CHAPTER V

FUNCTIONAL CHARACTER OF THE TOWNS,
RURAL-URBAN LINKAGE AND
URBAN HIERARCHY

FUNCTIONAL CHARACTER

Types of Function

Urban centres are the foci of various activities; social, cultural and economic. Thus, urban centres are not merely an aggregate of population but rather an aggregate of functions. The types of function and their concentration in a centre depend on the nature of the complementary region. All towns have some common functions and the characteristics and urban status vary greatly according to the variety of functions.

Many authors have tried to classify urban centres functionally and they have adopted different methods—both empirical and statistical. Authors like Aurousseau (1921), Hall (1934), Janaki (1954) and Lal (1959) have classified urban centres based on empirical methods while statistical methods have been adopted by

---

1. Aurousseau, M. The Distribution of Population: A Constructive Problem (Geographical Review. v. 9, 1921. p 574+)
Harris (1943), Pownall (1953), Alexander (1954), Hart (1955), Nelson (1955) and Webb (1959) in making functional classification of urban centres. In the present study, however, both empirical and statistical approaches have been made. Data available from 1971 census have been taken for consideration as the detail working classification for 1981 census has not yet been published. In the empirical judgement various functional units like shopping facilities, transport, administration, education, health and other urban amenities have been taken into consideration. At present there are only eight urban centres in Sikkim while Nayabazar and Jorethang have been treated as one unit due to their close proximity [Fig. 7].

In terms of occupational structure the majority of the working population in these urban areas is engaged in tertiary activities (Table - 27). Among the tertiary activities, trade and commerce engage about 14 to 41 per cent of the total urban working population. This large share in the trading activities implies the dominance of marketing activities in the urban areas of Sikkim. The proportional share of workers engaged in trading activities is comparatively low in the East district where the functional diversification is very prominent due to the presence of Gangtok, the largest town of the state. The urbanscape is dominated by the commercial activities in the smaller towns of the other districts. In

5 Harris, CD. Functional Classification of Cities in the United States (Geographical Review. v. 33, 1943, p 80-99)
6 Pownall, LL. Functions of New Zealand Towns (Annals of Association of American Geographers. v. 43, 1953, p 529-49)
7 Alexander, JW. The Basic-Non basic Concept of Urban Economic Functions (Economic Geography. v. 30, July 1954, p 240-51)
9 Nelson, A. Service Classification of American Cities (Economic Geography. v 31, 1955, p 189-210)
the urban areas the percentage of 'Other workers' is also high, ranging between 23 to 52 per cent of the total workers in 1981. This category covers a wide range of occupation, starting from the lowest position in an administrative establishment to various professions. The proportion of this activity is generally high in the headquarters towns like Gangtok, Namchi and Mangan. But in the case of Gyalshing, the official headquarters of the West district, the entire District Secretariat complex including the staff quarters is located beyond the census boundary (5km north) and in terms of the practically the town is not at all functioning as the administrative headquarters of the district. The recent changes (between 1971 and 1981 census) in the occupational structure of urban population has already been discussed and here focus is made on some of these changes which is reflected in the functional character of the towns. The present analysis of working population is confined to district level figure as the town level working classification of 1981 census has not yet been published. It has already been noted that the developmental activities of this state started at a faster rate after the merger of the country in 1975, under the new political and economic set up and the functional diversification gradually started to emerge in the occupational structure. For instance, during the last decade the share of the primary workers in the working force has decreased in every district (Table- 53) whereas it has increased in every district in the secondary sector, particularly in the construction and non household industries. The reasons are not difficult to find. The fast growth of the newly born urban centres needed a large number of workers in construc-
tion and the entire constructional process required more man power in such an unstable mountain topography with heavy rainfall than ordinarily needed. The increasing share of the industrial sector is not due to the industrialization of the state but it is the smaller manufacturing units of household goods such as match, soap, bread etc, the printing press and the repairing units dealing with motor vehicles, watches, radios and similar household goods that raised the number of industrial workers. In the tertiary sector as well there has been increase in employment in the urban areas of every district though it has not been with transport, storage and communication which, on the other hand, recorded a reduction not only in the proportional share but also in the total number (Table -53). Introduction of modern transport and communication system has obviously reduced man power in this category. The proportional share of workers in trade and commerce has decreased in the East and South district, though they have increased their number during the last decade. The towns of these districts are not only performing as marketing and administrative centres but they are also the centres of higher education with medical and other public facilities (Table - 83). The occupational structure of population alone never reveals the actual functional character of these newly-born towns. In regional context, the number of people engaged in a particular economic activity hardly brings out the importance of a function. As for example in Namchi, the largest number of working population (42.6 per cent) was engaged in trade and commerce in
**Table 83**

