

IV. GEOLOGY AND TOPOGRAPHY OF THE AREA

The name Kamthi was derived from rock strata found at a military station of Kamptee near Nagpur. It was first used by Blanford (in Hughes, 1887). The formation is exposed in Wardha Godavari valley in Maharashtra and Andhra Pradesh. On the South-East Coast of Andhra Pradesh it is known as Chintalpudi sandstones. The Godavari river travels through the major part of its course in an area having Gondwana deposits. It touches Nagpur and Chandrapur coal fields in Maharashtra. The rocks near Chandrapur are extended Southwards to the Wardha and Pranhita valley. The rocks are further continued in the Godavari valley hence we come across a system called as Wardha-Godavari valley.

It is a elongated strip of Peninsular India starting from Dhaba on the Wardha river and extends upon Chintalpudi in the West Godavari district of Andhra Pradesh. Hence it covers an area of 20,000 Kms.

Geology and Rock series - The stratigraphy of rock series found in the Kamthi stage are as follows :

ROCK SERIES OF KAMTHI STAGE

Formation		Age
Superficial soil	-	Recent
Laterite	-	Laterite
Deccan Basalt with intertrappeans	-	Cretaceous to Eocene
Lamatas	-	crataceous
Kamthis	-	Upper permian
Barakars	-	Permocarboniferous
Vindhyan quartzites and shales	-	Pre cambrian
Brecciated quartzites and granite gneisses	-	Archaean

The fossils are mostly found in the Upper part of the Lower Gondwana series. The Talchirs and Barakars are devoid of Mega fossils. In this stage, however, the Kamthis which overlie the Talchirs and Barakars are fossiliferous. Blanford (1879) described the Kamthi Stage in Maharashtra in the following words - They represent immens spread and thickness of Brown ferruginus sandstones, conglomerates and clays. It is estimated that the thickness of Kamthis ranges from 5000 to 6000 feet. In some cases the beds cover the Barakar rocks. The covering is in irregular pattern which shows they cover Barakars and also the Talchirs. In this area the Talchirs and Barakars are exposed at some places. This indicates a distribution pattern which shows a 100 of erosion might have taken palce before

the deposition of Kamthis. In Wardha valley this pattern is found in the Rajur, Wun and Bunder coal fields. Here the sandstones are coarse, yellow or reddish brown in colour. They form compact layers, the Kamthis show argillaceous shales and sandstones of deep red or purple colour. Such typical Kamthi rocks are found in the Chandrapur district. They can be compared with sandstones found at Karkati in South Rewa Gondwana basin.

GEOLOGY OF THE AREA :

Adhari in Chandrapur district of Maharashtra show the presence of Gondwana rocks. Here the Kamthis show overlapping Barakars and Talchirs. They are overlain by horizontally bedded lametas. The Deccan traps are present above these in horizontal thick flows separated from each other by the intertrappeans. The area shows an undulating terren having an elevation at 180 to 200 meters above M.S.L. They indicate a gentle curve towards south east. This area shows Wardha river and its branches. Hence near Adhari the drainage resulted from water flows from the surrounding areas shows a quaquaversal pattern showing Kamthi rocks in the centre surrounded by Talchirs and Lametas. Hence the area is mostly occupied by the Kamthis associated with Talchirs and Lametas. The general trend of the Gondwana rocks consisting Kamthis and Talchirs show a folding towards NESE. Near Sakharwadi and Bhandak the area shows the gental deep. The formation shows closer of the fold due to Talchir Kamthi contact. These broad features of the Gondwanas gentle results into an anticline in the North

West direction. Near South East of Bhandak a small fold is seen. In the Southern part Kamthis show a ground trend indicating western deep while on the Eastern side they show a Northern deep.

Kamthis represent a large central area towards East which is covered by Takchir on the Southern side. The Eastern side is covered by thick alluvian but towards western side of Bhandak the rocks are associated with Vindhyan. On the north-western side of the Bhandak inliers are present. Plant fossils are found as impressions in Kamthi sandstones which are intercalated with shales of red, brown or deep yellow or red or yellow in colour. These intercalations are important characters of Kamthi sandstones. The shales are compact and thinly bedded. They show cream or fawn colour at some places. From the fossiliferous Kamthi shales showing leaf impressions have different degrees of preservation. Hence in some cases the impressions are quite clear and their identification is somewhat easy but at some places like Agarjhari the shales are chocolate brown in colour having poor degree of preservation. Therefore, such impressions are not included in this work. The place Adhari is rich in plant fossils and situated at the distance of 8 Kms. from Bhandak. Bhandak is a small village which can be approached from Bhandak railway station situated on Grant trunk route at Central Railways. It can be also approached by Motor bus of Nagpur-Chandrapur route. Near Adhari there are several small streams passing through Bhandak forest. In the

winter and summer the streams are dry and petrified woods are visible. They can be collected in the strata or on the out skirts of the streams. There are few stone-quarries in the neighbourhood of these streams. The shales found in these quarries are fossiliferous. They show plant impressions. The impressions are exposed on breaking the shale along bedding plane.

The second locality Nandori is situated on Warora-Chandrapur rout. It is 5 Kms. away from Warora. At Nandori the petrified woods are found in a Nallah cutting and in cotton fields near the village. The woods are reddish brown in colour. Some times they show black patches and white dots. The preservation is excellent and many times woods with primary characters can be collected, their surface texture indicate that they were preserved in the same place and not carried away by the water currents on other places. The locality Panwadala is situated in the interior part of this area and it can be approached by bullock cart only. Here plant fossils are preserved as woods only. They are reddish white in colour and show excellent preservation compared to Nandori the number of woods are few in proportion. They can collected from a big Nala near the village and in some dried wells.

The locality Bazargaon is situated on Nagpur Amarawati road. It is 29 Kms. away from Nagpur. The plant fossils are collected from a stone quarry which is away from the main road and present on a small hillock. The reddish brown or yellowish

white shales are exposed in these quarries. These shales show preservation of plant impressions.

The place Satnaori is further situated 3 Kms. ahead of Bazargaon, here also a stone quarry having shales with plant impressions are found. No petrified woods are collected by us. But Varadpande (1977-a) collected some petrified gymnospermous woods from Satnaori and described Dadoxylon satnaoriense. Satnaori impressions are preserved on the buff, purple and grey coloured coarse sandstones. It is quite probable that the place Bazargaon and Satnaori are situated on a continuous tract of Kamthi sandstones. Intensive search in this area may bring out some new exposures showing petrified woods and impressions.