CHAPTER I

MALWA: GEOGRAPHICAL SETTING

Most of the elements of the geographical personality of a region are mutually interconnected and interdependent; and, as such, to understand any one of them, it is necessary to see the desired phenomena in its total perspective. The urban system is but a component of the total geographical framework of the region. It is only when looked into the background of the geographical context that a deeper insight can be obtained into the urban system. From this point of view, the major characteristics of the environment of the Malwa Plateau are discussed in this chapter.

PHYSICAL SETTING

Moderately undulating upland level surface covered by black cotton soil, and dotted hither and thither by mesa-like small, deeply weathered, flat topped hill features are is probably the most characteristic element of the physique of the Malwa Plateau. The piles of basalt rocks formed out of erruption of lava and called the 'Deccan Trap' rocks, have played the key role in developing this black cotton soil and as well the flat topped hill features. Naturally, then, it is this Deccan Trap rock formation with its characteristic soil and surface features, that has been the key-criterion in defining physical boundaries of the Malwa Plateau.

On the south, the plateau surface abruptly comes to an end, by a well defined scarp of the Vindhyan Range. On the other three sides the Deccan Trap rock formation largely serves
as the defining characteristic of the Plateau. In this sense, Malwa is a single rock formation area, horizontally basalt overlying mostly on the Vindhyan rocks. At places, where these Vindhyan rocks were high enough, and were subsequently exhumed by erosion, they stand prominently giving a different topographic look. Marginal areas, particularly on east and west also have other formations, mostly Vindhyan sandstones again.

This thick cover of little fractured and little joined massive basalt rock over extensive areas has left little, sporadic scope of development of workable aquifers, and only little hopes for supplementing water supply to the growing cities and for irrigation purpose from underground sources.

In bold outlines, the Deccan Trap formation has largely shaped the physical geographic personality of the region by virtue of (i) giving the region mostly a horizontal, homogeneous geological structure presenting small mesa-like hill features; (ii) as parent material, giving rise to the typical black loamy soil under normal sub-aerial conditions of weathering, erosion and mass-wasting; and (iii) rendering the region virtually barren of all important industrial minerals—required for modernising industrial economy.

**TOPOGRAPHY**

Leaving only an insignificant portion of northwestern Mandsaur district, the region belongs to what Chatterjee has called the 'South Central Highlands' and comprises whole of his Malwa Plateau proper, a large western part of the Vindhyan range in a narrow east-west belt to the south, and the northern half of the Narmada valley farther south. Thus the region is divisible into following physiographic regions (Plate 3):
1. The Malwa Plateau proper
2. The Vindhyan Range
3. The Narmada Valley.

1. Malwa Plateau Proper

(This is an extensive, mildly undulating upland level surface, distinctly bound by the bold scarps of Vindhyan Range on the south, where from it gently slopes northwards and slowly dwindles into ravined alluvial plain in the south-east Rajasthan. On eastern and western margins its extent is stratigraphically marked by extra- Deccan Trap formation, mostly the Vindhyan sandstones. It is covered almost entirely by black cotton soil and frequently dotted by deeply weathered, small, mesa-like flat topped hills. At places the underlying Vindhyan rocks have modified the topographic look-out of the area, as in the south of Bhopal and certain other marginal areas; where these hard sandstone hills have been exhumed to the surface, they appear 'higher, orggy, and steep sided..... almost vertical on one side, and sliping away gently........ on the opposite side' (Chatterjee, 1964).

From about south and southeast of Bhopal there starts a northern off-shoot of the Vindhyan Range stretching first to north-east upto about Vidisha, and then, northwards as a narrower tract upto northern boundary of the region. This hill tract, which is more wild and dissected particularly in the southern part between Bhopal and Raisen and Vidisha, divides the region into western and eastern parts, with some significant differences in their geographic personality. On the western margin also there is a similar hill tract comprising whole of Jhabua district, which looses its rigour in the Mahi valley farther north west.

The area between these two hill tracts is the core of
Malwa, drained by the upper Chambal and its right bank tributaries, which have broad gentle interfluves between their valleys. The area seems to have undergone some degree of rejuvenation recently as 'most of these river valleys are flanked by terraced slopes, the paired terraces of the kali-Sindh between Sonkatch and Sarangpur, a distance of 70 kms, being typical examples' (Chatterjee, 1961). Except for some higher hills in the south rising above 600 meter line, and some lower river plains below 450 lines, the whole area lies within the 450-600 meter zone of altitude.