Distribution of Population and Different Urban Amenities in Sikkim:1984

<table>
<thead>
<tr>
<th>Administrative Rank</th>
<th>Gangtok</th>
<th>Gyalshing</th>
<th>Jorethang</th>
<th>Rengan</th>
<th>Namchi</th>
<th>Rangpo</th>
<th>Singtham</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAP.</td>
<td>1146</td>
<td>56</td>
<td>194</td>
<td>39</td>
<td>94</td>
<td>92</td>
<td>164</td>
</tr>
<tr>
<td>Number of Shops</td>
<td>1146</td>
<td>56</td>
<td>194</td>
<td>39</td>
<td>94</td>
<td>92</td>
<td>164</td>
</tr>
<tr>
<td>Higher Education</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>Medical Facility</td>
<td>SH</td>
<td>H</td>
<td>NC</td>
<td>H</td>
<td>H</td>
<td>HS</td>
<td>H</td>
</tr>
<tr>
<td>Veterinary Hospital</td>
<td>1</td>
<td>1</td>
<td>--</td>
<td>1</td>
<td>1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Number of Banks</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Printing press</td>
<td>8</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rice and flower Mills</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>--</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Factorys</td>
<td>15</td>
<td>--</td>
<td>6</td>
<td>--</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Population (1981)</td>
<td>38747</td>
<td>745</td>
<td>4873</td>
<td>780</td>
<td>1444</td>
<td>2452</td>
<td>4043</td>
</tr>
</tbody>
</table>


1 Jorethang and Nayabazar taken together.
2 Bakery, Noodle, Agarbati, Match, Logence, Candle, Soda, Soap and Icecream.

SH-State Hospital, H-Hospital, HC-Health Centre, HS-Health sub-Centre.

* Above Primary level
1971 and in Mangan the highest number of working population (38.2 per cent in 1981) engaged in trade and commerce but the importance of the administrative function of these district headquarters were not revealed by the occupational structure. Another important factor has a part to play in this regard and that is, as mentioned earlier, the census boundary did not coincide with the town boundary and a good amount of developed area were left out. As for example, in Mangan the 1981 census only included the bazar area while a good part of area lay beyond the boundary taken by the census for the town. In Gyalshing the district secretariat complex is located 5 km north of the census boundary. In most of the towns boundary problem created such anomalies. In spite of that the number of working population engaged in a particular service gives an idea about the functional character of the town. Use of statistical method in the urban functional classification is found to be totally unfit for this tiny Himalayan towns mostly of very recent origin.

A thorough field survey was undertaken during 1982-84 for the analysis of functional character of the towns in Sikkim. In this connection the author has collected information about each and every functional unit of the towns from various government departments. In order to obtain a correct picture about the marketing activities of the towns, further details were gathered on the number and types of shops including wholesale from the Trade License Registrar of the Bazar Department, under Local Self Government and Housing Department, and also from the Municipal Corporation of Gangtok. At the same time a thorough market survey was made in all the towns to ascertain the shopping arrangement in the market areas. Besides, informations were also collected for the classification-
tion of the shops in the towns.

The interior location of Namchi, Gyalshing and Mangan limits their marketing activities, and these towns are recognized also as administrative centres carrying marketing function along with that. In general, the district headquarters in Sikkim consists of a small indigenous market with about 40 to 90 shops, a number of district-level offices (except in Gyalshing), one hospital, one veterinary hospital and at least one high school with a population ranging between 750 to 1500 (Table - 83). The grocery and general stores happen to be a typical traditional type of shop dealing in all sorts of goods for household consumption like medicine, footwear, hardware, etc. which, at the same time collect all sorts of agricultural products including cash crops like large cardamom, ginger etc (Fig. 40 - 43). It is the most common type of shop in the hill towns representing the majority of the retail shops. The number of shops with distinct specialization in dress, stationary etc is limited (Table - 84).

The proportional share of workers in trade and commercial activities was very high in the last decade (1971) and the available date show similar trend during the recent years in these towns. On the other hand, by virtue of location, Singtham, Jorethang-Nayabazar and Rangpo play the role of a place for transhipment where a break-in-transportation takes place for merchandise travelling up or down-hill. The commercial activities emerging out of such function have given rise to these towns, often consisting of a market with 90 to 200 shops dealing in more speci-
SPATIAL ARRANGEMENT OF THE SHOPS

INDEX

- General stores
- Groceries
- Butchery
- Tobaccos
- Stationery
- Tea stall
- Cloth and Surma
- Hardware, Paints
- Motor parts
- Automobile repair & servicing
- Petrol pump
- Electric goods
- Items like
- Medicine
- Jewellery
- Tailor
- Bakery
- Dry cleaning and washing
- Handicrafts and souvenirs
- Studio
- Instruments
- Radio and TV
- Watch
- Furniture
- Shoe and side making
- Leather goods (except above)
- Games and sports
- Books, magazines and newspapers
- Repair of Watch & Jewellery etc.
- Rice and flour mill
- Bakery and confectionery
- Sweet, tea and snacks
- Restaurant and Bar
- Hotel with dining
- Hotel and cheap stationary
- Liquor shop
- Transport agent
- Printing press
- Godown
- Bank
- Office
- Residence
- Vacant

