CHAPTER II

DESCRIPTION OF THE AREA

The terrain to which the present work relates lies between N. latitudes 30° 45' and 31° 00' and E. longitudes 76° 55' and 77° 13' 30" and falls on the Survey of India topo sheets 53 B/13 and 53 F/1 (scale 1" = 1 mile). The tract covers an area of about 650 sq. km. and can be approached both by rail and all-weather roads. The Kalka-Simla Highway runs for about 30 km. in the Lower Tertiary belt. Kalka*, Dharampur, Kasauli, Subathu, Dagshai, Solan, Nahna and Malla (Map 1) are the more important towns in the area.

The Lower Tertiaries rise from 800 mt. to 2,000 mt. above sea level. During summer the climate is warm and humid and the maximum temperature rarely exceeds 85°F. In winter, Kasauli experiences a short spell of snow-fall. Monsoon precipitates in the form of torrential and constant rain from the middle of July to the end of September. Cyclonic rain is experienced in the months of December and January. Average rainfall due to Monsoon (May-October) in the area is 132 cm. The winter rainfall (November-April) averages 23 cm.

*See geographical index - Table 9.
Geomorphology has been defined as the science of the land forms. The landscape of any area depends upon the climate, structure and lithology.

The relief in the area (ranging from moderate to high) is suggestive of the tremendous amount of denudation that has taken place since the final uplift of the Himalayas in the Pleistocene time. As a result this region has been carved out into deep valleys and nearly parallel ridges aligned in north-westerly south-easterly direction. The alternate ridges and valleys are, therefore, the most prominent land form of the area. This feature has developed as a result of an inversion of relief, i.e., due to the formation of anticlinal valleys and synclinal hills. Kasauli, Dagshai, Barog and Nahna ridges are excellent examples of synclinal hills while Kuthar Nadi is that of an anticlinal valley.

A closer look at the topo sheets of this area reveals that the highest points on the ridges have nearly the same altitude (Kasauli, 6,320'; Dagshai, 6,087'; Barog, 6,253'; Nahna, 6,224'). This, perhaps, suggests the existence of an older erosional surface.

The present day relief (varying between 150-800 mt.) is also fairly high as is evident by the existence of deep

*Nadi stands for 'River'.
valleys carved out by major streams such as the Baliana, the Kuthar and the Koshalia.

Another very characteristic feature seen in the area is the presence of river terraces. Most of the streams have well-developed terraces which in some cases are made up of several metres of river borne boulders, gravels, sands and silts.

The area is drained mainly by Koshalia, Kuthar and Ghaggar rivers with a net-work of tributaries. Since these streams are fed by seasonal rainfall, they are of the intermittent type.

Of the three major streams mentioned above, the Koshalia and the Ghaggar are transverse (flowing in a south-westerly direction) which cut across the structural grain of the country while the Kuthar (flowing in north-westerly direction) is a strike river flowing in the core of the anticlinal valley. The courses of the transverse streams are characterised at places by the presence of deep and narrow valleys (Pl. 1, Fig. 1).

The streams flowing along the strike direction, including the Kuthar Nadi, have given rise to features such as escarpment faces and dip slopes (Pl. 1, Fig. 2).
The drainage pattern noticed in this region is of the trellis and dendritic types. The trellis pattern is due to the near parallel alignment of the ridges. The dendritic drainage pattern reflects nearly uniform hardness of the rocks.

Features such as gullies, badlands, rapids and water-falls are also seen at a few places (Pl. 1, Fig. 3).

WEATHERING AND MASS WASTING

Rain water and changes in temperature are the main weathering agents causing both spheroidal and nodular weathering. Spheroidal weathering is more common in the Kasauli sandstones and is best seen near Officers' Mess, Dagshai, along Kasauli-Kot Bija foot-path and along Nahna-Pashong road (Pl. 1, Fig. 4), while nodular weathering is noticed in the purple siltstones (Pl. 1, Fig. 5). The Subathus, on the other hand, weather into needle like splinters mainly due to the presence of innumerable closely packed joints and cracks.

Mass wasting and gravitative transfer of material (landslide and landslip) are of frequent occurrence in this region. These are facilitated by factors such as steep dip slopes, presence of alternate hard sandy and soft clayey bands and torrential rainfall during Monsoon. Talus and scree deposits are also a common sight in these hills.
Thick shrubs and bushes flourish up to 1,000 mt. above sea level. Wild animals such as panthers, bears, boars, randeers, etc., are frequently encountered in these thick forests. Between 1,000-1,500 mt. of elevation, chir (Pinus longifolia), deodar (Cedrus deodara) and oak dominate while the shrubs and bushes show a marked tendency to disappear.

Lithology has an important bearing on the economic status of the residents of this terrain. The Subathus and the Dagshais are better suited for agriculture which is the main occupation of the residents of this area. Wherever the Kasaulis are exposed, fields are comparatively small and less productive. Major agricultural products are maize, rice, potatoes, ginger, wheat, pulses, etc. Walnuts, apples and apricots are the main fruit of the area.

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