

BENGAL DISTRICT GAZETTEERS

DARJEELING

BY

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AND LATE OF THE INDIAN CIVIL SERVICE

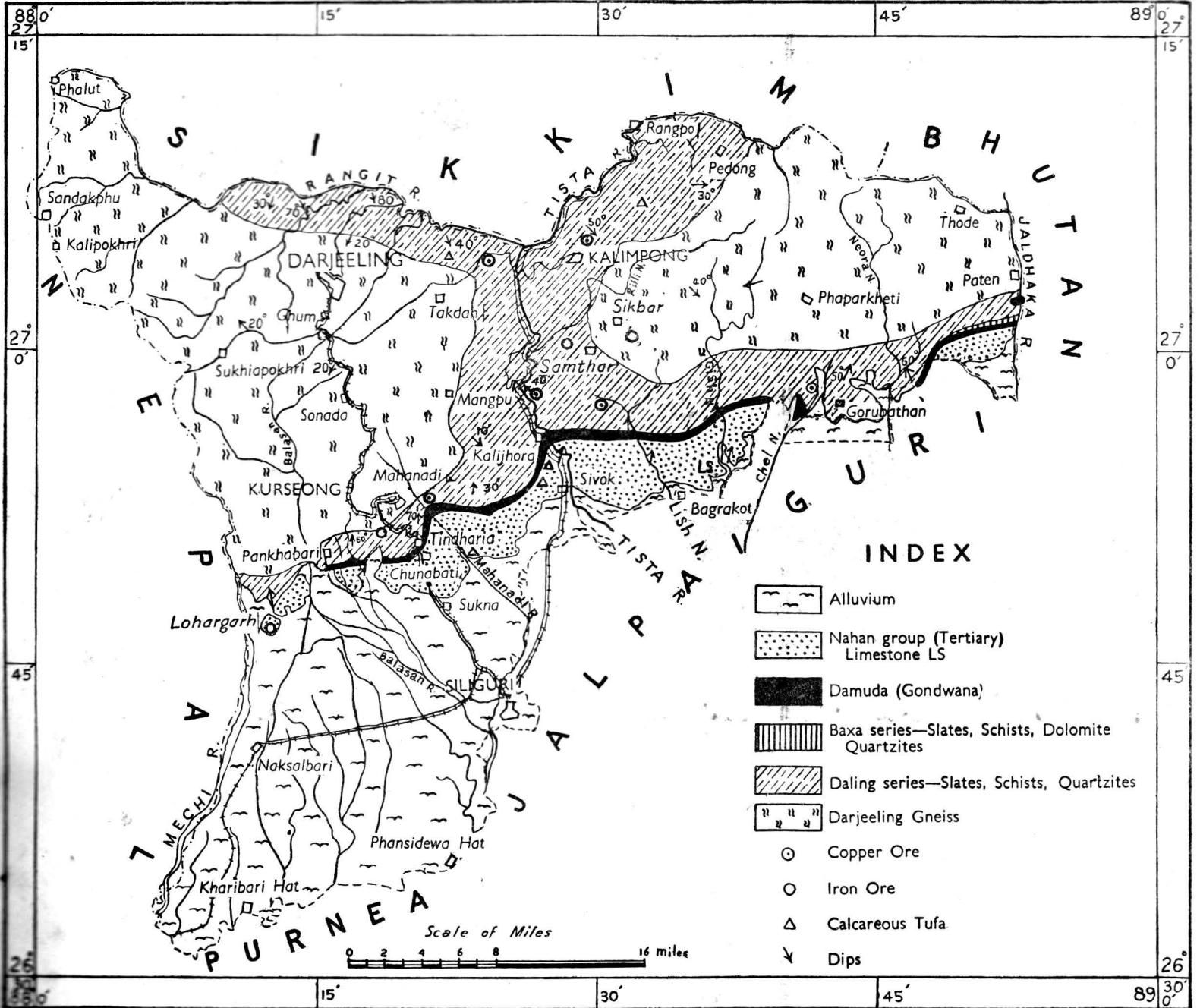


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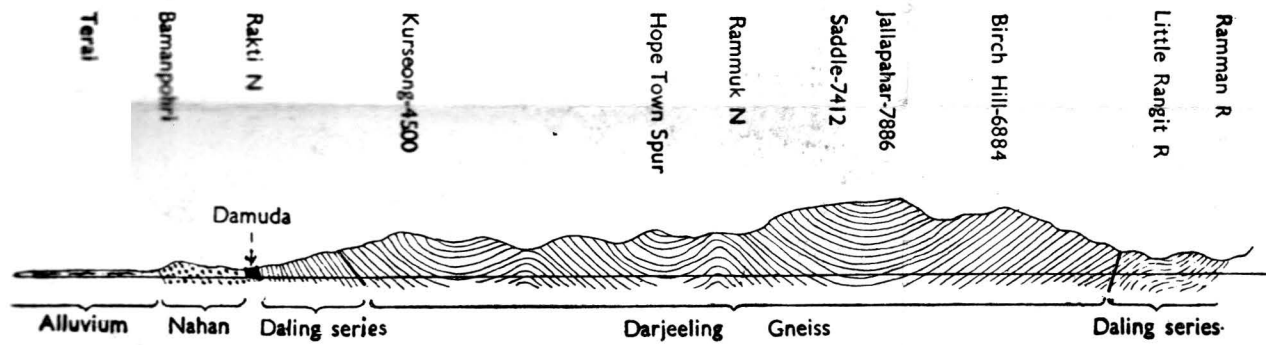
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GEOLOGICAL MAP OF THE DARJEELING HILL TERRITORY (AFTER MALLET)



INDEX

- Alluvium
- Nahan group (Tertiary) Limestone LS
- Damuda (Gondwana)
- Baxa series—Slates, Schists, Dolomite Quartzites
- Daling series—Slates, Schists, Quartzites
- Darjeeling Gneiss
- Copper Ore
- Iron Ore
- Calcareous Tufa
- Dips



Section from Terai south of Kurseong to Ramman R.
Horizontal & Vertical Scale, $\frac{1}{4}$ inch = 1 Mile = 5280 ft.

PREFACE.

This Gazetteer is a compilation of contributions from a number of individuals and my own has mainly been the application of some knowledge of the District and its administration to the task of collating and editing the contribution of others.

I place on record my indebtedness to many contributors for their willing assistance and my apologies for the alterations and excisions that the process of editing has made necessary.

Limitation of space prevents me publishing a list of the names of those who have assisted. It is a long one and includes the names of officers of the Indian and Provincial Governments, of officers of local bodies and of many residents of the District, all of whom have given time and labour generously.