In the extreme northwest corner, covering northern Mandsaur district, topography again shows bold, prominent lineaments tending in east-west direction. This upland tract becomes resolved in the east in form of a scarp ridge called the Mukundwara Range. The north flowing Chambal river crosses this range through a long narrow gorge which is deep and narrow at southern and northern fringes; the former gorge has been dammed to make the extensive Gandhi Sagar lake for hydro-electric project.

2-3. Vindhyan Range and The Narmada Valley

Southern face of the plateau is made by a bold scarp and associated hills and ranges, collectively called the Vindhyan Range. In the western part, this hilly tract is known as the famous Bagh Hills in Dhar district. To its southwest, the dissected hill tract extends culminating in Mathwa hills, below which the Narmada flows through a long, terrific gorge. On the southern margin occur the highest peaks in the region, notable of them being Singarchori (881 m), Janapao (854 m) and Dhajari (810 m) in southern Mhow tahsildar.

The scarp is convex southward in southern Mhow and
extends further south in southern Bagli tahsil and thereafter recedes back near Kannod. After a broad lapse of space, it again sends bold spurs (now of harder sandstone hills) South of Bhopal, nearly up to the Narmada river at Hoshangabad. Further east, there is a breach in its continuity, occupied by the Barna river. The scarp reappears farther east, but this time much to the north in Raisen district. Except the very limited strip along the Narmada river in western part, which is below 150 m level, the river valley is between 150 to 300 m, mostly about 200 m, while the scarp varies from below 300 meter to 600 meters. This scarp is mostly forested, highly dissected hilly tract, while the plain below is much fertile.

DRAINAGE

The Narmada river, marking for the most part the southern boundary of the region, has its own extensive catchment area, and its northern watershed is defined by the crest line of the Vindhyan scarp. This narrow strip on the southern margin belongs, therefore, to the Narmada system through its right bank small tributaries, notably Hatni, Uti, Mau, Jamner, Kolkar, Barna, and Tendoni rivers. The western margin of the region is washed by the upper Mahi river and its tributary Anas river. Both these rivers the Narmada and the Mahi ultimately pour into Arabian Sea.

Remaining parts, the whole of the plateau proper, belongs ultimately to the Bay of Bengal syste, through its important north-flowing rivers like Chambal and its right bank tributaries, and the Betwa, which washes into the river Jamuna. Rising from crest line of the Vindhyan Range in south, these rivers, namely, Chambal, Kshipra, Kali, Singh, Newaj, Parvati, Betwa and Dhasan, from west to east, traverse the whole width of the region and have carved out during the tertiary times the present extensive bevel surface across the immense piles of Basaltic lava rocks. To the east of Bhopal - Betwa is the
prime river, which flows towards northeast into Jamuna. Its major right bank tributary Bina descends down a vertical waterfall near Rahatgarh town in Sagar district. Farther east, Dhasan is another major tributary of the Betwa river. Easternmost fringes of the region are washed by the head waters of the Sonar river. Thus the region is divisible into following river basins (Plate 4).

A. Arabian sea system
   1. Narmada Basin
   2. Upper Mahi Basin

B. The Bay of Bengal system
   3. Upper Chambal Basin
   4. Upper Betwa Basin-Most of eastern Malwa
   5. Upper Sonar Basin-only restricted to the En. margins of Sagar district.

SOILS

The Deccan Trap basalt rocks cover almost the entire region. Climate too is much the same over the whole region. Thus, deriving from the lava, the soil over most of the region is the 'Regur' type loamy or 'Domut' more generally called the black cotton soil. Of the 3 sub-types usually distinguished, the 'medium black' subtype occurs almost exclusively. It is a fine grained, clayey soil, rich in calcium, magnesium, iron and lime, but deficient in nitrogen, phosphate and organic matter. It is highly water retentive, and becomes much sticky when wet. It contracts considerably, so that deep cracks characteristically develop into it after prolonged drying. It is excellent for cotton, and good for Jowar, Wheat, Gram and Groundnut etc. Its fertility status though high in general, varies with altitude, degree of slope, depth of soil etc., being poor in higher,
sloping surfaces. Usually a zone of lime concretions also occurs at variable depths. Soils in Jhabua district and parts of Ratlam and Mandsaur districts are rather poor and shallow. Where the underlying harder Vindhyan sandstone hills have come to the surface such as in south of Bhopal, the soils are rather immature and skeletal. Close to the major rivers it is essentially alluvial.