Fig-40
SPATIAL ARRANGEMENT OF THE SHOPS

NAYABAZAR

INDEX

- General stores
- Grocery
- Gaddi
- Stationary
- Tea leaf
- Cloth and Garments
- Hardware, Paints, etc.
- Motor parts
- Automobile repair
- Petrol pump
- Electric goods
- Medicine
- Jewellery
- Tailor
- Saloon
- Dry clinic and laundry
- Studio
- Radio and TV
- Bank
- Watch
- Shoe and shoe making
- Repair of Watch and Radio
- Bakery and confectionary
- Sweet, tea and snacks
- Restaurant and Bar
- Hotel with lodging
- Retail and cheap stationary
- Liquor shop
- Transport agent
- Vacant
- Godown

Fig- 41
<table>
<thead>
<tr>
<th>Types of shops as per major goods offered</th>
<th>Name of the Towns 1 2 3 4 5 6 7 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>General stores+</td>
<td>243 19 40 11 10 11 4 11</td>
</tr>
<tr>
<td>Grocery</td>
<td>57 6 22 19 13 13 6 11</td>
</tr>
<tr>
<td>Gaddi</td>
<td>30 3 12 3 3 5 7 10</td>
</tr>
<tr>
<td>Tobacco etc.</td>
<td>3 - - - - - - -</td>
</tr>
<tr>
<td>Stationary</td>
<td>64 1 3 1 4 2 4 4</td>
</tr>
<tr>
<td>Tea leaf</td>
<td>6 - - - - - - -</td>
</tr>
<tr>
<td>Cloth and Garments</td>
<td>89 1 10 2 2 4 8 14</td>
</tr>
<tr>
<td>Hardware, Paints, etc.</td>
<td>34 - 11 - 1 - - 6</td>
</tr>
<tr>
<td>Motor parts</td>
<td>28 - 3 1 - 1 - 7</td>
</tr>
<tr>
<td>Automobile repair and servicing</td>
<td>5 - 1 - - - 1 1 1</td>
</tr>
<tr>
<td>Petrol pump</td>
<td>3 - 1 - - - 1 1 1</td>
</tr>
<tr>
<td>Electric goods</td>
<td>16 - 3 - 1 - - 2</td>
</tr>
<tr>
<td>Utensils</td>
<td>4 - - 1 - 1 1 1</td>
</tr>
<tr>
<td>Medicene</td>
<td>8 - 2 - 1 - 1 3</td>
</tr>
<tr>
<td>Jewellery</td>
<td>17 - 4 2 3 1 4</td>
</tr>
<tr>
<td>Tailor</td>
<td>25 5 10 2 6 3 3 4</td>
</tr>
<tr>
<td>Sacion</td>
<td>22 1 3 1 2 3 2 5</td>
</tr>
<tr>
<td>Dry clinic and laundi</td>
<td>14 1 3 1 2 - 1 2</td>
</tr>
<tr>
<td>Handicrafts and antiquites</td>
<td>2 - - - - - - -</td>
</tr>
<tr>
<td>Studio</td>
<td>9 - 1 - 2 - 1 1</td>
</tr>
<tr>
<td>Instruments</td>
<td>14 - 1 - - - - 1</td>
</tr>
<tr>
<td>Radio and TV</td>
<td>13 - - - - - - -</td>
</tr>
<tr>
<td>Watch</td>
<td>3 - 1 - - - - -</td>
</tr>
<tr>
<td>Furniture</td>
<td>20 - 2 - 1 - 1 2 1</td>
</tr>
<tr>
<td>Shoe and shoe making</td>
<td>19 1 4 1 3 - 2 4</td>
</tr>
<tr>
<td>Leather good (except shoe)</td>
<td>4 - - - - - - -</td>
</tr>
<tr>
<td>Games and sports</td>
<td>4 - - - - - - -</td>
</tr>
<tr>
<td>Book, magazine and newspaper</td>
<td>4 - 1 - - - - 1</td>
</tr>
<tr>
<td>Repair of Watch and Radio etc.</td>
<td>10 - 2 - 1 1 1 2</td>
</tr>
<tr>
<td>Rice and flour mill</td>
<td>6 1 3 - 1 - 1 2</td>
</tr>
<tr>
<td>Bakery and confectionary</td>
<td>24 - 2 - - - - -</td>
</tr>
<tr>
<td>Sweet, tea and snacks</td>
<td>62 4 9 5 6 2 9 13</td>
</tr>
<tr>
<td>Restaurant and Bar</td>
<td>29 5 3 2 7 3 5 5</td>
</tr>
<tr>
<td>Hotel with lodging</td>
<td>66 1 2 1 1 - 1 1</td>
</tr>
<tr>
<td>Betel and cheap stationary</td>
<td>166 5 7 6 14 2 14 19</td>
</tr>
<tr>
<td>Liquer shop</td>
<td>12 3 4 2 3 6 7 6</td>
</tr>
<tr>
<td>Transport agent</td>
<td>3 1 2 1 1 - 1 1</td>
</tr>
<tr>
<td>Printing press</td>
<td>8 - 1 - - - - 1 1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1146 58 135 41 19 59 92 164</td>
</tr>
</tbody>
</table>

Based on: Field survey in 1984  
* Temporary/mobile shop  
+ Grocery, stationary, medicene, cloth and garments, shoe, hardware, collection of agricultural products and many other necessity goods  

176
lished goods some of which on a wholesale basis (Fig. 41 & 42). Such locational advantage is further reflected in the presence of a few small factories making candles, matches, noodles, bread confectionaries etc. a printing press, a health centre and a few administrative offices. In these centres, the number of general stores is comparatively low and the number of shops dealing with specialization in goods like grocery, cloth, stationary, hardware, medicine etc. is high. Here, again the number of temporary/mobile shops dealing in betel and cheap stationary goods is high and at the same time the number of gaddi is high (Table - 84). Besides commercial activities, these centres serve as a transport nodes with a good number of workers engaged in transport, storage and communication.

