

INTRODUCTION

All the plants have many and diverse uses which have a direct or indirect bearing on the civilization of human society. India is a vast country abounding in plant wealth and therefore, it is very important to utilize these plant resources for the welfare of the country men. The late Prime Minister Nehru appropriately wrote in his forward to the first volume of Wealth of India (1948) "Nevertheless, India is Wealthy and the Wealth of India is there, but inspite of this wealth the people are poor. The problem for us is to utilize this stored up wealth of the country in the soil and under the soil for the benefit of Indian humanity". His remarks are very significant because, though the country is very much rich in its plant wealth, the information about it is rather insufficient. The exact data such as the distribution of plants in the country, their relative abundance, flowering and fruiting time, and other such information which can not be deduced by inspection of herbarium specimens are not only necessary but should be based on more thorough and scientific study, so that the plant can be exploited for human welfare.

Though the authors of earlier books e.g. Hooker's Flora of British India and several other provincial floras have done a great service to the country by enumerating the plants from different parts of the country, yet such books lack most of the desired information. The leading botanists of the country, therefore, felt an urgent need of revising the provincial and national floras (Santapau 1952). Such a revision

can only be effected by intensive and extensive field explorations of various parts of India.

Gujarat State is one of the states whose several areas are not yet botanically explored. The Rajpipla forest range is one such area. The flora of some parts of this forest range was, therefore, studied keeping in view to make an humble contribution towards the revision of the flora of erstwhile Bombay Presidency in general and preparation of the flora of Gujarat State, in particular.

The area covered by the thesis has not been explored by any other botanist except Shah (1967) who listed 203 plants, based on collections made between 24th to 27th December, 1965 from Dediapada, Mosda, Piplod, Ghatoli and Dumkhal. It was, therefore, thought worthwhile to conduct regular botanical excursions to the above mentioned places and in addition to Sagbara, Selamba and Sejpur in different seasons to have a complete account of the plants growing there. The present thesis is the outcome ^{of} results of continuous exploration for two years within a radius of about 5 miles in vicinity of the above mentioned places. It is based on ample collections and field notes. The observations have been supplemented by field photographs of forests areas, photographs of herbarium specimens and line drawings of some plants.

II Geographical position of the area :

Rajpipla district is situated $21^{\circ} 23'$ and $21^{\circ} 59'$ N and 73° and $74^{\circ} 0'E$ on the South East border of Gujarat State with

Rajpipla as the district capital. The state transport buses regularly ply in all seasons between Ankleshwar or Rajpipla to Selamba via Dediapada. Ankleshwar is a small junction on western railway about 332 km north of Bombay while Rajpipla is a terminus on narrow gauge Ankleshwar-Rajpipla line. Ghatoli is about 6 kms from Dediapada on Rajpipla-Dediapada road. Kpkam, Dumkhal, Mosda, Piplod are far from Dediapada and are approachable only in fair season by private conveyance (See Map. Plate I).

III Topography :

The area covered by this thesis falls within $21^{\circ} 25'$ - $21^{\circ} 45'$ N and $73^{\circ} 32'$ - $73^{\circ} 54'$ E. The entire forest tract in Dediapada and Sagbara forest range is hilly and in places rugged broken and precipitous. The country is a mass of steep, in places flat topped, wooded hills. The highest hills in these forest ranges are Dhamanmol (881 m), Maisamoth (671 m) and Mohli (699 m). However, the hills in the areas explored in vicinity of Dediapada, Mosda, Piplod, vary in height from 150 m to 365 m, but at Sagbara the highest hill behind the rest house is 592 m. Dumkhal and Selamba are on the border line between the Gujarat and Maharashtra States. The entire hilly range is an extension of Satpura mountains.

The forest areas at Dediapada, Mosda, Piplod, Ghatoli are traversed by the river Karjan and its tributaries. The tributaries at different places are known by different names such as Tarawokhadi at Mosda, Besnakhadi, about 8 kms from Dediapada through forests. Dumkhal village is a plain country

on the bank of a small river called 'Devnadi' which meets Narmada at Surpan, within the range of Rajpipla forests. Selamba is also a plain country on the bank of Thinikhadi which is again a tributary of Tapti river.

IV Nature of soil :

Main rocks of this area are Deccan trap and Calcareous. The soil formed from the parent rock is varying in proportion with sand and clay particles. The soil in these areas varies from sandy to clay-loam. The surface of the soil is covered with humus in varying thickness. The humus is very thin on hill tops and slopes but thick at the foot of hills and plains. This soil is rich in nitrogenous and ferruginous elements. The depth of the soil varies from a few centimeters to a couple of meters from hill top to down slopes and plains respectively.

Depending upon the oxidation of iron salts, the soil varies in colour from grey and light brown to black. The black soil in the plains is suitable for cotton crop, while on the hills it is clay occurring with murrum in various stages of disintegration. In certain cases close to the trap hills, the thickness of the alluvial deposits amounts as much as 80'. Calcareous concretions are generally abundant and tuffaceous lime stones are common. In places sandy beds are sufficiently hardened to be called sandstone. The soils in the plains are fertile and valuable from agriculture view point while those in the hills and hill tops are relatively much less fertile, capable of supporting an excellent forest cover.

V Configuration of the ground :

The country is hilly and in places broken and precipitous. The sides and valleys of ranges are clothed with forests till they reach the open country. The valleys are narrow and winding, with steep precipitous sides, cut up with deep and countless short and steep ravines. Beginning on the east with a chain of rugged mountains rising upto 870 m. they descend to the coastal plains on the west by a series of slopes and plateau to the lowest level of about 125 m.

VI Drainage :

The main drainage is from east to west by the Narmada and the Karjan. Both have their source in the Satpuras and they flow westwards by devious courses and flow ultimately into the Arabian sea. Karjan, which flows across the forest tract from south to north, pierces both the southern and central ranges of hills. Its chief tributaries are Tharas and Mohan. The lowest depth of water under the most adverse conditions does not fall below 45 cm. All the streams and tributaries go dry by the end of March. Some water holes in the streams and some on the slopes and hill tops hold the water till the onset of rains. The water supply is generally satisfactory till the end of March, after that it becomes precarious especially in the hills. The ground water table varies from 7-10 m in the plains and more than ^{15m}(50') in the hills.