FOREST COVER

Though originally covered with dense forests, the Malwa through its long history of human settlements, has been largely cleared of its forests. They are restricted today to the whole dissected hill tract of the Vindhyan Range on south, in Jhabua district, the northern offshoot of Vindhyan hill tract south of Bhopal and in certain S.W. - N.E. ribbons in Sagar district. The forests have important timber woods like teak mixed with Saj, Haldu, Tinsa etc. and are mostly reserved forests. Narrow ribbons along some rivers also have notable stands of Palms, Babul, Neem, Mahua etc. Flat upland surfaces often have 'Thak' and thorny bushes. In general, there is a 'Savana' type vegetation on plateau surface, and deciduous forests on hilly surface of Vindhyan Range.

MINERAL RESOURCES

This is the weakest aspect of this otherwise quite rich country. Malwa is conspicuous by remarkable absence of major industrial minerals in it. This is mostly because of the thorough cover of thick Basalt rocks which are barren of all important minerals. This fact has rendered the industrial resource base lame and industrial development quite lop-sided.

Only some marginal hill tracts have notable resources of minerals, particularly in south-west corner. Rich deposits of manganese, mica, phosphorites and limestone occur in Jhabua
district, while some iron deposits are reported to occur in lateritic rock-cappings in Dhar, Jhabua, Raisen and Sehore districts. Northern parts of Guna tahsil have extensive area of laterite suitable for bauxite.

CLIMATE

Though effects of climate on towns is rather indirect, but it readily and fundamentally affects regional life particularly its agriculture and the primary activities; and they in turn profoundly influence growth of towns and prosperity of their lives.

The Tropic of Cancer almost bisects the region into northern and southern halves. It has thus a continental hot climate found near the tropics, and radically modified by the monsoonal rhythm of India. Like its topography, its climate is also pretty mild and comfortable.

Of the two cardinal elements of temperature and rainfall, the latter is more important not only because in a year-round warm to hot climate rainfall becomes the limiting factor of agriculture, but also because whereas temperature varies more regularly through time and space and is therefore, more predictable, rainfall is much more erratic, sporadic and unpredictable.

**Temperature**—In warmest summer months—March to mid June—temperature varies from $30^\circ$ to $40^\circ$C. There is very little spatial variation, and the maximum temperature of May is very close to $40^\circ$C. Only in some western parts, particularly in southern Mandsaur, whole Ratlam, Jhabua and Dhar districts and western Ujjain district have a some what higher summer temperature than other parts of the region. Southern strip down the Vindhyan Range is also warmer, while on higher plateau surface, the climate is less warm, particularly nights are comfortably cool.
In the winter season—November to February—the mean monthly temperature is slightly higher than 10°C, and the coolest January month has its minimum monthly temperature about 9°C. Again, there is but little spatical variation except that the narrow belt south of the Vindhyan Range is somewhat less cool than the plateau proper.

The trend of mean monthly maximum and minimum temperatures (Plate 5-B) reveals unmistakable similarity in the pattern of temperature variation round the year. At every station there is a steady rise in temperature from January to May or June, followed by a rather sudden fall in July-August. Then there is secondary rise in temperature in September-October, whereafter the temperature decreases gradually in the winter months. These two highs intervened by a low, give a double humped shape to the profiles of thermal trends, which is more pronounced for monthly maximum temperature, than for the monthly minimum.

Rainfall—The average rainfall in the region is about 100 cm. As map (Plate 5-A) reveals that rainfall over most parts of the region varies from 125 cm in the southeast to 75 cm in the northwest. Only restricted pockets covering southern Sagar and eastern Raisen, some central parts of Sehore and western most margin of Raisen districts have higher rainfall than 125 cm. Similarly in west, two pockets have rainfall below 75 cm, one covering western Mandsaur, northern Ratlam and western Ujjain districts and the other covering southern Dhar district. Over remaining parts rainfall is rather low, decreasing persistently in a westerly direction towards Mandsaur. Only in the centre of the region, there is a small pocket covering Sonkatho, Ashta, Shajapur and Shujalpur tahsils, which has lower rainfall than the surroundings—below 100 cm. Isohyete of 100 cm runs almost through mid of the region. The scarp belt receives higher rainfall.