Gangtok, the capital town, is the only big town (class-III) offering more specialized urban amenities which is totally absent in any other towns in Sikkim. It has already been mentioned that there are five recognized markets in Gangtok and of these, the main market, namely Gangtok Bazar, accommodates about 65 per cent of the total shops including temporary/mobile ones. Among the other markets, Deorali contains about 9.3 per cent of the total number of shops and about 8.7 per cent is located in the other three markets. Besides, 17 per cent of the total number of shops are in the residential areas. Here again the traditional general

Gaddi: These shops deal with the purchase and sale of agricultural products, like large cardamom, ginger, orange, etc. in wholesale basis. In these counter purchases are made directly from the farmers or via middleman or from the similar gaddi from small towns or bazars. As for example, the gaddi of Gangtok purchase from the gaddie of Mangan, Dikchu, Pakyong and other smaller centres. These counter donot have any show room but they have godown/warehouse. In many cases the traditional general shops of smaller towns (except Gangtok) and bazars purchase similar agricultural products from the farmer or via middleman.
shops are larger in number and they are well-distributed both in
the recognized markets as well as in the other areas. The number
of specialized shops is quite large and they are mainly concentrated
in the Gangtok Bazar area (Fig. 401). The shops are located in rows
and highly specialized retail shops, gaddi, wholesale shops and ho­
tels are mainly concentrated in the main bazar. Gangtok has the
largest number of gaddis (about 40 per cent of the state’s total)
because it is well-connected with the large cardamom producing
area and it function as the main collecting and exporting centre
of large cardamom which happens to be the main cash crop of this
state. This administrative town is not only the headquarters of the
state but it is also the centre of higher education, medical, recre­
atonal, political and commercial (both retail and wholesale) acti­
vities. Besides, Gangtok is a tourist centre for its outstanding
scenic beauty, cultural heritage and above all, its closer location
to the Inner Himalaya.

In considering all the statistical and empirical
facts, the small urban centres of Sikkim has a strong base for co­
mmercial function. The rural areas need a focal point for exchang­ing their local commodities and this basic role is played by the
towns with their shops, haids (weekly market), banks, offices and simi­
lar institutions, the sum of which form the urban character. Func­
tonally they may be divided into two distinct groups -(a) commer­
cial and (b) commercial-cum-administrative. By virtue of their
location, all the valley-site towns, like Jorethang-Nayabazar, Sing­
atham and Rangpo function not merely as retail service centres but
at the same time as good wholesale markets. In contrast, the admi­
nistrative headquarters like Gangtok, Mangan, Namchi and Gyalshing
offer higher order medical, educational, professional, recreational, and various other services and at the same time a good retail market.

Service Area of the Town

The types of services offered by these towns show that the number of population of a particular town is not the basis for the location of many functions in them. In other words, the support of the town depends not on the service it performs for itself but for its rural surroundings. Each town has its own 'service area' or 'hinterland' and the nature and extent of this area depends upon the transport facilities available and the functional varieties of the town. In Sikkim, the basic role of the town is to provide retail shopping facilities for its scattered population with its poor economic and transport system. To carry out this particular responsibility, there are 32 bazars or rural places centres besides the towns, distributed almost at random (RN-1.39)\textsuperscript{12} throughout the settled area (Fig. 91). Their service areas obviously are quite as compared with those of the towns as the latter have a greater nodeality, often extending beyond the district boundaries.

\textsuperscript{12} Nearest Neighbour Index (RN):

\[ RN = \frac{RA}{RE} \]

\[ RA = \frac{d}{N} \]

\[ d = \text{sum of actual distance of the nearest neighbour} \]

\[ N = \text{Number of centres} \]

\[ RE = \frac{1}{2\sqrt{p}} \]

\[ P = \frac{\text{Number of Centre}}{\text{Total Area}} \]

Here 32 bazar and 7 towns has been taken due to the close proximity of Jorethang and Nayabazar.

