A SKETCH OF THE VEGETATION OF JALPAIGURI DISTRICT OF WEST BENGAL

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The district of Jalpaiguri lies at the foot of the hills south of Kalimpong division of Darjeeling district and of western part of Bhootan. This is a plain country with the exception of the Buxa hills at the north eastern part which occupy less than a hundredth part of a total area of 6,234.13 sq. km. These hills are the southern out-spurs of the hills of Bhootan and at Sinchula attains an elevation of 3,000 m. The hills on the north of the district usually rise abruptly from the plains while on some places the ground is slightly undulating at the foot of the hills.

This flat submontane country known as the Western Duars is made up of alluvium with deposits of coarse gravels near the hills, sandy clay and sand along the course of the rivers and fine sand consolidating into clay in the rest of the district. The beds of Buxa hills consist of variegated slates, quartzites and dolomites, and the low hills on the south belong to the upper tertiary strata.

The rivers and streams of the Jalpaiguri district are very numerous. The most important of these are the Tista, the Jaldhaka, the Torsa, the Raidak and the Sankosh. The tributaries of these rivers, particularly of the Tista are also as formidable and mighty as the main rivers. They all emerge from the hills of Bhootan, Sikkim and of Darjeeling district, and rise and fall with great rapidity. Near the hills the river-beds are full of boulders, and owing to the porous character of the soil many rivers sink below the surface near the hills, appearing again a few miles further down. The great volumes of water coming out of the hills with terrific force often change their courses and their banks are consequently ill-defined. The topography of the district, its history and economics changed several times in the past due to the whims of these mighty rivers.

The rainfall is rather heavy in this district and more so on the north-eastern parts. The monsoon current flows northwards and is deflected towards the west in the northern Bengal so that the prevailing direction of the wind at Jalpaiguri during the rains is east or southeast. The rainfall data at different stations in the district is shown below:

<table>
<thead>
<tr>
<th>Station</th>
<th>Annual average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jalpaiguri</td>
<td>3319.1 mm</td>
</tr>
<tr>
<td>Kalchini</td>
<td>3865.5 mm</td>
</tr>
<tr>
<td>Alipur</td>
<td>3796.5 mm</td>
</tr>
<tr>
<td>Falakata</td>
<td>3120.5 mm</td>
</tr>
<tr>
<td>Kunargram</td>
<td>4242.8 mm</td>
</tr>
<tr>
<td>Buxa</td>
<td>5323.1 mm</td>
</tr>
<tr>
<td>Nagrakuta</td>
<td>3809.3 mm</td>
</tr>
</tbody>
</table>

The average rainfall of the district is 3925.1 mm (154.33”).

The summer is rather hot excepting at Buxa Cantonment and the temperature attains its maximum limit in April. In the town of Jalpaiguri the mean maximum temperature for that month is 31.7°C although temperature record of 40°C is not at all unusual.

A damp warm climate as is met with in the district of Jalpaiguri, usually favours the formation of a wet evergreen forest, but this is found only in small patches, while tropical semi-evergreen forests, moist Sal forests, riverine Khair-Sisoo forests and the savannah forests are the different types of forests met with in that area.

Troup (1921) distinguishes two broad types of savannahs as the low-level and high-level savannahs. The low-level savannahs occupy low lying moist grounds containing a dense growth of tall grasses like Phragmites karka Trin., Saccharum procerum Roxb., Enanthus elephantinus Hk.f., Anthistiria gigantea Cav., Saccharum spontaneum Linn. etc. There are scattered trees on such savannahs and these are chiefly Albizia procera Btbn., Salmalia malabarica Schott. et Endl. Bischofia javanica Bl., Syzigium cerasoides (Roxb.) Raizada and Butea monosperma O. Ktz. In the riverine alluvial savannahs Dalbergia sissoo Roxb. is dominant. The high level savannahs are situated on well drained soils where Narenga porphyrocoma (Hance) Bor is dominant. Other grasses in these tracts are Saccharum arundinaceum Retz., Arundinella decempedalis (O.K.) Janes., Eulalia fastigiatus Nees,

A special type of vegetation is met with in some places and this is Couvolvulus Micrium a name given by J. M. Cowan (1929) and described as Creer jungle by Gamble (1895). A typical Convolvulus Micrium has large trees scattered at wide distances with the entanglement of herbaceous or semiherbaceous creeper beneath. Argyrisia, Porana, different species of Ipomoea, Milletia, Smilax, Mucuna, Luffa, Paderia and the recently introduced Mikania are the common creepers. There are also several scendent Acacias. different species of Capparis, Dalbergia stipulacea Roxb., Holmskioldia, Zizyphus spelta Hk. f., Munronia wallichii Wt., Malastoma malabathricum Linn. and a few species of Glochidion. Asplenium esculentum Presl. is the commonest fern ; and in damp situation different species of Aroids, Musa, Pandanus and Catamus guruba Roxb. are to be found. The trees that grow in the area usually have light seeds and belong to the species: Premna mucronata Roxb., Treme orientalis Wall., Callicarpa arborea Roxb. and different species of Bridelia. These are usually short lived trees with which a few evergreen type of trees which live longer gradually appear. Such trees are Amoora wallichii King, Michelia champaka Linn., Acrocarpus fraxinifolius W. & A. and Duabanga son-
neratoides Buch.-Ham. which may in the long run convert a Convolvulus Mictium to an evergreen forest. The Convolvulus Mictium is formed on lands cleared by burning or felling for cultivation and later abandoned, and the stability of their formation is ascribed to the aggressiveness of the climbers.

