Chapter VIII

LEVELS OF DEVELOPMENT
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VIII.1 INTRODUCTORY STATEMENT:

Underdevelopment of an area can be defined as the coexisting of two characteristic attributes: manpower and natural resources which have not been exploited in an optimal way, or their outflow from the region has made their occurrence redundant. It may be clarified at the very outset that underdevelopment should not be taken as a stage of development but the two are quite opposite to each other. In other word "underdevelopment is not an early stage of development; it is essentially its antithesis". Perhaps it is only by changing the direction from underdevelopment towards development that the vicious circle of circular and cumulative causation can be broken so as to put the humanity on the road of rational utilization of their natural and human resources through a spatial structure corresponding to the needs of development.¹ If the efforts are not made towards a directional change by introducing technological innovations, the gap would go on increasing between the developed and backward areas.

In 1951 the United Nations experts tried to define underdeveloped countries on the basis of low per capita

income. The basic criterion was considered doubtful by Eugene Stanley who in 1954 tried to improve upon by taking duel criteria to define underdeveloped countries, i.e., (i) Chronic mass poverty and (ii) age-old production methods. It was during 1958 that a more viable definition was postulated by Prof. Jacob Viner who importance to potential prospects using more capital, more labour, or more available natural resources or all of them to support the present population on a higher level of living.

Evidently the Himalayan Chenab Basin is an underdeveloped region. Although most of its population is poor, the region is not poor in its natural resource endowment. What is lacking is the proper utilisation and exploitation of its resources in a scientific way and upto the optimal level. In fact, all the characteristic features of underdevelopment can be easily observed in the region. It is reflected in its meagre secondary sector, by and large total dependence on primary production, low level of urbanisation and weak link with the national market.

It can be conceived that underdevelopment of the region is a legacy of the colonial regime when an economic set-up was created to siphon out the natural resources of the region and leave it as an area of economic stag-
nation. After Independence, the democratic institutions did not provide incentives for regional development. In fact, in the democratic set-up that India has involved during the last three decades allocation of funds for developmental programmes is an exercise in political manipulation and lobbying at appropriate levels. In case the leadership of the region is not mature enough and people are not articulate the area would not receive the requisite funds for the developmental programmes. The people of the region have no political influence as such, and this has thwarted the process of development to a large extent. Technologically the region stands at the lowest ebb mostly because of physical constraints. The region has typical problems in the light of its uncompromising and regions environment. At the same time the region is endowed with tremendous potential of natural resources. It is by translating these potentialities into actualities and taming the vibrant force of nature for human welfare, that the region can be put on the road to development. The area has been subjected to a neglect in the initiation of the process of development in the past. When a country or a region needs to be developed it needs developmental activity in various facets. For example it needs a development in the social as well as economic spheres, such as education, medical facilities,
agricultural, infrastructure, industries and energy.

VIII.2 CHOICE OF INDICATORS:

While analysing the developmental process in a region it is necessary to select a set of suitable indicators. Earlier, the univariate analysis was used, taking per capita income as an indicator to determine levels of economic development. But univariate exercises are inadequate to analyse the complex phenomena. It is at this juncture that one has to analyse the complex and interrelated phenomena, with the help of comprehensive set of indicators to determine the levels of development. The regional scientists and geographers have been using a number of indicators to highlight the developmental process in agriculture, industrial sector, and social amenities. Certain demographic characteristics are also chosen as they reflect on the level of development.

A complex set of indicators as generally used for measuring of development in these studies is by and large irrelevant to the region. This is partly due to the non-availability of data for such indicators at the village-level, which has been chosen as the unit of study, or there is no such activity located in the region. The indicators chosen for this study may be grouped into the following four sets:
1. Structure of the work-force
2. Demographic structure
3. Agricultural indicators
4. Social indicators
5. Locational attributes

Structure of the Work-force:

Industrial classification of workers is used to assess the nature of economic engagement. The following indicators have been selected to denote the structure of the work-force:

2. Percentage increase in male workers during 1961-71,
3. Percentage cultivators to total population, 1971,
4. Percentage increase in cultivators during 1961-71,
5. Percentage agricultural labourers to total agricultural workers, 1971,
6. Percentage increase in agricultural labourers during 1961-71,
7. Percentage workers in livestock, forestry, fishing, hunting, mining, quarrying etc. to total workers 1971,
8. Percentage change of workers in livestock, forestry, fishing, hunting, mining, quarrying etc. during 1961-71,
9. Percentage workers in household industry to total workers, 1971,
10. Percentage change of workers in household industry during 1961-71,
11. Percentage workers in manufacturing to total workers in 1971,
12. Percentage change of workers in manufacturing during 1961-71,
13. Percentage workers in construction to total workers, 1971,
14. Percentage increase of workers in construction during 1961-71,
15. Percentage workers in tertiary activities to total workers, 1971,

Demographic Structure:

Following demographic indicators have been selected.
1. Density of population, 1971,
2. Decadal change in population during 1961-71,
3. Sex ratio, 1971,
4. Number of households, 1971,
5. Percentage decadal change in number of households, 1961-71,
6. Percentage decadal change in male population during 1961-71,

**Agricultural Indicators:**

The following indicators have been chosen to denote the agricultural situation.

1. Percentage cultivated area to village paper area, 1971,
2. Percentage change in cultivated area during 1961-71,
3. Percentage irrigated area to cultivated area, 1971,
4. Percentage change in irrigated area 1961-71,
5. Percentage area under cultivable waste to village paper area, 1971,

**Social Indicators:**

Social development has been assessed with the help of following indicators:

1. Percentage literate population 1971,
2. Percentage decadal change in literate population during 1961-71,
3. Percentage male literate population 1971,
4. Percentage decadal change in male literate population during 1961-71,
5. Percentage female literate population 1971,

**Locational Attributes:**

Distance from the nearest urban centre has been selected as an indicator reflecting on locational attributes. Data for all these indicators have been chosen for each of 648 villages of the Chenab Basin in Doda district. It will not be out of place here to disentangle the spatial organisation of rural settlements.*

To work out the levels of development at the village level data for the above mentioned indicators were processed and a computer programme was run carrying out the steps according to the modified principal components method.² Using the modified method of factors analysis a composite index was found out for each set of variables listed above. The first set which includes sixteen variables. The dispersion matrices reveal

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* The word settlement here refers to the revenue village as recorded in the Indian Census.

small inter-variable distances. However, the inter-variables distance is larger between the decadal change in agricultural labourers and the decadal change in construction workers. In the composite factor scoring workers in forestry and decadal change in cultivators are given high weightages. However, 66.59 per cent dispersion could be explained in this set with the help of the noted variables.

In the second set which consists of 7 variables the inter-variable distances are of varied nature. In this set only 58.1 per cent dispersion has been explained by the variables undertaken. Here male literacy get the highest weightage in the composite factor scores. The third set includes 6 variables related to agriculture. In this set again the inter-variable distances vary considerably. This distance is highest between the decadal change in cultivated area and culturable waste land. Change in culturable waste land and irrigated area has the highest weightage in composite factor score. In this set 78.6 per cent dispersion is explained. The fourth set includes seven demographic indicators. In this set the inter variable distances are by and large Uniform.

VIII.3 SPATIAL ORGANIZATION OF RURAL SETTLEMENTS:

According to 1971 census Doda district had a popu-
lation of 342,220 persons, accounting for 7.4 per cent of the total population of Jammu and Kashmir. The district is overwhelmingly rural with 87.83 per cent of its people living in villages, and 5.71 per cent living in towns. Quite a sizeable population is living in forest blocks scattered all over the district, such a population accounts for 6.46 per cent of the total population of the district.

There are 648 inhabited villages with an average population of 463 persons. At the tehsil level there are marked variations in the average size of a village due to the concentration of population and the nature of settlement patterns. Kishtwar tehsil has the largest proportion of population accounting for 28.59 per cent of the district’s population with 24 per cent of the district’s permanent settlements having, on an average, 532 persons per village. Ramban tehsil is inhabited by 25.94 per cent population of the district with 14 per cent of the permanent settlements of the district having highest average size of a village with 781 persons. Bhaderwah tehsil has the smallest average size of settlements with 243 persons per village. Bhaderwah tehsil has 275 villages which account for 42.4 per cent of the total villages of the district.