A. J. DASH.

TABLE OF CONTENTS.

CHAPTER I.

Physical Description.

	PAGES.
POSITION—Boundaries—Mountain system—River system—Geology— Minerals, mines and quarries—Earthquakes—Erosion and landslips—Climate and weather—Storms—Botany—Fauna ..	1-36

CHAPTER II.

History.

EARLY POLITICAL HISTORY—Developments after 1866—Later administrative history—Jurisdictions and statutory powers— Constitutional history—Present constitutional position ..	37-47
--	-------

CHAPTER III.

The People.

GROWTH OF POPULATION FROM EARLY TIMES—Immigration—Density of population—Urban populations—Population of plantation areas and of other rural areas—Languages—Religions—Population classified by racial origin—Hillmen and plainsmen—Tribes—Bhutia and Lepcha populations	49-87
---	-------

CHAPTER IV.

Public Health.

GENERAL CONDITIONS OF PUBLIC HEALTH—Diseases—Health administration—Water-supply—Sewage disposal—Medical institu- tions	89-98
--	-------

TABLE OF CONTENTS

CHAPTER V.

Agriculture and Livestock.

PAGES.

AGRICULTURAL CONDITIONS—Areas under various crops—Soils, methods and implements—Maize—Millet—Buckwheat—Wheat—Rice—Potatoes—Cardamoms—Fruit—Vegetables—Administration—LIVESTOCK—Cattle—Other animals—Poultry—Veterinary administration—Prevention of cruelty to animals—Stock farming	99-111
--	--------

CHAPTER VI.

The Tea Industry.

HISTORY OF TEA PRODUCTION—Distribution of gardens—Outturn—Prices—Cultivation—Manufacture—Labour—Finance—Planters' associations	113-121
--	---------

CHAPTER VII.

Forests.

HISTORY—Administration—The three Forest Divisions—The forest crop—Utilisation—Silviculture and forest management—Erosion and soil conservation—Fire—Grazing—Game	123-138
--	---------

CHAPTER VIII.

Cinchona.

EARLY HISTORY AND DEVELOPMENT—Outturn—Cultivation—Manufacture—Distribution—Prices—Administration	139-144
--	---------

CHAPTER IX.

Occupations, Manufactures and Industries.

THE ARMY AND RECRUITING—Agriculture & plantation industries—Forest industries—Electric power—Transportation—Engineering workshops—Rice milling—Building—Road maintenance, quarrying and mining—Cottage industries—Economic condition of labouring classes	145-157
---	---------

CHAPTER X.

Trade and Prices.

COSTS OF TRANSPORTATION—Trade with the plains—Trade through Siliguri—Transfrontier trade—with Bhutan—with Tibet—with Sikkim—with Nepal—Exports—Local trade—Finance of trade—Prices—Power development	159-178
--	---------

TABLE OF CONTENTS

iii

CHAPTER XI.

Means of Communication.

PAGES.

HISTORY OF DEVELOPMENT—Roads—Railways—Ropeways—Posts—
Telegraphs—Telephones—Inspection bungalows—Landing ground 179-203

CHAPTER XII.

Land Revenue Administration.

LAND REVENUE SUMMARY—Permanently settled estates—Revenue
paying tea estates—Cesses—Sadar-Kurseong Khas Mahals—The
Relling and Samabong estates—Tauzi No. 1064—Cart Road
Lands—Town Khas Mahal—Kalimpong Development Area—
Kalimpong Government Estate—Administration of the hill Khas
Mahals—Rate and incidence of rent in the hill Khas Mahals—The
Terai Khas Mahals—Revenue free properties—The Darjeeling
Improvement Fund 205-234

CHAPTER XIII.

General Administration.

CRIMINAL AND CIVIL JUSTICE—Police—Jails—Revenue realised—
Excise—Registration—Co-operative Credit—Factories and Boilers 235-242

CHAPTER XIV.

Local Self-Government : Description of Urban Areas.

THE DISTRICT BOARD—Local Boards—Union Committee—Local Self-
Government in Siliguri—in Kalimpong—Kurseong Municipality
—Darjeeling Municipality—Description of Darjeeling town—of
Kurseong town—of Kalimpong town—of Siliguri town .. 243-264

CHAPTER XV.

Education.

• HISTORY—Primary education—Scholarships—Collegiate education—
Special education—Physical education—Education in tea areas
—Administrative control—Important schools—European education 265-279

CHAPTER XVI.

Gazetteer and Index of Place Names.

GAZETTEER AND INDEX 281-294

List of maps and diagrams.

Map 8 miles to 1" showing Geology	..	..	..	Front of volume.
Maps 8 miles to 1" showing Contours	..	..	..	Pages 4, 5
Maps 8 miles to 1" showing Rainfall	..	..	..	do. 18, 19
Diagram showing succession of vegetation	..	..	..	do. 27
Maps 8 miles to 1" showing administrative boundaries	..	..	..	do. 46, 47
Diagram showing rainfall and available hydro-electric energy	..	..	..	do. 177
Map 2 miles to 1" showing communication system and utilisation of land				In folder at end of volume.

Glossary.

Basti	..	Village or group of houses.
Bhadralok	..	Gentleman, not a cultivator.
Chaukidar	..	Village policeman.
Daffadar	..	Head chaukidar.
Dara	..	Ridge.
Darzi	..	Tailor.
Dhura, dura		Lines, quarters.
Ghum, ghoom		Mat of leaves and split bamboo worn on head and back to keep off rain.
Hat	..	Market not held every day.
Jhora	..	Stream, torrent.
Jhum	..	Cultivation by burning forest and sowing or planting crops in the burnt area.
Jotedar	..	Owner of <i>jote</i> right who may be a middleman or an actual cultivator.
Khas Mahal		Private Estate, i.e., Government's estate directly managed.
Khola	..	Stream.
Kukat	..	Timber other than sal.
Kukri	..	Nepali knife.
Mandal	..	Village headman.
Mani	..	Buddhist monument.
Niz	..	Private, own.
Panchayat	..	Committee (of five).
Rayat	..	Tenant cultivator.
Sadar	..	Headquarters.
Salami	..	Premium.
Tauzi	..	Deputy Commissioner's list of Estates : hence Estate.
Tar	..	Flat, level place.
Thana	..	Police-station : investigating centre.

GAZETTEER

OF THE

DARJEELING DISTRICT

CHAPTER I.

PHYSICAL DESCRIPTION.