Thus there exists a disharmoneous situation in the region—extensive areas of north and west which physiographically and pedologically are excellent for cultivation have rather
marginal rainfall, while the areas of south and east which receive ample rainfall are largely dissected hilly tracts.

Malwa not only has a markedly lower rainfall than other parts of the state, but this rainfall has higher variability, 20-25%, than in eastern M.P. This poor rainfall situation has enhanced the importance of whatever little rainfall is received in about the month of January from western cyclones which is most beneficial to the rabi crops.

POPULATION AND SETTLEMENTS

POPULATION DISTRIBUTION

As per the 1971 census, the total population of Malwa is 110.45 lakh, of which 23.8% lives in its 84 towns, ranging in size from well over 5 lakh to below 5 thousand. The region is thus almost one a half times as much urbanized as M.P. as a whole. With its area of 104990 sq.kms, the density of total population works out at 105 persons per sq. km. Containing the largest town, Indore district has highest density of population (262) in the region. Other districts with markedly higher density than the regional average are Ujjain (142), Ratlam (129) and Sehore (120). Density is markedly lower than the regional figure in Raisen, Guna, Dewas and Vidisha while other districts are close to the regional figure.

For the most part, the region has an even distribution of population both rural and urban, more particularly on the western part of the plateau proper. As the negative areas are scanty, it is therefore, more easy to spell out the areas of markedly lower density of population.

The map in Plate 6 readily reveals that the whole east-west belt of the dissected Vindhyan Ranges is most prominent
area of low density of population, but the plain area of the Narmada Valley farther south has high density and appears as a discrete patch. Thus on southern margin extensive parts of southern Dewas, Sehore and Raisen districts have much lower density interspersed with notable concentrations of population in Kannod, southern Nasuullaganj, southern Bareli and Udaipura tahsils. In southern Dhar district, Kukshi and Manawar tahsils are densely populated, but on their northern border population is markedly sparse. In highly dissected Jhabua district the population is confined along river valleys with intervening hills of scanty population, orientated in east-west direction.

In the extreme north-west, extensive northern parts of Bhanpura, Manasa and Neemuch tahsils, and most part of Jawad tahsil are rather vacant of population, as they are covered by a barren mountainous tract. Yet another area of very sparse population is the hill tract which covers much of northern Guna tahsil and continues southward through central Raghogarh tahsil upto northern tip of Berasia tahsil. After a lapse of space it reappears in between Bhopal and Raisen and to the south of Bhopal and merges with the Vindhyan Range. In north-eastern part of Chanderi tahsil also population is markedly sparse. From northern scarped boundary of Sagar district with U.P. another patch of sparse population continues through eastern Khurai and western margin of Sagar tahsil, ultimately merging in the Vindhyan Range in south-eastern Silwani tahsil. Remaining extensive parts are fairly evenly and densely populated. West of Bhopal, density is slightly higher still in whole of Indore district (excepting its narrow southern fringe) and southern Shajapur district.

One more difference in the distribution of population particularly rural population, between western and eastern parts is that while in the former the interflues which are fertile upland plains are quite densely populated even more than the river valleys, in the eastern part the interfluvial
tracts are mostly forested or scrub-covered dissected hill tracts and are very sparsely populated, while river valleys contain bulk of the population.

SETTLEMENT PATTERN

Towns—About 1/4 population lives in urban places, which is a markedly larger share in comparison to the 1/6 in M.P. as a whole. Of this urban population the bulk is contained in a dozen larger towns. There are 84 towns varying in size and spacing. As the towns are discussed at length elsewhere, only some remarks would be appropriate here. Distribution of towns follows largely the distribution of rural population. They are few and small ones south of the crest line of the Vindhyen scarp and many tahsils of Raisen and Sehore have no towns at all. On the plateau proper, interfluvial uplands are even more densely settled than the river valleys. On the plateau, the distribution of towns also displays a unmistakable degree of regularity in spacing, more particularly in its western part. Northern part of the region contains only small and medium towns, with only two I class towns—Hatlam and Sagar on western and eastern margins respectively. Thus, eastern and western parts of Malwa are significantly different in the distributional pattern of towns; the former has widely spaced and irregular while later has more dense and regular distribution.