4. Ibid.
There are six categories of villages with a predominance of the smallest size class of villages *i.e.*, less than 200 persons. The smallest village is in fact very small with only 6 inhabitants returned during the 1971 census. The village Chak Botha is situated at the foot of Kablas mountain. Pogal is the only large village, with more than 5,000 people, situated in Bichlari valley. A little more than 72 per cent of the total villages are having less than 500 inhabitants, whereas these villages accommodate about 31.1 per cent of the total population of the district. Only 11.1 per cent of the total villages have more than 1,000 inhabitants accommodating 38.8 per cent of the population of the district. The villages having 200 to 1,000 persons account for 50.9 per cent of the total villages and are inhabited by 45.8 per cent of the total population of the district (Table VIII.1). Apart from Bhaderwah tehsil, the proportion of villages with 200 to 1,000 inhabitants has a similar trend in all other tehsils. In Bhaderwah tehsil 55.1 per cent settlements have less than 200 inhabitants and only 9.4 per cent settlements have more than 500 inhabitants.

As is evident, the distribution of human settlements varies with altitude. In general, maximum number of settlements are clustered in the side-valleys of Neeru,
TABLE VIII.1

Average Size of Village

<table>
<thead>
<tr>
<th>Tehsil</th>
<th>Total Population</th>
<th>% Pop. to the region</th>
<th>Total Villages</th>
<th>Average size of village</th>
<th>% of Total Villages</th>
<th>Forest Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kishtwar</td>
<td>97,843</td>
<td>28.59</td>
<td>155</td>
<td>532</td>
<td>24.0</td>
<td>9,589</td>
</tr>
<tr>
<td>Bhaderwah</td>
<td>81,455</td>
<td>23.83</td>
<td>275</td>
<td>243</td>
<td>42.4</td>
<td>9,262</td>
</tr>
<tr>
<td>Doda</td>
<td>74,139</td>
<td>21.66</td>
<td>127</td>
<td>552</td>
<td>19.6</td>
<td>187</td>
</tr>
<tr>
<td>Ramban</td>
<td>88,783</td>
<td>25.94</td>
<td>91</td>
<td>871</td>
<td>14.0</td>
<td>3,091</td>
</tr>
<tr>
<td>District</td>
<td>342,220</td>
<td>-</td>
<td>643</td>
<td>463</td>
<td>-</td>
<td>22,129</td>
</tr>
</tbody>
</table>

Bichlari, Desa, Marau-Warwan and Ruggi streams. As many as 200 villages are situated between 1500-1800 metres above sea level which account for 30.77 per cent of the total villages of the district; 20.35 per cent villages are clustered between 1200 to 1500 metres above sea level and 19.85 per cent villages are situated at an altitude ranging between 1800-2100 metres (Table VIII.2). In other words a little more than 70 per cent of the total villages of the district are situated between 1200-2100 metres above sea level. The number of villages decreases sharply above 2100 metres contour line and below the 1200 metres contour line. Ten villages are situated
above 2700 metres of altitude with 4 in Kishtwar tehsil and 6 in Bhaderwah tehsil. Machail is the highest settlement in the region situated at 2900 metres in the upper reaches of Bhutna valley. Villages situated below 1200 metres are located in Ramban and Doda tehsils, whereas none of the village is situated below 1200 metres in Bhaderwah tehsil.

Maximum population of the region is concentrated between 1500-1800 metres above sea level accounting for 38 per cent of the total population of the district. It decreases to 23.7 per cent between 1800-2100 metres altitudinal zone. Above 2100 metres the population decreases sharply. Similarly the population at 1200 to 1500 metres, zone decreases to 4 per cent at 900 to 1200 metres altitudinal zone. The vertical distribution of villages by size-class of population also follows the similar trends as observed in the vertical distribution of population.