The district of Darjeeling lies between $26^{\circ} 31'$ and $27^{\circ} 13'$ north latitude and between $87^{\circ} 59'$ and $88^{\circ} 53'$ east longitude and its total area is about 1,200 square miles. The principal town and administrative headquarters of the district is Darjeeling town at $27^{\circ} 3'$ north latitude and $88^{\circ} 16'$ east longitude.

In shape, the District is an irregular triangle. The northern boundary commences on the west at the peak of Phalut nearly 12,000 feet high, the trijunction of the boundaries of Nepal, Sikkim and India. This boundary runs east from Phalut along a ridge descending to the Rammam river. From there the boundary follows the course of that river until it joins the Rangit and then follows the Rangit until it reaches the Tista. Proceeding east of that junction the boundary follows the Tista upstream until its junction with the Rangpo Chu: thence it proceeds first up the Rangpo Chu and then up the Rishi Chu to a spur of the Rishi La which is the trijunction of the boundaries of Sikkim, Bhutan and India. From the Rishi La (10,300 feet), the boundary with Bhutan follows down the Ni Chu in a south-easterly direction until it meets the Jaldhaka river; it follows that river southward until the Jalpaiguri District is reached in the Khumani forest.

On the west the District is bounded by Nepal. From Phalut the western boundary follows the southward ridge until it joins the Mechi river which continues as the boundary right down into the plains and up to the south-west corner of the District. On the south, the District is bounded by the Jalpaiguri District of Bengal from the Khumani Forest on the east to the village of Phansidewa on the Mahanadi river and westward of Phansidewa by the Purnea District of Bihar.

The area of the District is not marked by any natural features as a region complete in itself. It consists of a portion of the outlying hills of the lower Himalayas and a stretch of territory lying along the base of the hills known as the Terai. The range of altitude is considerable. The Terai is only 300 feet above sea-level but there are parts of the District in the hills which are nearly 12,000 feet high. Geographically, the Terai belongs to the plains of India but geologically it is a sort of neutral country; the greater part of it being composed neither of the alluvium of the plains nor of the rocks

of the hills, but of alternating beds of sand, gravel and boulders brought down from the mountains. It is traversed by numerous rivers and streams flowing out of the hills; it is unhealthy and in places marshy.

North of the Terai, the Himalayas stand out in a succession of bold spurs, the appearance of which has been compared with that of the weather-beaten front of a mountainous coast. The change from hills to plains is very abrupt and can be appreciated more vividly by observation on a clear day from above. From Kurseong or other viewpoint, the observer looking southwards will see the hills descending steeply below him and suddenly ending and from their foot the plains stretching away without any undulation to the southern horizon.

The hill portion of the District is a confused labyrinth of ridges and narrow valleys. There are no open valleys, no plains, no lakes and no precipices of consequence. Most of the ridges are forest clad though on lower slopes the forests have often been cleared for tea and other cultivation. The main ridges wind and zig-zag in all directions, giving off a number of long spurs on either flank. For the most part the ridges stretch from north to south while the courses of the principal rivers are in the same direction: but many of the spurs and of the torrents flowing between them run east and west and even in some areas from south to north. The valleys have a great range of altitude, climate and aspect and some are thousands of feet deep. Hills and valleys are covered in many places with a dense mass of forest, festooned with moss and lichens and dripping with moisture.

In spite of the confused nature of the mountain masses, certain clearly defined features can be observed. If a reference is made to the contour maps on the pages following, it will be seen that the highest ground is in the north-west where the Singalila ridge enters the District at Phalut. The ridge is nearly 12,000 feet high at Phalut and further south at Sandakphu: from there it descends to Manibhanjan (6,000 feet) as the boundary between Nepal and the District. The ridge continues southward to the level of the plains first as the boundary and then as the top of slopes on the left bank of the Mechi river.

Mountain System.

From Manibhanjan eastward, there is a ridge which undulates up to the pass at Ghum and then rises more steeply to the heights of Senchal and Tiger Hill (8,600 feet). It then turns southward, gradually descending to Mahaldiram and Dow Hill above Kurseong and then still further southwards down to the plains. From this main ridge spurs branch down on either side, the more prominent on the east side being the Takdah-Pashok ridge descending to the junction of the Rangit with the Tista and the Sittong spur further south. Darjeeling town is on a spur running north from the Manibhanjan-Senchal ridge which divides below the town into the Takvar and the Lebong spurs before they descend to the Rangit river.

East of the Tista, the highest ground is at the Rishi La (10,300 feet), the trijunction of Bhutan, Sikkim and India. From here one of the more prominent ridges runs south-east and cuts off the Jaldhaka valley from the rest of the District. Another ridge descends to Labha just under 7,000 feet above the sea. From here an important spur leads south-westward down to the plains and another north-west to Rissisum where it joins a ridge running north-east to south-west. The north-eastern end of this ridge descends to the Rishi river beyond Pedong and the south-western spur passes through Kalimpong and descends abruptly into the Tista valley.

The rivers of the District drain ultimately to the south, though the west to east ridge across it causes a series of Tista
River System. tributaries rising on its northern face to flow northwards and others flow east or west before joining the main river.