Rural Settlements—About 8418 thousand people live in 19304 villages of various size. It is clear from Table 11 that about one third of these villages are very small in size (below 200 persons each) and another two fifths are small villages (200 to 499 persons). It is remarkable that small and very small villages constitute about three forths of the total number of villages but contain only 38.3 per cent of rural population. Most of the ruralites of the Malwa live in medium sized villages.
Table : 11 Malwa: Size class structure of rural settlements, 1971.

<table>
<thead>
<tr>
<th>Size range (persons)</th>
<th>Number of villages</th>
<th>% of total villages</th>
<th>Population (in '000)</th>
<th>% of total rural pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 200</td>
<td>6287</td>
<td>32.57</td>
<td>703.9</td>
<td>8.36</td>
</tr>
<tr>
<td>200 - 499</td>
<td>7668</td>
<td>39.72</td>
<td>2522.4</td>
<td>29.96</td>
</tr>
<tr>
<td>500 - 999</td>
<td>3834</td>
<td>19.86</td>
<td>2617.8</td>
<td>31.10</td>
</tr>
<tr>
<td>1000 - 1999</td>
<td>1191</td>
<td>6.17</td>
<td>1579.6</td>
<td>18.76</td>
</tr>
<tr>
<td>2000 - 4999</td>
<td>302</td>
<td>1.56</td>
<td>864.3</td>
<td>10.27</td>
</tr>
<tr>
<td>5000 + Above</td>
<td>22</td>
<td>0.11</td>
<td>130.0</td>
<td>1.54</td>
</tr>
<tr>
<td>All</td>
<td>19304</td>
<td>100.00</td>
<td>8418.0</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Based on Census of India, 1971 M.P., Pt. II-A, Table A-III

Over large parts of the region, the settlements are of compact type. Semi-compact villages are wide spread mainly in Guna, Narsingarh, Sarangpur, Mehidpur, Jaora and Mhow tahsils. Immensely dissected hilly tracts, particularly in south western parts which are most tribal areas, have scattered to semi-scattered pattern. Larger compact villages are mostly situated near water bodies on the plateau proper, or at hill tops in hilly scarp belt. At favourable spot with good accessibility they have grown as rural service centres or as weekly market villages.

PEOPLE

The name of Malwa is derived from 'Malav' a distinct people originally occupying an area in Punjab and subsequently in southern Rajasthan, who ultimately came to occupy what forms today the western part of the region. The people were
eventually absorbed in the common Hindu fold. At the height of their power and glory, this region, more specifically the northwestern parts, assumed this name after this people. Subsequently, several important powers belonging to different cultural ethnic groups ruled this region, and they infused their racial stocks in population, sometimes with marked concentration in specific areas. Thus the bulk of the population though belongs to the larger Hindu fold, there are some specific and distinct communities within this common Hindu fold and also some other alien groups.

Rajputs sub-divided into various classes all originally deriving from important ruling houses in Rajputana, and the Maratha structured round three ruling houses—Sindhis, Holkars and Pawar are most important people in Hindu fold, that always have stuck to power—hold, are congregated in northern and the western parts respectively. To the east, Sehore and Raisen districts have been the seat of a Muslim power throughout the recent history. In Sehore district about 1/5 population is Muslim. Bohras, a sect of Muslims are a notable community in around Indore and have played an important role in the commercial and industrial development of this city by providing the initial enterprise. Jains, mostly a commercial community are very widespread and show some slight concentration in Vindisha and Guna. Sindhis are concentrated in urban areas of Sehore, Raisen and Indore, and a smaller number in Sagar district. Other communities comprise but a negligible fraction, excepting the tribals and lower-caste Hindus.

Though M.P. as a whole has a high proportion of tribal people in its total population, Malwa only contains a very small fraction of tribal people. In southwestern pocket covering whole Jhabua, and parts of Dhar and Ratlam districts is a predominantly tribal area, essentially the home land of Bhils and Bhilalas, spreading west south into Gujrat. In these
three districts proportion of tribals in total population is 84, 40 and 12.5 per cent respectively. Tribal people, chiefly Gonds, are also found in southern part of Raisen (13.5%), and very small proportion in southern Dewas, southern Guna and northern Vidisha districts. They are literally absent in Sagar district and practically so in remaining parts of the region. Thus they occupy only forested hill-tracts.