The urban impact on these villages is very limited. There are only six towns in the region, three in Ramban, and one each in Doda, Kishtwar and Bhaderwah tehsils. As per 1971 census Kishtwar is the largest town with 5,276 inhabitants followed by Bhaderwah with 5,211 persons.

Finally an overall composite index was worked out by compositing the results of all the composite indices of various sets. On the basis of the final score the 648 villages of the region were divided into three categories of levels of development.

(a) Low level of underdevelopment
(b) Medium level of underdevelopment
(c) High level of underdevelopment.

The villages where the value of the composite index of development is above 10 are considered as having a relatively high level of development; the villages where this value is between 0.1 to 10 are considered as belonging to the medium level and those where the value the value of composite index is negative represent the lowest level.

**Low Level of Underdevelopment:**

There are 173 villages which can be categorised as developing in relative terms (Appendix X). It can be observed that by and large these villages are situated either in the vicinity of the towns or along the transport lines or in the fertile side valleys (Fig. 8.1). There are vide variations in the levels of development within the region as the composite index of development
varies from 10.1 to 794. In view of the large variations it is justified to sub-divide this category of villages into four sub-categories on the basis of composite index of indicators of development.

(i) 200
(ii) 40-200
(iii) 20-40
(iv) 10-20

(i) The villages having the highest index value include Matta, Kishtwar and Uderana. First two are situated near the town of Bhaderwah. In these villages the composite index of development is above 200. (Appendix X).

(ii) There are 13 villages where the composite index of development is between 40 and 200. Of these, seven are situated in Bhaderwah tehsil, five in Kishtwar tehsil and one in Doda tehsil. These villages too are located in the vicinity of towns in Kishtwar and Doda tehsils; whereas, in Bhaderwah tehsil these villages are situated away from the town but within valley bottom. In all the villages of this region there has been a dominance of demographic factors except Dool village where economic factors are more imposing and Sungli village where social factors are dominant.
(iii) The next sub-category consists of 26 villages, of which 18 are in Bhaderwah tehsil, 7 in Kishtwar tehsil and 1 in Doaba tehsil. In these villages the composite index value ranges between 20 to 40. In the majority of these villages economic factors seem to have contributed to the higher level of economic development. The villages are widely scattered in Bhaderwah tehsil but in Kishtwar these are clustered around the nucleus of the urban centre.

(iv) In all, 132 villages fall in the sub-category. As many as 81 villages are situated in Bhaderwah tehsil followed by Doaba with 21 villages; whereas, in Kishtwar and Ramban tehsils there are 18 and 12 villages respectively. In these villages the value of the composite index ranges between 10 to 20. The villages are widely scattered and do not make any geographical pattern.

The villages clustering around Kishtwar town are associated with traditional village and cottage industries such as leather tanning, carpentry, kangri and basket making, blanket making etc. Literacy is also high in the surrounding villages and the proportion of cultivated land is also high, although irrigation is almost absent. Whatever development has taken place in this area is due
to the urban influence of Kishtwar because these villages are easily approachable from the town. Wheat and maize are the main cereal crops supported by saffron cultivation. This is a fast developing area. Now as the first leg of the work on Dool-Hasti project has started, this cluster will further develop. The business will expand in which local involvement is unavoidable due to its physical and climatic conditions. This will provide jobs to the maximum number of people. Of course, some technical workforce will be imported from outside but, by and large, the unemployed labour force from the district itself will get employed. At present Kishtwar is a tehsil headquarter and if it is upgraded into a district, this cluster of developed villages will get a new impetus towards higher development.

The second important cluster of developed villages lies in the Neeru valley in the vicinity of Bhaderwah town and along the Doda-Bhaderwah road. The composite index is higher in these villages because of various reasons. First, the literacy rate is relatively high in the villages of Neeru valley, i.e., 16.27 per cent as compared to 11.2 per cent in the villages of Doda tehsil and 9.4 per cent each in Ramban and Kishtwar tehsils. The female literacy in the villages of Neeru valley is
more than twice of what it is in other area of the region. Secondly, agricultural potential is higher in Neeru valley as compared to other area. In Neeru valley as much as 40.7 per cent of the village paper area is under cultivation, whereas in other tehsils the proportion of cultivated area is very low (16.26 per cent in Doda, 12.34 per cent in Ramban and 10.32 per cent in Kishtwar).