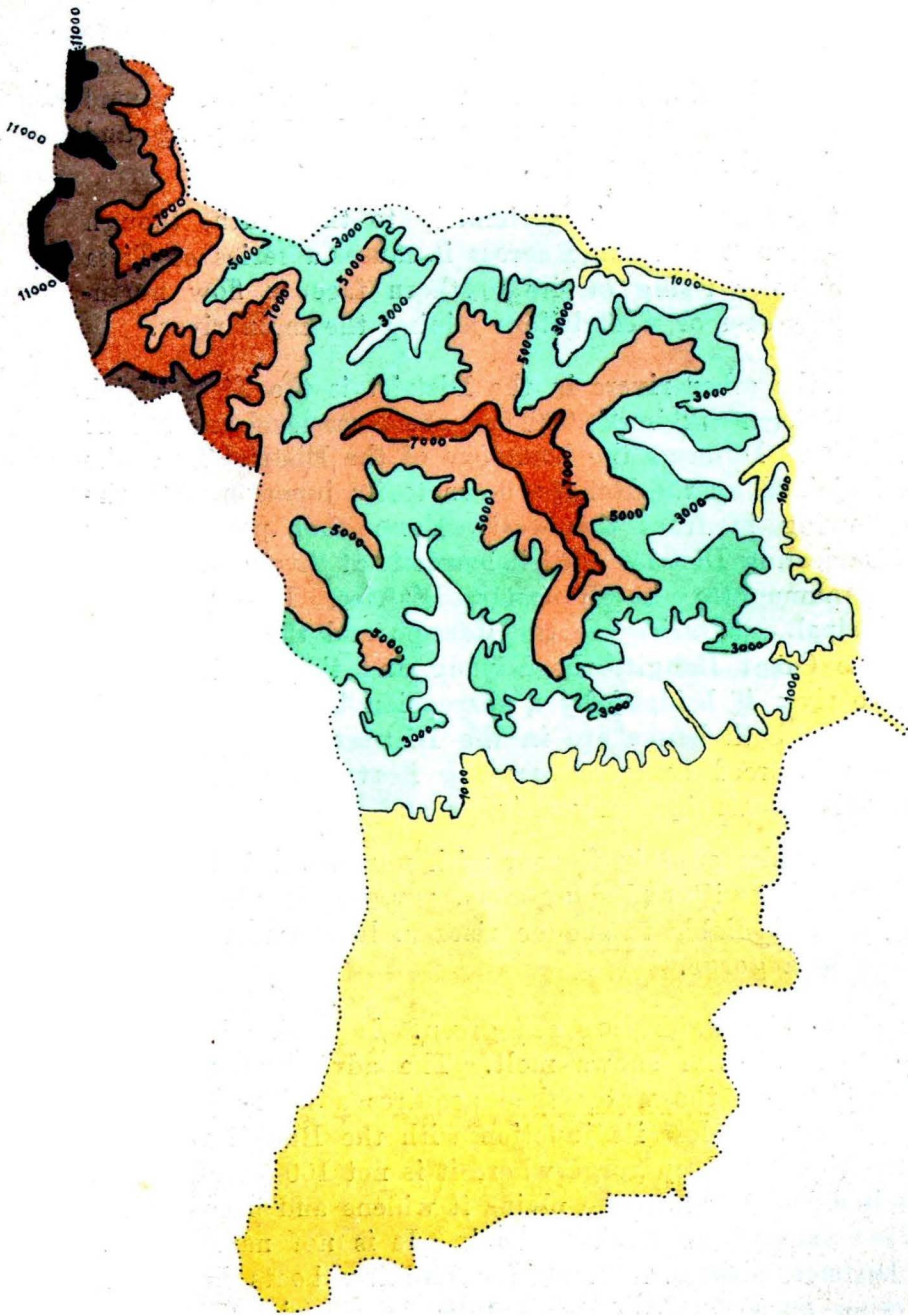
Dominating all the other rivers in the District is the Tista which rises in a glacier in north Sikkim 21,000 feet above sea-level and drains the whole of Sikkim. It forms the boundary of the District from the point where it is joined by the Rangpo down to its junction with the Great Rangit flowing in from the west. From that point it lies entirely in the Darjeeling District until it leaves it at Sivok, ultimately entering the Brahmaputra in Rangpur District. In Darjeeling District, its principal tributaries are the Rangpo and the Rilli on its left bank and the Great Rangit, the Riyang and the Sivok on the right bank. The river is bridged by a suspension bridge near Melli. In the gorge, where both banks are in the District, there are three bridges, two of reinforced concrete carrying heavy road traffic and one suspension bridge carrying only animals and pedestrians.

The Tista is a broad mountain torrent with numerous shallows and rapids. Its current is swift and dangerous, running in places at 14 miles an hour and it is liable to sudden rises in level due to its flow being constricted in a gorge.

In the dry season its waters are sea green. It begins its annual rise when the north Sikkim snows melt. The advent of the rains brings a bigger rise and the water then acquires a milky hue from detritus in suspension. Below its junction with the Rangit the river traverses the District in a deep gorge where it is not 100 yards broad: but as soon as it debouches into the plains it widens and becomes two or three hundred yards from bank to bank. It is not navigable by boats in the District, although for bridge building boats have been used and for other purposes rafts are operated on occasions.

The scenery along the banks of the Tista is extremely beautiful. The gorge is narrow and winding and the steep sides are clothed in dense forest broken at intervals by side valleys. Up the gorge and the side valleys can occasionally be obtained glimpses of high mountain masses: near at hand the vegetation and insect life is gorgeous in its tropical splendour.

DISTRICT DARJEELING excluding KALIMPONG SUBDIVISION.



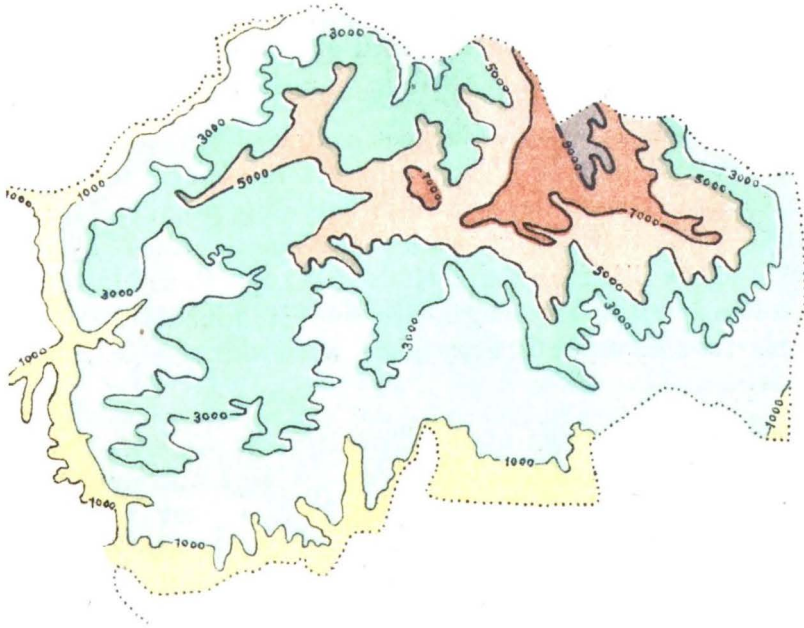
Scale 1" = 8 Miles

REFERENCES

District Boundary - - - - -

Contours 

KALIMPONG SUBDIVISION.



Of the tributaries of the Tista, the Great Rangit is the most important. It enters the District from Sikkim at the point on the northern boundary where it receives the Rammam on its right bank. Below that junction, it flows eastwards, receiving the Little Rangit and the Rangnu as tributaries from the Darjeeling side. The Rammam rises under Phalut mountain, the Little Rangit under Tanglu and the Rangnu tears down from Senchal in a valley several thousand feet deep: though its roar is heard and its valley is visible from end to end, the stream itself cannot be seen from above, so deep has its channel been cut.