But the scheduled caste people make substantial part of total population, particularly in non-tribal districts, usually 10 to 20 per cent of the total population, whereas in tribal areas their proportion is less than 10 per cent.

ECONOMY

AGRICULTURE

Over the vast central parts of India, Malwa is the richest sizeable area in agriculture, which is proverbially recognised. The mild and hospitable topography with rich black soil over most parts and the medium sized rivers have been highly congenial for the expansion of agriculture. So that on the plateau proper, about 2/3 of the total geographical area is under cultivation and even over the hilly tract its share is nearly two-fifths (Plate 5-C). On the whole, nearly 58 percent of its total area is under cultivation, as against only 42 per cent in M.P. as a whole. Not only is agriculture more extensive in Malwa, but the dividends brought by it per unit area, also compare well with many other parts of M.P.

(Wheat, Jowar, Gram and Pulses are the principal food crops, while cotton is the premier commercial crop, followed by Groundnut and oil seeds. Maize and Sugarcane are important over restricted areas, while Opium brings great dividends to Mandsaur and Ratlam districts.)
To illustrate the intra-regional variations in these characteristics of agriculture, Plate 5-C portrays percentage share of net sown area in total geographical area in different districts, along with their three principal crops, while map in Plate 5-D portrays the value of total agricultural produce per unit of Gross Cropped Area (1974-75). (The average percentage of net sown area is 57.6 per cent in the plateau. It is as high as 3/4 of its total area in Ujjain district followed by Vidisha and Indore with 2/3 of total area as net sown. Shajapur and Rajgarh are also petty high in this respect. On the other hand, Jhabua, Dewas, Sagar, Guna, Raisen and Sehore have quite low proportion, only half or less, because sizeable parts of them are forested hill-tracts. Wheat is the most important crop in eastern parts - Sagar, Vidisha, Raisen and Sehore districts, also in Indore and Dhar districts, while in the remaining western part mostly Jowar occupies this place except in Jhabua where Maize is the first important crop.) Second position is held by wheat in western districts, cotton in northern-central districts of Rajgarh and Shajapur, and variously by gram, or Jowar or pulses in the eastern districts. Third important crop is cotton in western part and in Dewas, groundnut in southwestern part, wheat in northern-central part and gram or also pulses and Jowar in eastern parts.

Thus, Jowar and wheat along with cotton or groundnut are principal crops in western parts, while the eastern parts are dominated by wheat and gram along with either pulses or Jowar. Maize is very important in Jhabua. Due to rather sudden decrease in the area under cotton from west to east, the food crops become distinctly more dominant in that direction. Maize and groundnut are predominant in south-western parts, while in north-west opium is also important. This notable steady change in agricultural outlook from west to east is related to increase in total rainfall and to the changing soil character.}
In respect of value of total agricultural produce per unit area, Vidisha, Raisen and Shajapur districts stand out distinctly high-over 1200 Rs/hectare. Two southwestern districts are drastically poor Rs 600/- or less, followed by Guna Rs 860/-, while other districts stand in the middle range of Rs 1000/- to 1200/-. On the whole districts of the region have higher value than the state’s average (Rs 1048.41 per hect.). It is because of higher yield rates of the crops and also because of the high position of commercial crops of higher market value. This high agricultural efficiency is the consequences of the higher adoption of agricultural innovations (Sharma, 1978).

INDUSTRIES

From historic times Malwa subah of Mughal Empire has been a highly developed area in industries, next only to Gujarat. Famous cloth of Chanderi and Sironj—particularly 'chintz' and muslin used to be exported to countries of west Asia. Today, also it is fairly advanced in the over-all industrial development. But, as noted before, absence of all major industrial minerals in the region has markedly impaired its industrial resource base and the development has been rather lop-sided and mostly agro-based and of consumer's goods industries. Recently light engineering and chemical industries have emerged but proportionately it is poor in basic heavy industries.

As Plate 5-E portrays, major industrial units are mostly concentrated at a handful of centres in the western part, while in eastern part Bhopal with Sehore is the only matchable concentration. In the remaining extensive parts—in east, northcentral part and in southwest, industries are much fewer and of small scale, cottage type only.

By far, the most important industry is the cotton textile centred largely at Indore (7 mills) followed by
Ujjain (4), Ratlam, Nagda, Dewas and Bhopal (one each). Mills of lesser dimension are located at Mandsaur, Dhar and Guna. There is a large plant of synthetic fibre at Nagda, and a small one also in Ujjain. Nagda has related chemical and engineering plants also. Secondary ancillary industries like handloom weaving, cotton ginning and pressing are scattered in smaller towns.

