CHAPTER 2

GEOLOGY

Raipur district consists of very old geological formations characteristic of peninsular India. Raipur comprises unfossiliferous beds somewhat 666 meters in thickness. The beds are composed of coloured shales sand and limestones. The western and north west regions of the district are covered by rocks belonging to the Cuddapah system.

The beds of this system are more than 500 million years old, and are divisible into two series:

1. Raipur limestone series.
2. Chandrapur sandstone series.

Various members of these series with the oldest at the bottom and the youngest at the top are as follows:

<table>
<thead>
<tr>
<th>Series</th>
<th>Members of the series</th>
<th>Thickness in meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Raipur limestone</td>
<td>6/ Rusty quartzite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5/ White compact limestone</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>4/ Purple shale with green lamina.</td>
<td>150</td>
</tr>
<tr>
<td>3/ Pinkish nodular lime</td>
<td></td>
<td>45</td>
</tr>
</tbody>
</table>
Series | Members of the series | Thickness in meters
--- | --- | ---
2/ | Purple shale with grey siliceous laminae thin procellanishales and jalper | 360
1/ | Black and buff compact limestone with bands of dark shale and some coarse grit. | 60
2. Chandrapur | 3/ Purple sand spone standstone | 300
 | 2/ Pink and buffellay series shale | 
 | 3/ Coarse sandstone and grit | 

The Cuddapah system of the region can be classified as under:

Name of the class | Thickness in meters
--- | ---
1. Raipur shale and limestone | 450
2. Khairagarh sandstone | variable
3. Gunderdehi shale | 180
4. Charmudia limestone | 300
5. Chandrapur sandstone | 
6. Granite, Dolomite etc. | 

The above mentioned classes have occupied vast areas in the north-western part of the district. Raipur shale and limestone has occupied the largest portion. Below this is found the Khairagarh sandstone which is succeeded by Gunderdehi shale in arc like fashion which forms the western border of the district and extends to the eastern border of the district. Below Gunderdehi shale is found the Charmudia limestone extending on both sides of Mahanadi from the
Accordina to Hiller (1965) the pattern of drainage is one of the most revealing features of a landscape. The surface drainage of Raipur district goes to the Bay of Bangal through Mahanadi and six other rivers. The tract under the present study falls within the large geological zone of northern and north-western part of the district comprising of ancient stratified rocks, mainly purple shales. These rocks are situated in a broad basin. The entire drainage of which is gathered by Mahanadi. Over the greater portion to the basin consisting of well cultivated plains of Chhattisgarh, the Raipur strata lies almost horizontally, usually concealed beneath a superficial covering of alluvial matasi or of lateritic bhata soil. It is only round the enclosing rim that the beds are upturned at appreciable angles, and consequently rise into hill ranges.