In addition to the canes found in creeper jungles there are cane brakes in the evergreen type of forests on the eastern parts of the district. These are composed mainly of Calamus leptospadix Griff., C. flagellum Griff., C. tenuis Roxb., C. inermis T. And. and C. guaruba Roxb. Daemonorops jenkinsianus Mart. belonging to the same group of Rattans is also found in such forests.

In damp situations a graceful palm forms small societies, and this is Pinanga gracilis Bl. which is frequently gregarious. Other palms growing wild are Caryota urens Linn. and Phoenix sylvestris Roxb., while Areca catechu Linn., is abundantly cultivated in villages and towns.

There are bamboo groves with Dendrocalamus hamiltonii Nees & Arn. as the common species. Cephalostachyum capitatum Munro, Pseudostachyum polymorphium Munro, Bamusa paiida Munro, B. vulgaris Schrad., B. tulda Roxb. are other bamboos found in the forests. Bamboo groves are also found near villages where Bambusa balcooa Roxb., B. tulda and B. vulgaris are common.

Near villages many fruit trees are found in cultivation, e.g. Mangifera indica Linn., Artocarpus heterophyllus Lamk., Syzygium cumini (L.) Skeels, S. jambos (L.) Alston, S. samarangens (Bl.) Merr. & Perz, Annona squamosa Linn., A. reticulata Linn., Carica papaya Linn., Psidium guajava Linn., Litchi chinensis Sonner, Euphoria longan Steudel, Citrus grandis Osbeck and other species of Citrus, Limonia acidissima Linn., Spondias dulcis Willd., S. mangifera Willd., and Musa. Other trees growing in and around villages, selfsown or in cultivated condition are different species of Ficus, Moringa oleifera Lam., Anthocephalus cadamba Miq., Azadirachta indica A. Juss., Holarrhena antidysenterica Wall., Erythrina stricta Roxb., Salmalia malabarica Schott. & Endl., Artocarpus lakoocha Roxb., Saraca indica Linn., Tamarindus indica Linn., etc. Common shrubs in the villages are Vitex negundo Linn., Coffea bengalensis Roxb., Tabernaemontana coronaria Burk, Glycosmis arborea (Roxb.) DC., Clerodendron infortunatum Gaertn., Jatropha curcas, Linn., J. gossypifolia Linn., different species of Ixora, Euphorbia pulcherrima Willd. ex Klotz., Urena lobata Linn. etc. In the outskirts of the jungle and in village shrubberies grows a dangerous stinging plant, Laphotae crenulata Guad., a slight touch of the leaves of which with the skin produces a severe burning sensation and pains to the place of contact and this spreads rapidly to other parts of the body causing high fever with restlessness to the victim. This plant is more common in the eastern part of the district. On open grounds and on road-sides two other recently introduced plants, Lantana aculeata Linn., a thorny shrub with beautiful small yellow or red flowers in corymbs and Eupatorium odoratum, a tall herb with purplish flowers are replacing the indigenous shrubby and herbaceous weeds. Hyptis suaveolens Bth. is also gregarious on somewhat moist ground. Another noxious weed is gaining ground gradually and this is Eryngium foetidum Linn., an umbellifer which has established itself in Assam, coming from further east. This has sharp and stiff spine tipped leaves and bracts and dichotomous branches. Cassia alata Linn., a shrub with large pinnate leaves and beautiful yellow bracts and flowers is common near rail stations and also elsewhere in open places. This is a reputed medicinal plant.

The gardens occupy a major area of the district totalling about 133,696.5 acres, and form a characteristic feature of the vegetation. The uniform tea-bushes, with their tops pruned to the same level have tall slender Albizzias scattered in between, for imparting partial shade. Trees most commonly used for this purpose are A. chinensis Merr., A. procera Bth., A. lebbeck Bth. and A. moluccana Miq. Dalbergia assamica Bth. is also used for the same purpose. An exotic shrub Crotalaria anagyroides H. B. & K. is often planted in tea gardens for enriching the soil. With this Cajanus cajan (L.) Mill. and Tephrosia candida DC. are also grown. In some tea garden Tung trees are in cultivation. These are mostly planted on the boundaries and along roads inside the gardens. The species found are Aleurites fordii Hemsl. and A. montana Wilson.

Among the cultivated field crops rice is most important and approximately 464,300 acres of land are under rice cultivation. Jute has of recent years, become next in importance; and as in other districts of the state 2 species are cultivated, viz., Corchorus capsularis Linn. and C. olitorius Linn. Then come potato and the betel vine. Maize is also cultivated on a large scale.

The district can boast of some good highways which link different parts of the district to one another as well as to other important towns and cities in the adjoining district. As shade trees along these roads the following are generally found: Samanea saman


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