The Great Rangit is a graceful mountain torrent with a stony or sandy bed. Its banks are usually clothed in forest but here and there can be found patches of cultivation. Its meeting with the Tista provides one of the most picturesque scenes along its course. Here there is a great difference in the colour of the waters of the two rivers, that of the Tista being cloudy while the water of the Rangit is dark green and very clear. There is no less marked a difference in the temperature of the two rivers, the water of the Rangit being appreciably warmer than that of the Tista. The colour and the coldness of the latter are no doubt due to the number of glaciers drained by it: while the Rangit is chiefly supplied by the rainfall of the outer ranges of the Senchal and Singalila hills and hence its water is warmer and clearer, except in the height of the rains.

East of the Tista, are rivers debouching from the foothills which, like it, flow into the Brahmaputra. All are torrents subject to violent changes in volume, for the hills here intercept very heavy rainfall and the catchment areas of the rivers are small. The most important of these eastern rivers is the Jaldhaka whose catchment area is cut off from the rest of the District and reaches up to Gnatong in Sikkin. From points on the Tibetan trade route near Gnatong 12,000 feet above sea-level one can look down and see, in a deep valley, the course of this river like a silver shaft pointing southward in a straight line. The banks are steep and clothed in jungle right down to the plains.

The Jaldhaka carries the largest volume of water of all this group of eastern foothill rivers. Those nearest the Tista, the Lish, the Gish and the Chel emerge from the hills carrying great volumes of stones, mud and sand torn from their catchment areas by erosion and landslides. The Lish and the Gish fill up their beds higher and higher with detritus and engineers find it difficult to make additions to bridges fast enough to keep pace with the rise in the level of the river beds.

The rivers to the west of the Tista, the Mahanadi, the Balasan and the Mechi all flow into the Ganges. The Mahanadi has its source near the mountain of Mahaldiram to the east of Kurseong. Its catchment area is small but receives a high rainfall in the monsoon. After leaving the hills, the Mahanadi flows south as far as Siliguri, where it changes its direction more to the south-west and forms the boundary between the Terai and the Jalpaiguri District as far as Phansidewa.

The Balasan rises near Lepchajagat on the Ghum-Simana ridge and its valley west of Kurseong is larger than that of the Mahanadi although it does not receive so heavy a rainfall. After entering the Terai it divides into two streams. One, called the New Balasan, joins the Mahanadi just below Siliguri: the other branch, the Old Balasan, continues southward and passes out of the District to join the Mahanadi lower down in the Purnea District. The new channel is said to have been caused 100 years ago by Meches damming up the stream for fishing. However that may be, it is a fact that, at the present time, the volume of water flowing in the Old Balasan is considerable and fluctuations in its volume occur which are dangerous to roads and bridges crossing it.

On the extreme west is the Mechi river, part of the District boundary with Nepal, whose chief tributary comes from beyond the frontier. Landslips in Nepal bring down much detritus into the Mechi, the bed of which near the mouth of its gorge is, in the dry season, characteristic of the rivers of the hill face—a stretch of loose and water-worn stones intersected with water channels. The spread of stones surges down southward and where the river emerges from the hills, attacks fields and forests, being at one point pushed further into the attack by another stone stream of delta formation, the mouth of a second tributary from the Nepal side of the main river.

The geological formations of the Darjeeling District consist of unaltered sedimentary rocks, confined to the hills on the south, and different grades of metamorphic rocks over the rest of the area. The outcrops of the various rocks form a series of bands more or less parallel to the general line of the Himalaya and dipping one beneath the other into the hills. A characteristic feature of the southern area is that the older formations rest on the younger, showing a complete reversal of the original order of superposition.

The great range was elevated during the Tertiary period, on the site of an ancient sea that had accumulated sediments of different geological ages. The mountains are made of folded rocks piled one over another by a series of North-South horizontal compression movements and tangential thrusts which also folded the strata on the sea-floor and caused their upheaval by stages. At many places the formations have been intruded by granites. The mountains have incorporated some of the rocks of Peninsular India, which seem to have extended northwards as far as the Himalayan sea. Frequently the strata within the range are inverted due to the overturning of the folds and their dislocation. Features of such inversion, bringing the older beds above the younger, characterise the whole length of the outer Himalaya. As a result of forward movements of the folded range towards the south, a portion of the earth's crust in front of the Himalaya sagged, producing a depression now masked by the Indo-Gangetic alluvium.

The present relief of high peaks and deep valleys has been carved by wind, water and snow, three principal agents of denudation. The products of disintegration of the mountains have been swept over the submontane tract as the rivers debouch into the plains. The Terai and the plains at the foot of the Himalaya were given their present form after the final upheaval of the range and consist of almost horizontal layers of unconsolidated sand, silt, pebbles and gravel.

The foothills, north of the Terai, are made of similar but well-cemented and more compact alluvial detritus consisting of soft, grey, massive sandstones, mudstones, shales, mottled clays, conglomerates and subordinate bands of earthy limestone and lignite. The rocks are of Tertiary age and have been included in the Nahan stage of the Siwalik system of the outer Himalaya. The material was laid down along the foot of the rising Himalaya, by an old river system draining the young mountains, and was incorporated in the foothills during the later stages of uplift.

Resting over the Siwalik beds is a group of still older rocks consisting of coarse, hard sandstone, sometimes silicified into quartzites, of carbonaceous and splintery slates, of shales and of impersistent seams of powdered coal. The beds have been invaded in places by minor intrusions of basic igneous rocks. The shales have yielded plant fossils similar to those found in the Damuda stage of the great coal-bearing Lower Gondwana system of Peninsular India, ranging from Permo-Carboniferous to Permian in age.

North of the Gondwana outcrops, the hills are occupied by a group of low grade metamorphosed sediments represented by quartzites, slates, phyllites and foliated rocks composed of flaky minerals such as graphite, chlorite and sericite. Occasional minor bands of altered basic igneous rocks also occur. The group overlies the Gondwanas and is known as the Daling series. In the Western Dooars it contains dolomite in addition to its other components and is then known as the Baxa series. The exact age of the Daling and the Baxa series is not known, but they are considered to be much older than the Gondwanas. Their occurrence in the Eastern Himalayas is widespread.

The Daling series rests under a variety of foliated and banded metamorphic rocks, partly sedimentary and partly igneous in origin. These rocks are known under the general name of Darjeeling gneiss. The foliated types are usually mica-schists in which the principal mineral is mica, either muscovite or biotite or both. In these schists the flakes of mica and small quantities of other minerals are arranged tightly packed as the leaves in a book. The banded rocks are gneisses and have been formed by injections of granitic fluid along the micaceous layers of the schists. Where soaking has been thorough, the gneisses approach granites in composition and are made of biotite, muscovite, quartz and feldspars. The sedimentary varieties of the Darjeeling gneiss contain such minerals as garnet, sillimanite, kyanite and staurolite, the presence of which indicates that the rocks were subjected to higher temperature and pressure than the Daling rocks. The Darjeeling gneiss also carries subordinate bands of quartzite.