$\text{Here only settled area (1658 sq km) has been taken into considered.}$

\text{RN value 0 = Cluster; 1 = Random; 2.15 = Regular/Uniform}$
The range of goods and services has been taken into consideration to demarcate the service areas of the towns. Among the services, three basic services, namely (i) marketing including wholesale, (ii) medical and (iii) education - have been taken into consideration in regional context. Here range refers to the areal extent of the goods and services to and from the towns, which means the surrounding rural areas from where the people attend the market and obtain such urban services as medical and educational services. The range of goods and services directly influenced by the transportation system plays a vital role in Sikkim. For the demarcation of service area, each and every good and passenger services including the local taxis and jeeps have been taken into consideration for all the towns. Besides, the place of residence of the people has been collected from the retail and wholesale shops which serve them and also from the people who attend the haat in the towns. The service area of the haat plays an important role in the delineation of the town's service area in such a difficult terrain. The dispersed rural population with poor purchasing capacity and transport facilities prefer going to the town once a week. For medical services, information on the place of residence has been collected from the outdoor and indoor patient list of the medical centres (hospital, health centre, etc). Similarly, information on the place of residence of the pupil has been collected from the enrolment list of the schools, colleges and other educational institutions.
Factors Affecting Rural-Urban Interaction

It has already been mentioned that the state covers the upper catchment area of the Tista basin which is bounded by inaccessible high mountain wall on three sides; north, west and east, making international boundaries [Fig. 3]. The state is open only from the south where it merges with the hill divisions of West Bengal. Sikkim is connected with Siliguri, the gateway-city in the Terai region of Darjeeling district, by National Highway 31A runs northward upto Mangan via Melli, Rangpo, Singtham, Gangtok and Dikchu [Fig. 7]. Another major road follows the Rangit river from Melli to Gyaishing via Jorethang-Nayabazar. In this way two major roads connect all the towns with Siliguri city. The other roads of this state meet at several points with these major roads and the entire transport network system is totally guided by the surface topography where roads mainly follow the rivers or go over the ridge-tops. This results in the convergence of roads and development of nodes mainly at the confluence of the major rivers and sometimes at the ridge top (like Namchi and Gangtok). As a result this region is open for contacts and interactions only from the south. Consequently, all types of movement to and from the country is unidirectional—from north to south [Fig. 7].

The products of hill region maintain a 'downflow' or 'gravity flow' system. The state is highly dependent on other regions for most of its necessary commodities, including food grains.

181

All the commodities moving into Sikkim or out of the country get assembled first of all at Siliguri, where primary break-of-bulk occurs. In other words Siliguri exercises effective control on the collection and distribution of all the commodities to and from Sikkim. Thus, the price of goods differs considerably from south to north as the transport cost is very high over the mountainous routes. At the same time this has an effect on the pattern of consumer movement where people travel a greater distance towards the south than towards the north to buy any goods. This has an inherent danger of impairing the economic morale of the state in the long run. For instance, if the habit of the people travelling south (to Siliguri) continues for the nearness of the latter, people may not remain dependent at all on any higher order centre within the state however big the town is. The only way to put restrain on this is, perhaps, the price-index of materials or services obtainable at different regional centre of the state. The quality of materials or services should be of competitive nature and above all a greater encouragement for enterpreneurs to create more specialised service facilities.

In this Himalayan state the settlements have developed and are almost restricted to the souther part, the latter representing only 24 per cent of the total geographical area [Fig. 10] where the settlements are generally confined to the major river valleys or are found on the upper slopes upto a certain level. As discussed earlier, there is no village in true sense in this highly dissected region. The revenue blocks consist of a few house clusters sometimes 5-6 houses forming such clusters, locally known as Bustee.
The physical constraints have played a significant role in the country with a poorly developed transportation system. As per 1981 Census, only 50 per cent of the inhabited revenue blocks, covering about 61.3 per cent of the rural population of the state, was approachable by pucca or hard-surfaced roads and only 36 per cent to the revenue blocks, covering only 46.6 per cent of the total population, was connected by road service [Fig. 8]. Thus, a large section of the people have no means of travel other than to walk [Fig. 44]. In the dissected highland surface walking distance and direction are controlled by the surface-slope. People always avoid steep slope to reduce physical hardship in travel. In this way the surface configuration plays a decisive role in carving out the service area of the towns. The physical hardship in travel and poor purchasing capacity of the highly scattered population limit the frequency of the rural-urban movement and the visit to the town ultimately gets restricted to once a week, that is on the 

day, the day on which the weekly market in the town assembles.

The location of the town and the administrative set up of the country further influence the interaction pattern where the seat of the district administration is located in the higher interior part and the non-administrative towns in the lower southern part, the latter offering, as explained earlier, a more convenient situation for the development of an urban centre than the northern higher parts. All the major roads of this state ultimately converge at these valley-site towns and commercially they play a more vital role in virtue of their location in such 'unidirectional' flow system. People from long distance, mainly from the same district, visit the administrative towns for administrative service
along with the other higher order services provided by the big hospital, the high school, the college, the cinema, the stadium etc which are usually concentrated in the district headquarters. Besides, all of them provide retail shopping facilities. Although people prefer to exchange their local products for daily necessities in the nearest bazar (rural market place) and some of them provide some of the important services with their health centres, schools, post offices, etc. The district headquarters always have a greater pull for their better provisions. However, there is no doubt that the location and distribution of these bazaars, numbering altogether 32, exert profound influence on the rural-urban interaction pattern evolving out of the 'unidirectional' flow system.

