local market centres, including both the larger and lower orders.



BAGMATI ZONE SUBREGION

FUNCTIONAL ARRAY OF SMALL TOWNS AND MARKET CENTRES


4. Balephi
5. Jalbire
6. Sangachowk
7. Chautara
8. Sipaghat
9. Melamchi
10. Dolalghat
11. Mangaltar
12. Dapcha
13. Tamaghat
14. Lamidanda
15. Kuntabesi
16. Dhulikhel
17. Khopasi
18. Panauti
19. Banepa
20. Nala
21. Sanga
22. Kharipati
23. Gamcha
24. Thimi
25. Bode
26. Sanothimi
27. Gotikhel
28. Lele
29. Godawari
30. Chapagaun
31. Thecho
32. Sunakothi
33. Thaiba
34. Harisiddhi
35. Lubhu
39. Sankhu
40. Indrayani
41. Sundarijal
42. Gokarna
43. Budhanilkantha
44. Tokha
45. Dharmasthali
46. Sitapaila
47. Thankot
48. Thankot Checkpost
49. Balambu
50. Kirtipur
51. Panga
52. Chalnakhel
53. Pharping
54. Khanikhola
55. Dharke
56. Mahadevbesi
57. Baireni
58. Adamghat
59. Gajuri
60. Malekhu
64. Rigne
65. Khahare
66. Majhgaun
67. Deurali
68. Bidur
69. Dhikure
70. Choughada
71. Ranipauwa
72. Kharanitar
73. Samundratar
74. Betrawati
75. Kalikasthan
76. Dhunche
77. Syaphrubesi
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INFRASTRUCTURE IN SMALL TOWNS AND MARKET CENTRES

FIGURE 9

BAGMATI ZONE SUBREGION

FUNCTIONAL DISTANCE OF SMALL TOWNS AND MARKET CENTRES

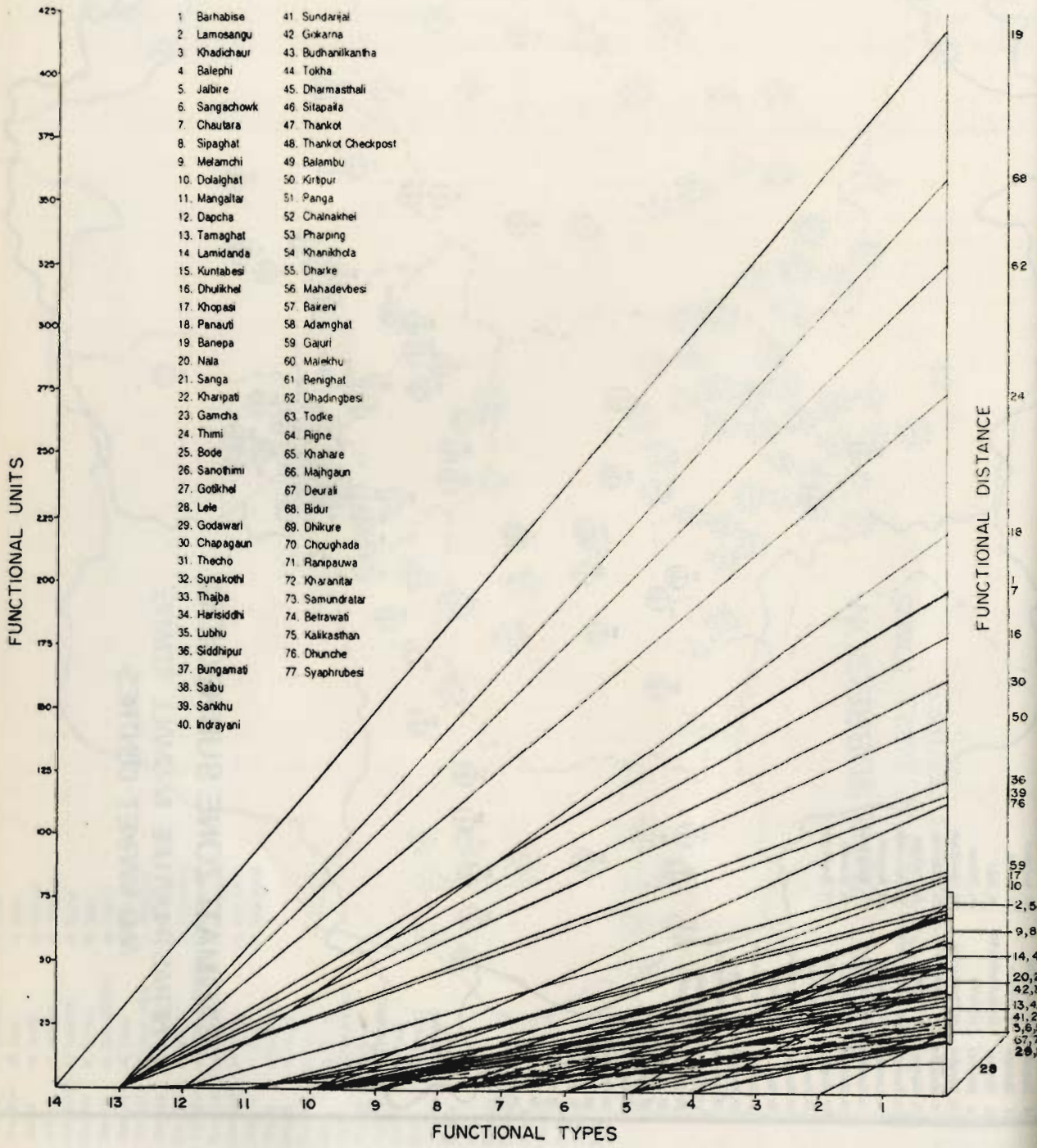

Table 5.9: Range of Infrastructure (Telephone, All-weather Road, Tap Water, Electricity)