The formations of the southern area, with minor exceptions, are inclined at high angles towards the north and north-west. The Tertiaries fringe the older rocks on the south, continuously from close to the Mechi river eastward to the Jaldhaka. The Gondwanas constitute a narrow band between the Dalings and the Tertiaries running from Pankhabari to the Jaldhaka. The Baxas, overlying the Gondwanas, occur only at the extreme eastern end of the District. The Dalings occupy the entire length of the District following more or less the same trend and inclination as the younger rocks. The Darjeeling gneiss occupies the greater part of the district. On the journey between the plains and Darjeeling, the Tertiary beds crop out between Sukna and Chunabati, the coal-bearing Gondwanas below Tindharia, the Daling rocks between Tindharia and north of Gayabari, and the Darjeeling gneiss over the rest of the distance.

The Daling series appears in the Tista valley between Kalijhora and Rangpo, and extends into Sikkim. It is present in the Rangit valley below Darjeeling and the Ghum Range where it has southerly dips. Everywhere in both the valleys it occurs below the Darjeeling gneiss. From the disposition of low grade metamorphic rocks underlying highly metamorphosed ones, some geologists consider the Dalings and the Darjeeling gneiss as two distinct series and maintain that the latter has been pushed over the former and separated from them by a thrust plane. Others, however, regard the Darjeeling

gneiss as the granite-injected and highly metamorphosed upper part of a great sedimentary succession, of which the Dalings represent the lower part. No final decision has yet been reached in the matter and the age and relations of the Darjeeling gneiss are uncertain.

A geological map of the District will be found in the front of the gazetteer.

The minerals of the District include coal, graphite, iron and copper ores but none has so far been exploited with profit. **Minerals, Mines and Quarries.** The Gondwana beds contain coal which has a variable ash content. The beds are contorted, faulted and inclined at high angles. The coal is badly crushed and has been rendered powdery, friable and flaky: it does not seem usable for commercial purposes except when coked or converted into briquettes. The high inclination of the coal seams, their impersistence due to faulting and their inaccessibility are factors which militate against economical development. At the end of the last century a company endeavoured to work the Daling coalfield below Nimbong in the Kalimpong Subdivision, but all work was given up owing to mining and transport difficulties. A mining lease has recently been granted to work coal in the same area.

Graphite of an inferior quality occurs in the semi-graphitic schists of the Rakti river. As far as is known it is of no economic value.

Iron-ore, varying from a strong ferruginous clay to an impure brown hematite, is found at Lohargarh to the south-west of the District below Pankhabari and, according to old reports, was formerly worked. High grade magnetite and micaceous hematite, free from sulphur and phosphorous, form a band about 20 feet thick at Samalbong about a mile east-south-east of Sikbar to the east of the Tista. The ore is said to have produced iron of the best quality in the past.

Copper-ores, chiefly chalcopyrite, occur in the rocks of the Daling series near Ranihat, on the western side of Mahanadi, near the mouth of the Baffupani: at Pashok: at a place 2 miles north-east of Kalimpong: on the left bank of the Tista river, east of Mangpu: in a ravine near Samther: and in the neighbourhood of the Chel river. No attempt has yet been made to exploit the deposits by modern methods. Concessions were taken out in the past but working was unsuccessful. The number of mines and old workings deserted by the local people shows that even they did not find copper smelting in the Darjeeling hills lucrative.

There are three possible sources of lime in the District, viz., the dolomite of the Baxa series, the limestone bands in the Tertiary rocks and the calcareous tufa deposited by springs at numerous localities, chiefly at the junction of the Gondwana and the Tertiary rocks. The tufa is fairly pure and contains over 90 per cent. of carbonate of lime.

The District does not possess high class building or ornamental stone but practically all formations yield stone that can be used for building purposes. Stone is procurable everywhere in the hills from

rocks near at hand such as the Daling beds, which yield coarse slate and quartzite, or the harder Tertiary and Gondwana sandstones near the foot of the hills to the common Darjeeling gneiss, which can easily be split and dressed into conveniently sized blocks for use in buildings, revetments and protection walls. The Communications and Works and the Forest Departments of the Bengal Government maintain several quarries for road metal for which quartzite and gneiss are commonly used.

Within living memory, the District has not fallen within the epicentral tract of a major earthquake affecting north-eastern India. But minor earthquake shocks, smart as well as mild, have been recorded from time to time since 1842. A sharp shock, felt on the 27th February 1849, caused many well-built walls to crack. Several shocks were felt between March and October in the year 1863. During the Cachar Earthquake of the 10th January 1869, smart shocks were recorded at Darjeeling, Kurseong, Pankhabari and Siliguri. During the same year minor tremors were felt at Darjeeling between the months of March and August. Cracks appeared in several buildings at Darjeeling and Kalimpong during the Dhubri Earthquake of the 3rd July 1930.

The District was included within the higher isoseismals of the Assam Earthquake of the 12th June 1897 and the Bihar-Nepal Earthquake of the 15th January 1934. It was severely shaken on both occasions, the worst affected parts being Darjeeling town and its neighbouring spurs and the railway station at Tindharia. At Darjeeling a number of badly constructed houses totally collapsed. In many buildings cracks formed or walls fell out and bungalows were damaged by the fall of masonry chimneys crashing through roofs. Although the loose nature of the Darjeeling soil is partly responsible for much of the destruction by earthquakes, a noticeable feature of the 1934 earthquake was that, in the area of maximum damage, ferro-concrete structures stood almost unharmed. So also were well-constructed recent buildings of brick or dressed stone. On this occasion, the top layers of the sub-soil on the crest of the Darjeeling ridge and its outlying spurs, mostly on the western side of the town, developed fissures damaging buildings.

The station building at Tindharia was damaged during the earthquakes of 1897 and 1934. Landslips took place near Tindharia station soon after the earthquake of 1897 and a ground fissure, over 300 yards long, appeared below the station yard in 1934.

During the earthquake of 1934, Kurseong and Kalimpong escaped with minor cracks in buildings but landslips occurred at several places in the Tista valley below Kalimpong.

Serious damage to buildings has never been reported from Siliguri, but, during the earthquakes of 1897 and 1934, ground fissures appeared at several places in the submontane tract to the north, near and beyond Sukna, and the cart road was much cut up.

The District is exposed to constant danger from landslides, most of which take place during or soon after the monsoon. Scars left by landslides are common features of the landscape in every part of the District. Gravity, in causing slips, is aided by the steepness of slopes and soaking of the mantle rock, essential conditions of instability being lack of support in front and lubrication behind. The parts of the hills usually affected either are composed of soft rocks such as schists, shales and clays or support thick mantles of soil and weathered rocks on steep slopes.