Extent of the Service Area

In this connection it may be said that an extensive field survey has been made by the author during the 1982-84 for ascertaining the character of the service areas of the towns. For this purpose major emphasis was laid on three of the most common services demanded by the service areas, such as (i) retail shopping facilities, (ii) education and (iii) health services. As mentioned earlier data relation to the dependence of the villages or revenue blocks on the towns for the retail service has been collected from the attendance in the retail shops and haats (weekly markets) in each town. Secondly, data has been collected from the visitor's list of outdoor patients in hospitals as well as health centres and address of the students were collected from the enrolment list of the schools in each town to determine the degree of dependence and the intensity of the rural-urban linkages. Besides these three types of services, the wholesale service has also been considered for de-
terminating the hierarchical order of service areas which is discussed in detail in the later part of this chapter.

The following noticeable features have been detected during the survey:

The three specific services such as retail shopping, education and medical service offered by the towns appear to be very limited in areal extent. However, the retail service extends over a much larger area than the remaining two services and each case the extension is noticeable more in the northern part of the respective towns than in the southern part [Fig. 45]. Two factors seem to be responsible for this: First, the role of marketing activities is much greater than the other functions in the socio-economic life of this region. At the same time the unidirectional flow pattern limits the southward extension of the service area whatever might be the size of the town as the price of goods increase towards north. Second, the educational and medical institutions are, rather, distributed adequately though the institutions may not be higher in order in many cases which keeps a large area of the state beyond the scope of the urban centres [Fig. 45].

The areal extent of the service area varies considerably among the towns. Table-85 shows the coverage of the service area for each town. In this context, the population-size is more important than the spatial extent of the service area as the population is not uniformly distributed in such a dissected topography. For instance, Gangtok serves (retail marketing) about 26 per cent of the total population (Table-85). In comparison, the corresponding figure varies between 4 to 9 per cent in case of other towns.
is, however, much interesting to note that all the 8 towns taken together serve only 50 per cent of the total rural population with retail, educational and health services. Apart from the urban centres, there are 32 bazars (rural market place) offering similar services with their limited capacity to their immediate surroundings. The educational and medical facilities are also available in some of them. It may be further noted that in many cases these bazars

<table>
<thead>
<tr>
<th>Towns</th>
<th>Dependent Village Population*</th>
<th>Dependent Village Population*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural Total</td>
<td>Rural Total</td>
</tr>
<tr>
<td>Gangtok</td>
<td>61(15.0)</td>
<td>17.0</td>
</tr>
<tr>
<td>Gyalshing</td>
<td>44(10.8)</td>
<td>10.4</td>
</tr>
<tr>
<td>Jorethang#</td>
<td>19(4.7)</td>
<td>5.0</td>
</tr>
<tr>
<td>Mangan</td>
<td>26(6.4)</td>
<td>5.8</td>
</tr>
<tr>
<td>Namchi</td>
<td>34(8.4)</td>
<td>4.9</td>
</tr>
<tr>
<td>Rangpo</td>
<td>16(3.9)</td>
<td>4.4</td>
</tr>
<tr>
<td>Singtham</td>
<td>43(10.5)</td>
<td>8.7</td>
</tr>
</tbody>
</table>

Source: Census 1981

# Jorethang and Nayabazar taken together
* In percentage. In bracket percentage fig.

are not dependent on the urban centres for major services like retailing and wholesaling. They are Ranipool, Rhenock, Rongli, Melli, etc. (Fig. 45).

Types of Service Area

The 'ridge and valley' topography of the Himalayan state produces quite different types of urban service areas. For instance, the urban areas of Sikkim form two distinct types of service areas--the 'ridge' and the 'valley'-- pattern in terms of their location.

These typical spatial patterns are also common in the other part of the Himalayan region. As mentioned earlier, some physical factors like drainage and the relief have played a decisive role in carving out the service area where the alignment of the transport line as well as the distribution of settlements are absolutely controlled by the surface configuration. The towns located in and around the meeting points of two rivers, give rise to a 'valley'-pattern interaction system. The examples are- Jorethang-Nayabazar, Singtham Rangpo, Mangan and Gyalshing. In a valley-pattern service area the urban influence follows the direction of the valley including the higher slopes of the catchment; and the intensity of this influence is more in the north than in the south as the price of goods vary considerably in the opposite direction. In contrast the 'ridge'-pattern of service area occurs in the towns with location on ridge-tops, like that in the case of Gangtok and Namchi where urban service extends over the ridge following the lower slope down to the valley sides. As a result the towns on the ridge have a command area 'convex' in shape whereas the valley towns have 'concave' service areas.

HIERARCHICAL ARRANGEMENT OF THE TOWNS

The hierarchy of the urban centres denotes the ranking of towns in the successive group on the basis of size or functional criteria. They are functionally arranged in such a manner that the lower order centre occurs within the influence-orbit of the higher order centre. They form a nesting pattern where centres of higher order successively decrease in number or in other words occur at a greater distance. The size of the settlement may not be coin-
cidental with the functional order as "an urban settlement is fundamentally a question of functions and not population." The function or service which an urban centre performs or offers is not merely for itself but primarily for its surrounding rural areas. The hierarchical concept is based on the idea of central place which is centrally located in a homogenous area and offering goods and services to the area where there is a demand for them. The central places, as such, perform one or a group of central functions. A number of studies have been made on the central place system and the marketing hierarchy in India and abroad such as Christaller (1933), Loesch (1940), Smailes (1944), Singh (1955), Berry and Garrison (1958), Kar (1960), Siddall (1961), Mayfield (1963), Bhattacharya (1972) and many other authors. In the Himalayan territories settlement plays a diverse role in their interaction pattern and the so called hierarchical system is totally absent in the three dimensional surface. Many Indian authors have written on the