Order	Number of centres with all four	With three	With two	With one	None
First order	3	-	-	-	-
Second order	8	2	-	-	-
Third order	8	7	1	-	-
Fourth order	13	11	12	10	3
Total	32	18	13	10	3

Source: Survey

Functional Distance of Market Centres

Figure 9 shows the functional distance of the market centre measured in terms of the functional magnitude. This is clearly related to the array of functions as well. The distinct importance of Banepa is obvious if the magnitude and array of functions are considered. Therefore, it stands apart from the other centres in terms of functional distance. This town is followed by Bidur, Dhading Besi, and Thimi in order of importance. Bidur and Dhading Besi appear relatively close, followed by Thimi. Out of the other second grade centres, four market towns (Chautara, Panauti, Barahbise, and Dhulikhel) are closely followed by another group consisting of two centres, Kirtipur and Chapagaun. Two second order centres, Sankhu and Lubhu, and one third order centre, Dhunche, appear in closer association still further downwards. Among the third order market centres, three centres (Dolalghat, Khopasi, and Gajuri), are in the upper stratum. This group is followed by two other distinct groups consisting of a number of centres in order of importance. At the bottom, there are lower order centres which form three distinct groups, the last group with the largest number.

Relationship between Functional Magnitude, Functional Array, and Population

To see whether these three parameters can accurately measure the relative importance of market centres, rank correlation coefficients between three different pairs of the three parameters (population, functional magnitude, and functional array) have been computed. The different pairs for which correlation coefficients have been calculated include (i) population and functional magnitude, (ii) population and functional array, and (iii) functional magnitude and functional array. In all these pairs, positive correlations have been found. The highest value of 0.59 has been found between magnitude and types. A slightly lower value has been noted in the positive correlation between population size and functional array with a value of 0.55. The positive correlation value of 0.50 has been observed between the population size and functional magnitude. Though the correlation values are positive, they do not compare well with correlation values computed for the market centres in the Arniko Rajmarga area about 12 years' back. The values in the latter case were 0.90 for functional magnitude and functional array, and 0.80 for functional magnitude and population size. The relatively low values in the present study could be partly due to new developments that had taken place during the last 12 years and partly due to the negative effect of the large populations of the market centres in Lalitpur district.

Locational and Distribution Patterns of Market Centres

There are three basic factors which determine the locational pattern of market centres - (market, (ii) transportation, and (iii) administration. Locally, the route factor determines th location of the market centres. The effect of this factor is that the locational pattern is linea rather than spatial, due to the effect of this factor. This is distinctly discernible in most par of the Bagmati Zone. Historically, the effect of the route factor was dominant in the areas whe long-distance traffic played a significant role. As a result, most of the historical market centr were located either along the traditional highways (trails) or at the convergence points of suc highways. The repetition of the original spatial pattern has occurred in connection with th development of new highways, although such centres are no longer dependant on long-distan trade. The main factor at work in this respect is economic. All the nodal points that ha developed along new highways are break-of-bulk points. The situation is not favourable for th growth of market centres away from the roads. This situation will continue to exist until th development of a network of adequate feeder roads.

The effect of the route factor is particularly discernible outside the Kathmandu Valley. Out the 45 market centres located outside the Kathmandu Valley, 41 are located along the maj routes, i.e., 23 on the highway roads, 12 on the feeder roads, and six on the highway trails. these areas, the locational arrangement is distinctly linear.

The location of market centres is not evenly spaced in all cases. In the densely populat Kathmandu Valley and the Banepa area with their rich resource bases, the market centres a closely spaced. This creates a distinct areal pattern in these places. Market centres in oth parts have a distinct linear pattern. This is particularly seen in the central part of the Bagma Zone extending from east to west. This part, with highways, dense population, and a relative rich agricultural resource base, is associated with market centres with a distinct linear patter On the other hand, in the northern and southern parts of the Bagmati Zone, either mark centres do not exist or they are very widely spaced as a result of difficult terrain, spar population, and poor resource base.

In some cases, the locational arrangement of the market centres could be explained wi reference to historical factors only. It is difficult to explain the location of a number of importa centres in the Lalitpur district and the Banepa area within the context of established conceptu frameworks as those centres are concentrated in close proximity to each other. These locatio arrangements can be explained only in totality, and neither in terms of distribution population, resources, and purchasing power of the people nor in terms of the notion of 'ran of a good' and 'threshold sales level'. One has to examine historical factors and lo circumstances to explain the pattern.

The locational arrangement of the market centres clearly shows that the distribution patt is distinctly concentrated rather than dispersed. When the analysis is made at the district lev the pattern shows a distinct dispersion in the Kathmandu Valley, whereas, in other cases, it clustered. The absence of regularity or randomness in the distribution pattern of the lo market centres outside of the Kathmandu Valley is attributable to the negative effects of terra uneven distribution of population and resources, and historical processes of the growth of ma r centres.