Several of the types into which Swiss geologists classify landslides can be recognised in the Darjeeling Himalaya. The simplest are the Rock Falls, or Felsstürze of the Swiss: these are falls of boulders, large or small, from steep slopes. Boulders on hill-sides are usually isolated from the bedrock by a zone of decomposed material behind and beneath them. Traffic is often held up on the Cart Road to Darjeeling by rock falls of this type, which are not uncommon during the rains.

Another type, the sliding of rock masses, termed Felschlipfe in the Alps, is quite frequent in the Tista valley between Sivok and Kalijhora, where the hills consist of interbedded sandstones and shales inclined at high angles in the same direction as the hillslopes. The scouring of underlying bands of soft shales by rainwater causes the overlying sandstones to slip and slide down the hillsides. Sliding also occurs among the harder gneisses and quartzites when they are fractured and faulted or traversed by highly inclined joint and cleavage planes.

A third type, Soil Slips or Schuttrutschungen, is caused by slow downward movements of soil or unconsolidated material along unprotected hillslopes. Such movements are familiar on the Cart Road, particularly between Mahanadi and Rangtong, where portions of the road may sink from a few inches to several feet. The subsidence usually takes place where a steep embankment has been constructed on decomposed or soft rocks such as shales, clays or micaceous schists and is left without sufficient protection. Elsewhere in the hills, surface waters, percolating through shattered rocks in a crushed zone, sometimes issue as springs at lower levels and carry large quantities of comminuted rock particles in suspension. This causes subsidence at the higher levels and slips at lower levels: both are the result of the undermining action of spring water at the foot of the slopes. A settlement of this nature was recorded in the faulted area between the two branches of the Kagjhora in Darjeeling, where subsidence at the higher levels produced serious cracks in the surface soil.

The slow downward creeping movements of soil sometimes give place to sudden and violent landslips called Schuttstürze by the Swiss geologists. Such landslips may occur on slopes covered with thick soil and weathered rock and may affect hillsides of considerable extent. During his travels in the Lower Himalaya, Sir Joseph Hooker came

across several enormous landslips. "The most prominent effect of the steepness of the valleys", he wrote, "is the prevalence of landslips which sometimes descend for 3,000 feet, carrying devastation along their course: they are much increased in violence and effect by the heavy timber trees which sway forwards, loosen the earth at their roots and give impetus to the mass." As such landslips may take place without previous warning, loss of life and damage to property in inhabited areas may be appalling. Fortunately catastrophic landslips are not frequent in the towns of the Darjeeling District, where, after the disastrous landslips of the 24th September 1899 in Darjeeling town, measures have been taken to protect hillslopes on the lines suggested by an expert Committee appointed by the Government of Bengal.

The landslips known as Schuttstürze are explained in the following way. The soil-cap is the direct product of the atmospheric decomposition of rocks. There is a transition from the superficial layer of soil formed by the weathering of the rocks near the surface through a zone of decomposed rocks, known as the sub-soil, to the bed-rock. The soil-cap is in process of continual growth through chemical action of percolating waters on the bedrock. As the rate of erosion of soil by rain-water is lower on hill slopes covered with vegetation than on bare slopes, thick mantles of soil and other products of rock decay accumulate on wooded slopes. This material can remain stable so long as its angle of safety is greater than the inclination of the slope on which it rests. The formation of a soil-cap does not itself contribute to any increase in the surface slope but its removal from the foot of a hill by streams increases the average slope of the hillside and disturbs the angle of repose of the soil-cap. Consequently the soil-cap on the upper part of a hillside, when subjected to the undermining and erosive action of a stream, is liable to a slow process of creep (Schuttrutschungen) with the regular succession of wet and dry seasons. During each monsoon, as a result of the expansion which follows saturation, the soil-cap slowly moves downwards in the direction of least resistance. In the succeeding dry season, the soil contracts on drying and the downward movement is checked. Movements of the soil down the slope continue in this way year after year until conditions of stability are exceeded, when landslips occur to restore equilibrium. The magnitude of a landslide depends on the thickness of the soil-cap, the amount of saturation of the soil, the steepness of the hillslope, the nature of the underlying rocks and the erosive power of the streams and waterfalls in the area.

Practically all the landslips in the District are caused by a combination of some or all of the above. The disastrous landslips of September 1899 which occurred on the eastern side of Darjeeling town were of the type known as Schuttstürze. These landslips were confined to the soil-cap covering the gneisses which form the Darjeeling ridge and their immediate cause was traced to the excessive rainfall which, following an unusually heavy monsoon, deluged the town for three days

commencing on the 23rd September. The hillslopes already had a thick mantle of soil in a state of unstable equilibrium and heavy rains precipitated the slips. Damage to property was considerable while the loss of life amounted to 72, 45 deaths occurring on the eastern side of the ridge.

The landslips in the Happy Valley, west of the Cart Road at Darjeeling, are due to head erosion of the Katchary *jhora* and its tributaries. In this area the cliffs are of highly fractured and fissured gneissic rocks, which have been decomposed to considerable depths below the surface by percolating rain-water. The ground behind the cliffs is highly decomposed and, during the rains, becomes saturated, whilst the water in the *jhora* below undermines the cliffs. The rockface becomes gradually detached from the ground behind and small or large sections of rock slide into the *jhora*.

In the reserved forests in the Kalimpong Subdivision, landslips are caused by disintegration of the different rocks as a result of weathering and by the continual steepening, by river erosion, of the hillslopes supporting the weathered material. The increased angle of slope imparts instability to the weathered material which, having no outward support, slips into the valley below.

Landslips cannot entirely be prevented but they can be checked by proper protective measures. Turfing and afforestation of bare slopes, well-directed and efficient drainage, reduction of the steepness of hillslopes by terracing, outward protection of the soil-cap by means of revetments and buttresses, protection of the harder rock outcrops, systematic quarrying in hillsides and control of the erosive action of streams and waterfalls are some of the measures which give useful protection.

Local damage by erosion is mainly noticed when roads or railways are affected and the engineers responsible for communications have much of their time taken up in dealing with breaks arising from slips. They have become accustomed to coping, cheaply and swiftly, with damage often quite extensive and apparently alarming.

More serious effects of erosion are to be noticed in the behaviour of certain of the rivers debouching from the hills. The Mechi river bed on the west boundary of the District has been filled and its course deflected by a huge volume of detritus originating in a great landslide in Nepal. The result has been loss of cultivated land on the Darjeeling side of the river and great damage to the Mechi reserved forest through which the river is being deflected.