There is a lot of scope for further development of Neeru basin. With the completion of Bhaderwah-Chamba road and Bhaderwah-Bani-Basohli road, the area would be easily approached from Kathua and Chamba. The business activity will expand with Himachal Pradesh. Construction of these roads will also increase the tourist traffic in this region. Already the region is becoming popular with the Bombay-based film industry.

Another cluster of the first category villages can be observed in the vicinity of Bainhal town. Here too, the land is very fertile and the proportion of cultivated area is high. At the same time the percentage of irrigated area is also higher. Recently its administrative position has been upgraded into a tehsil which will lead to further development of this area as certain social facilities will be made available over and above the
existing ones. This cluster extends continuously from Nagam to Maho in the north western sector of Ramban tehsil.

Apart from the above mentioned clusters there are other villages at the higher level of development which are not situated in any of the above mentioned clusters. These villages are haphazardly distributed over the region. The villages situated in the valley floor have relatively higher scores on development as compared to those situated on the inaccessible ridge-tops.

Bhalesa, Paddar and Dachhan are the areas which have a number of villages in this category. These villages are located in the fertile valleys of Kalnai, Bhutna and Maru-Warwan streams. Although these areas have relatively poor accessibility yet they have lot of agricultural potential. Kilohtran and Gando are the important villages in Bhalesa which have higher level of development. In Paddar Atholi, Abhani and Layee stand at higher level of development, whereas, Toggod is an example from Dachhin area.

Medium Level of Underdevelopment:

All those villages where the composite index of development is one to 10 are categorised as lying in the meddle structure. On the basis of this criterion, about 60 per cent of the villages of the region have a medium
level of underdevelopment. Out of 385 medium underdeveloped villages 152 are in Bhaderwah tehsil, 104 in Kishtwar, 74 in Doda and 55 in Ramban tehsil (Appendix X). This region is characteristically a dry zone. Irrigation is very poor. Agriculture is almost entirely dependant on rainfall and is prone to droughts. Maize is the major crop in higher altitudes whereas maize and wheat are cultivated in lower altitude areas. At the same time agriculture is the mainstry of people of the region. Quality of land is inferior as a result of which production is low.

These villages lie away from the valley bottoms. To be more precise, they are situated at higher levels from the valleys or at lower altitudes with uneven topography. In Bhaderwah tehsil most of these villages are located in Bhalessa, Darab, Chirla and Khash areas; in Kishtwar tehsil they lie in Marwah, Nagseni, Paddar, and Bunjwah areas; in Doda tehsil they are situated in Khash, Siraj and Desa areas; in Ramban tehsil the level of development strikingly decreases away from the national highway. Kishtwar has the highest proportion of villages in the category, accounting for 66.66 per cent of the total villages of the tehsil, followed by Ramban with 60.43 per cent; the number is least in Bhaderwah tehsil where only 55.27 per cent villages fall in this category.
High Level of Underdevelopment:

Villages with the lowest level of development with composite index value below zero are mostly, situated in remote areas and the economy is 'neo primitive'. The 'neo primitive' economy stands for the activities of the primitive period in a little bit modified form. For example, forest gathering which as a primitive activity was limited to collection for self consumption, whereas at present part of the collection is done for commercial purposes. Animal rearing is carried on still on the age-old lines and one hardly finds any improvement either in the breeds of stock or in the living conditions of the people engaged in this activity. These villages are usually associated with stagnant economies.

There are 85 villages where the composite index of development is negative. Highest number of such villages are located in Doda tehsil and Iwest in Bhaderwah. These villages are generally concentrated in the peripheral areas of Kishtwar, and Bhaderwah tehsils whereas in Doda tehsil these are situated on steep slopes along the river Chenab. In Ramban tehsil, they again concentrate along the mountain rim (Fig. 8.1).