---

15 Dickinson, RE. The Distribution and Functions of Smaller Urban Settlements of East Anglia (Geographers, v. 7, 1952, p 20)
17 Loesch, A. The Economics of Location. tr. Wolglom, WH. and Stopler, VF. New Haven Yale University, 1954.
18 Smailes, AE. The Urban Hierarchy in England and Wales (Geography, v. 20, 1944, p 41-51)
19 Singh, RL. Urban Hierarchy in the Umland of Banaras. (The Journal of Scientific Research, Banaras Hindu University, v. 6(2), 1955-56, p 100-)
20 Berry, BJL. and Garrison, WL. The Functional bases of the Central Place Hierarchy (Economic Geography, v. 34, 1958, p 145-54)
21 Kar, NR. Urban Hierarchy and Central Functions Around Calcutta in Lower West Bengal, India and their significance. (Land Studies in Geography, sr B. Human Geography, v. 24, 1962, p 259-74)
22 Siddall. Wholesale-Retail Trade Ratios as Indices of Urban Centrality (Economic Geography, v. 37, 1961, p 124-92)
24 Bhattacharya, B. Factors Determining the Central Functions and Urban Hierarchy in North Bengal (Geographical Review of India, v. 94(4), 1972, p 927-33)
interaction pattern and the hierarchical system in the Himalayan region such as Tirtha and Lall (1967), Mukherji (1974), Maithani (1978), Bhattacharya (1983) and Singh and Prasad (1983).

In considering the existing socio-economic background and the commodity flow system, marketing activities have been taken into consideration in the centrality test as the trade and commerce are the most ubiquitously present urban functions in the region under study. In the classification of towns into different hierarchical order, two different types of central activities, namely the retail and wholesale, have been taken into view. All the towns have been considered in their 'spatial' and 'functional' context. In the functional context, the market centre of certain order provides a number of goods and services to the lower order centre including certain special types of goods and services which are not available in the lower order centre. Thus, the number and variety of shops offering both retail and wholesale services in any centre is the most important index for attributing or determining the order of the centre (Table -86). In Sikkim, both the total number and variety of shops including wholesale, is very large in Gangtok which is fo-

26 Mukherji, SP. Commercial Activity and Market Hierarchy in a part of Eastern Himalaya, Darjeeling (The National Geographical Journal of India, v., 1974, p 186-
30 Mukherji, SP. Commercial Activity and Market Hierarchy in a part of Eastern Himalaya, Darjeeling (The National Geographical Journal of India, 1974, p 186-

owed by Jorethang--Nayabazar, Singtham, Rangpo and so on. The higher concentration of wholesale shops in Gangtok is not due to its regional dominance of wholesaling activity but a good number of wholesale shops have come into existence for meeting the needs.

Table - 86
Distribution of Different Types of Shops in the Urban Areas of Sikkim: 1984

<table>
<thead>
<tr>
<th>Towns</th>
<th>RETAIL</th>
<th>WHOLESALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Type</td>
</tr>
<tr>
<td>Gangtok</td>
<td>1115</td>
<td>38</td>
</tr>
<tr>
<td>Gyalshing</td>
<td>56</td>
<td>16</td>
</tr>
<tr>
<td>Jorethang</td>
<td>175</td>
<td>29</td>
</tr>
<tr>
<td>Mangan</td>
<td>39</td>
<td>14</td>
</tr>
<tr>
<td>Namchi</td>
<td>92</td>
<td>23</td>
</tr>
<tr>
<td>Rangpo</td>
<td>82</td>
<td>21</td>
</tr>
<tr>
<td>Singtham</td>
<td>152</td>
<td>28</td>
</tr>
</tbody>
</table>

Based on: Field survey in 1984
# Jorethang and Nayabazar taken together

of government establishments. Besides, these towns also serve as collecting centres for surplus agricultural products. Large cardamom, ginger and orange are the main cash crops of Sikkim. Oranges are mainly collected from Rangpo and Singtham. Ginger is mainly collected at Jorethang--Nayabazar, Singtham and Rangpo. Large cardamom is mainly collected at Gangtok, Mangan and Gyalshing. Majority of the large cardamom produced in the Tista catchment area, is directly exported into different parts of India through Gangtok while cardamom produced in the Rangit catchment area is exported via Siliguri.