Sugar manufacturing is another important agro-based industry and is located at Mandsaur, Jaora, Nagda and Sehore. Flour mills of Indore, Bhopal and Ujjain and confectionary and bakery plants and breweries of Bhopal, Indore and Ratlam are other important agro-based major industries.

In metal based industries the region is not as developed and till recently this sector was in its infancy. But now big strides are underway at Dewas, Indore, Bhopal and Ujjain, manufacturing light engineering and light metal goods and some precision parts. Bhopal, Ujjain and Dewas have one medium sized foundry each for hardware. Various types of chemical industrial plants are located at Indore, Ujjain, Nagda, Dewas, Bhopal, Sehore and Neemuch, while pharmaceutical and fine chemical plants are centred only at Indore. Small paper mills are also located at Indore, Ratlam and Sehore, while straw board mills are at Bhopal, Sehore, am Vidisha and Sagar. Ceramic, and pottery industries and cement industry are located only at Ratlam and Mandsaur respectively. Plants of vanaspati ghee are at Indore and Ujjain.

In electrical industry, the massive Bharat Heavy Electricals Ltd. (BHEL) in public sector deserves a special mention. Commissioned in early sixties just east of Bhopal, with the British collaboration, this plant started manufacturing vital electric equipments like traction equipments, transformers, motors etc. and lately also generating plants. Water and steam turbines and rectifellers. Its annual capacity of production
worth Rs. 125 million is now being expanded to Rs. 400 millions. The opening of this plant and the shifting of capital of new M.P. state to Bhopal, almost simultaneously, greatly boosted the growth of Bhopal. More recently similar impact was given to Dewas with the establishment of Currency Printing Press there. These are two most vigorously growing industrial towns, followed closely by Nagda.

Apart from these major industries, a very large proportion of industrial population is supported by a large number of small scale or cottage industrial units. Important among them are cotton ginning and spinning, handloom weaving, shoe making, pottery, bidi and agarbati making in certain areas, and some what bigger units like saw mills, oil mills, dal mills, etc. A number of oil and dal mills are located in areas of pulses and oil seeds in various towns of which Sagar, Vidiisha, Guna, Dewas, Indore, Ujjain and Katlam are important. Many saw and timber mills are located in Sagar. But in eastern part covering whole Sagar and eastern Raisen districts bidi making is of a paramount importance in terms of manpower employed right from small hamlets to the Sagar city. It supports the bulk of the labour force of such a large town (Sagar) without any comparable industrialisation. Very many of these small scale industrial units are also concentrated in large towns.

As regards the total number of industrial establishments of all sizes except household establishments, Malwa has 80% of establishments in towns against the figure of 62 per cent for the state. This is because in rural areas the industrial units are largely confined to large villages, and in Malwa many such large villages are towns, more so than in M.P. as a whole. In other words it is related to the degree of urbanisation. Indore, Sehore, Vidiisha and Ujjain districts have over ninety per cent of their total industrial units confined within towns. All other districts have higher proportion of units in towns than
the state average. In Malwa as whole cotton textile and food processing are two most important broad classes of industries contributing about 26% and 22% respectively of the total number of industrial units. Paper and leather works, and metal works are rather small in number. The number of beverages and chemical works is smallest little over 2% each. Other types of industries occupy more than 26 per cent of total number in urban areas.

As regards the areal differences in this structure, most notable is the unusually large sector of beverages in Sagar and Raisen districts, and also, to a lesser extent in Guna, Vidisha and Sehore districts (Plate 5-F). This is almost exclusively due to the most wide-spread bidi industry in these areas. Food, textiles and other industries are universally large in number, but the share of textiles gradually increases towards west; sector of metal industries is usually small and highly variable. It is much large in Dewas, Sehore and Indore, but notably small in Sagar, Rajgarh and Raisen districts. Smallest sector of chemical industries is comparatively large in Ujjain, Indore and Sehore districts.

In terms of total number of industrial units in urban areas, western Malwa has proportionally many more industries, while in eastern Malwa only Sehore has a matchable number, followed after a big gap by Sagar.

REFERENCES


India-Physiographic Regions, Plate 41, Calcutta.