The villages of this category can further be subdivided into two sub-categories:
(i) Relatively Backward
(ii) Highly Backward

In the first category we include the villages where the composite index of development ranges between 0 to -20. The villages of the second category are located in Poda and Ramban tehsils only. These villages are scattered haphazardly in the two tehsils. Remote-ness is the major cause of their being most backward with exception to Maitra Gobindpora. In case of Maitra Gobindpora all indicators suggest a low level of development.

It can be observed that the villages with a higher composite index of development are highly concentrated between 1200-2100 metres above sea level accounting for 93.63 per cent of the total first villages. The maximum number of such villages, accounting for 46.6 per cent, are concentrated between 1500-1800 metres. This proportion declines rapidly towards higher altitude as well as lower altitude zones. None of the first category villages is located either above 2400 metres or below 900 metres (Table VIII.3). Same is the case with second category villages. Here too the concentration is higher between 1200-2100 metres accounting for 75.7
TABLE VIII.3

Altitude and Levels of Development (Percentage villages to the total villages in the same altitudinal zone)

<table>
<thead>
<tr>
<th>Altitude</th>
<th>1st category</th>
<th>IIInd category</th>
<th>IIIrd category</th>
</tr>
</thead>
<tbody>
<tr>
<td>900 metres</td>
<td>Nil</td>
<td>66.7</td>
<td>33.3</td>
</tr>
<tr>
<td>900-1200</td>
<td>11.4</td>
<td>70.5</td>
<td>18.1</td>
</tr>
<tr>
<td>1200-1500</td>
<td>32.67</td>
<td>56.21</td>
<td>11.12</td>
</tr>
<tr>
<td>1500-1800</td>
<td>35.5</td>
<td>58.8</td>
<td>5.7</td>
</tr>
<tr>
<td>1800-2100</td>
<td>26.5</td>
<td>65.3</td>
<td>7.7</td>
</tr>
<tr>
<td>2100-2400</td>
<td>8.3</td>
<td>58.3</td>
<td>33.4</td>
</tr>
<tr>
<td>2400-2700</td>
<td>Nil</td>
<td>53.6</td>
<td>44.4</td>
</tr>
<tr>
<td>2700-3000</td>
<td>Nil</td>
<td>75.0</td>
<td>25.0</td>
</tr>
</tbody>
</table>

based on composite factor score.

per cent of the total villages in this category. It is highest between 1500-1800 metres and declines sharply with increase or decrease in altitude. In case of backward category of villages a little more than 53 per cent of the villages are located either above 2100 metres or below 1200 metres (Table VIII.3).

If we take the proportion of villages under different categories of under-development at individual altitudinal zones the things become clearer. Below 900 metres contour line no village falls in the first
ALTITUDE AND LEVELS OF DEVELOPMENT

PERCENTAGE TO THE TOTAL VILLAGES OF THE SAME CATEGORY

INDEX

- LESS UNDERDEVELOPED
- MEDIUM UNDERDEVELOPED
- HIGHLY UNDERDEVELOPED

FIG. Q. 2
category, whereas 66.7 per cent of the total villages at this altitude fall in the second category and 33.3 per cent in backward, i.e., having less than 1 value of composite index of development (Table VII.3). The proportion of villages in the first category increases upto 1500-1800 metres zone whereas in case of backward villages the proportion declines upto the same level of altitude. Above the 1800 metres contour line the situation is almost reversed. Above 2400 metres contour line there is no first category village whereas the proportion of backward villages is highest at 2400 to 2700 metres altitudinal zone (44.4 per cent). In case of second category villages no definite pattern can be discerned with altitude. Nevertheless the proportion of these villages is highest at lower and higher altitudes (fig. 8.2).

From the above discussion two inference can be drawn:

(i) That the villages located between 1500 and 2100 metre contour lines are relatively more developed than the others, and

(ii) That the degree of development declines below 1500 and above 2100 metre contours.
In conclusion it can be stated that other things being equal the valley bottoms of the tributaries of Chenab are slightly at a higher level of development whereas the hill tops and steep slopes are either underdeveloped or backward. Not all villages within the valley bottoms are equally developed. Their level of development is dependent on relative advantages and disadvantages such as water supply, accessibility and the terrain characteristics.