100
In spatial context, the service area of the lower order centres fall under the sphere of influence of its immediate higher order centre. In Sikkim, the extent of service area of any town is highly influenced by transport facilities of the centre. As mentioned earlier the extent of the retail service area is not so wide as we find in the case of wholesaling (Fig. 45). The rural people living away from the towns depend on their local bazar and huts for retail goods which ultimately limits the town's service area although these bazars are linked up with some of these towns for wholesale goods. The unidirectional flow system extends the service area, both retail and wholesale, in the northern direction as the price of goods increase from south to north with the distance from the nearest city Siliguri (Fig. 7). In fact, the entire commodity flow to and from Sikkim is controlled and regulated by Siliguri, the base town of this state and its surrounding hill territories. In considering the large concentration of the wholesale shops and collection and distribution of the goods, Gangtok, Jorethang-Naya-bazar and Singtham function as the wholesale market in Sikkim. The transportation available at these centres extends the range of goods in such an inaccessible mountainous country. Jorethang-Naya-bazar function as a main collection and distribution centre for the entire Rangit catchment area while Gangtok and Singtham for the upper and lower Tista catchment area respectively. In spite of strategic location, Rangpo lost most of its wholesale area as the emerging network system, after 1975, changed the prevailing flow system of goods to and from the different parts of the country. The interior location of Gangtok (Fig. 45) limits the movement of
SERVICE AREA OF THE TOWNS

RETAIL & WHOLESALE

FPUCATION & MEDICAL

Settled Area
Town
Bazar
Retail
Wholesale

0 10 20 km

0 10 20 km

Siliguri
Kalimpong

Fig. 45
wholesale goods as the price of goods increases towards north due to the unidirectional flow system of the country.

In considering the marketing activity concerning retail and wholesale trade, the urban centres of Sikkim may be arranged into three distinct hierarchical order (Fig. 45). The classification is based on the awarding points to each shops and their types. For retail shops 1 point has been awarded for each of the 10 shops and their types. For example, Gangtok having a total number of 1146 retail shops, scores 144.6. Similarly, 45 types of retail shops make a score of 4.5. In the case of wholesale shops and their types, point is awarded for each unit as well as type on the basis of which the score for each centre is represented by the actual number as found for each urban centre in the Table - 86. There is only one first order town Gangtok, having the largest number of shops offering larger shopping variety than any other place in the country (Table 86) and with the greater transport facilities it obviously has the largest areal coverage in the country as its hinterland (Fig. 45). In contrast, there are two second order towns namely Jorethang-Nayabazar and Singtham. Each of them has a large number of shops dealing in retail and wholesale goods. Like Gangtok, these two towns as well have a number of small factories producing readily marketable products like match, bread, noodle, candle, soda and mills for sawing wood, making flour and rice etc (Table -84). In virtue of their location these two market towns commercially link up a much more wider area than the first order town--Gangtok (Fig. 45). For instance--Jorethang-Nayabazar serves the entire Rangit catchment area spreading over the West District and the western half of the South District which together include 13 bazars and two district
Sikkim Urban Hierarchy

First Order

Second Order

Third Order

Fig-46
towns (third order) -- Namchi (South district) and Gyalshing (West District). Actually, all the transport lines (roads) of the Rangit catchment area converge at this particular centre which extend the range of goods. This town not only serves the rural areas of Sikkim but a good number of neighbouring villages of Darjeeling district (West Bengal) dependent on it. Similarly, Singtham serves the lower part of the Tista catchment area comprising the eastern half of the South District and the western half of the East District, including 8 bazaars within it (Fig. 45). There are 4 third order centres such as Mangan, Gyalshing, Namchi and Rangpo. Each of them has few shops offering limited range of goods (Table 84). Except Namchi, other three towns function as collection centres of exportable agricultural products like large cardamom, orange and ginger. The role of Rangpo in the marketing function is more important due to its location at the entry point. Thus, the hierarchical arrangement of these Himalayan towns is quite different where the centre of higher order have location in the southern region bordering with West Bengal, along the two major entry points of the state from the south. As for example, Singtham, Jorethang-Nayabazar (both second order) and Rangpo (third order) have commercially links with the entire state in virtue of their nodality. The role of Gangtok, the only first order centre is rather different, in offering services, it is more comprehensive in nature.

In Sikkim, the economy is not yet strong enough to sustain any large urban centre. Gangtok is the only town and that of moderate size and with its largest number of urban functions it has, so to say, made the entire state its 'complementary region' in terms of social, cultural, economic and even sentimental attachments.
No other town in this state takes this role though some of them are commercially linked up with a large number of rural settlements and are thus exerting some influence over them. Besides the towns, a number of bazars (32) serve within their limited surroundings and in many cases thrive independent of the high order centres in the state [Fig. 47]. There are strong extra-regional forces which effect the interaction pattern between the markets. As has been mentioned earlier, the second order even sometime the third order centres are not dependent commercially on the first order centre. The pull of Siliguri, the principal commercial centre for the entire North-Eastern India, is very strong throughout the region. Sikkim is connected with Siliguri by National Highway and this road helps to control the wholesale market of the state. On the other hand, Kalimpong serves as a wholesale market for the bazars, located in the south-eastern corner of the state like Rorathang, Rongli and Rhenock. Even people from a number of villages of the East district attend Kalimpong regularly for their daily necessities. Thus, the spatial interaction pattern is very complex and it is more complex due to administrative control of the district towns, poor concentration of functions, including marketing in the bazars, and the strong extra-regional dominance. In this way the over-lapping of service area is very common where the same population is served by more than one centre for different purposes.