The Lish and Chel rivers on the eastern side of the District have been bringing down much debris and thereby have damaged the road and bridging crossing the rivers at the foot of the hills. This is directly due to heavy erosion in the hills.

The Balasan river, emerging from the hills below Kurseong, divides into two branches. This bifurcation entails a continual danger that

the river will change its course and damage property and roads. While it is not possible to say that this situation is due to any erosion, it may be true that, if the head waters had been more heavily afforested, the danger would not be so great.

Little can be done to remedy the more extensive effects of erosion after they have occurred. One or two small areas have been made over to the Forest Department for remedial measures by protection and afforestation. In 1940, an area of 188 acres was handed over at Dalapchan near Kalimpong, where damage to a Government road had been recurring and was costing large sums in repairs. In 1942, small areas totalling 173 acres were similarly handed over in the Kalimpong Development Area. Work has been taken in hand and it has been found necessary, before commencing afforestation, to construct revetment walls and contour drains. No general preventive action against erosion has yet been undertaken.

Tourists and casual visitors to Darjeeling town find two seasons congenial for their purposes—spring and autumn. **Climate and Weather.** The monsoon period is popularly (and correctly) known as a period of heavy and almost continuous rain and mist. The winter after December is usually too cold and unpleasant for visitors: indeed most permanent residents make arrangements for spending as long a period as possible during the months of January and February at lower altitudes or in the plains.

A more detailed explanation of weather conditions in the District as well as in the town of Darjeeling is justified by the peculiarities of climate which most parts of the District experience.

Weather conditions generally are noteworthy because of the position of Darjeeling in relation to the land mass of the Tibetan plateau and of the powerful effects of the monsoon current. Conditions in different parts of the District show wide variation and their diversity is due not only to differences of altitude (normally considered to affect temperatures at the rate of about 3 degrees Fahrenheit for every difference of 1,000 feet) but also to the configuration of neighbouring mountains which deflect winds and affect rainfall and temperature locally to an appreciable extent.

The southern parts of the District (and particularly the Terai) are at low altitude and are more directly affected by conditions which regulate weather in the plains. Climate in the more northerly parts of the District depends on the extent to which the shape and height of local mountain masses impede or enhance the southerly influences.

During the period November to May upper winds over the Himalayan region are predominantly westerly. At **Air Movement.** extreme heights these winds are invariably strong and often rise to gale or hurricane force. At these heights some falling off in speed usually occurs in the months of March, April and May and with the setting in of the monsoon (in June) there comes a conspicuous reduction in wind speed persisting until the approach of winter.

At altitudes of 8,000 to 20,000 feet in the Eastern Himalaya, wind directions are steady from November to the first half of February and fairly steady from the second half of February to May. During the monsoon, wind direction is most unsteady and the monsoon current occasionally rises to great heights (even above the highest Himalayan peaks). On such occasions the air current over the Eastern Himalaya becomes southerly or south-easterly and easterly or north-easterly over the Western Himalaya. In October, with the withdrawal of the monsoon, the westerly movement begins and becomes progressively steady as winter conditions set in.

At the height of Darjeeling and in the Terai, calm conditions are frequent. Calm does not occur so often at Kalimpong. Average wind force at Darjeeling does not exceed 6 miles per hour: the mean velocity is higher at Kalimpong and lower in the Terai. Local storms however occur in all parts of the District.

Surface winds in the Darjeeling District have usually an easterly component. From November throughout the winter the prevailing direction in Darjeeling town is east-north-east. In the spring up to June there is a tendency for a west or south-west component to enter and in the monsoon (June to September) the prevailing direction is east-south-east.

Wind directions are probably caused by a large easterly Himalayan air mass which descends as an easterly or north-easterly current usually down the Brahmaputra valley. This air current is responsible for the majority of storms in the Bay of Bengal and for the deflection of monsoon depressions towards the west. Except in the winter months this current is the coolest of the various air masses in the region of India.

In the pre-monsoon months, a southerly air from the Bay of Bengal brings moisture inland in varying quantities. The impact of this current on the cool north-easterly current gives rise to local storms in the plains of Bengal and is, with a diurnal convection of air between the hills and the plains at the foothills, the main cause of the frequent local storms which take place in the District during March, April and May. By the middle of June or the beginning of July, the Bay of Bengal air current has usually merged into the Bay branch of the monsoon.

The southern part of the Terai is occasionally affected for a few days by a hot dry wind which, during hot weather months, blows from the west over Bihar. This wind, more common in the south Terai, rarely reaches as far to the east as Jalpaiguri. It has a parching effect on vegetation and in particular on tea, causing the leaves to fall off the bushes.

In the Tista gorge and other river valleys, there is often a draught of air up and down which changes direction diurnally.

Moisture conditions, viz., humidity, obscuration and precipitation, follow closely from the air movements mentioned above. Humidity at Darjeeling town (altitude 7,432 feet) at 9 hours varies from 72 per cent. to 96 per cent. of saturation and at 18 hours from 82 per cent. to 96 per cent. It is highest from June to September when the variation is from 93 per cent. to 96 per cent. The lowest morning values are recorded in December and March. At Kalimpong (altitude 3,965 feet) percentages vary from 65 to 94 in the morning and from 59 to 93 in the evening. The lowest mean values (65-68 in the mornings and 59-61 in the evenings) occur in March and April. The highest mean values (90-93) occur as at Darjeeling from June to September. At Pedong (altitude 4,760 feet) percentages are lowest in March (68) and highest from June to September (88-91). In the Terai the mean is lowest in March and April (73) and highest from June to September (89-91).

Fog occurs in the Terai from December to March on a few days only. In the hills occurrence is local. In Darjeeling and Kalimpong fog or mist is very common in July and August and is fairly frequent in June and September: it is rarest in December. In Darjeeling town the sky is not discernible on 20 days on the average in each of the months of July and August. Normal cloud occurrence at Kalimpong, Darjeeling and Gangtok is as follows:—

Cloud at 8 a.m. local time (whole sky cloudy 10·0).

	Kalimpong.	Darjeeling.	Gangtok.
January	2·6	4·1	3·1
February	2·7	4·3	3·2
March	1·8	3·6	2·2
April	3·3	4·9	2·7
May	4·2	6·8	4·0
June	7·1	8·6	6·1
July	7·5	9·0	6·7
August	7·5	9·0	5·9
September	6·5	8·1	5·5
October	3·3	5·3	3·4
November	1·9	3·3	2·4
December	2·6	3·1	2·0
Year	4·2	5·8	3·9

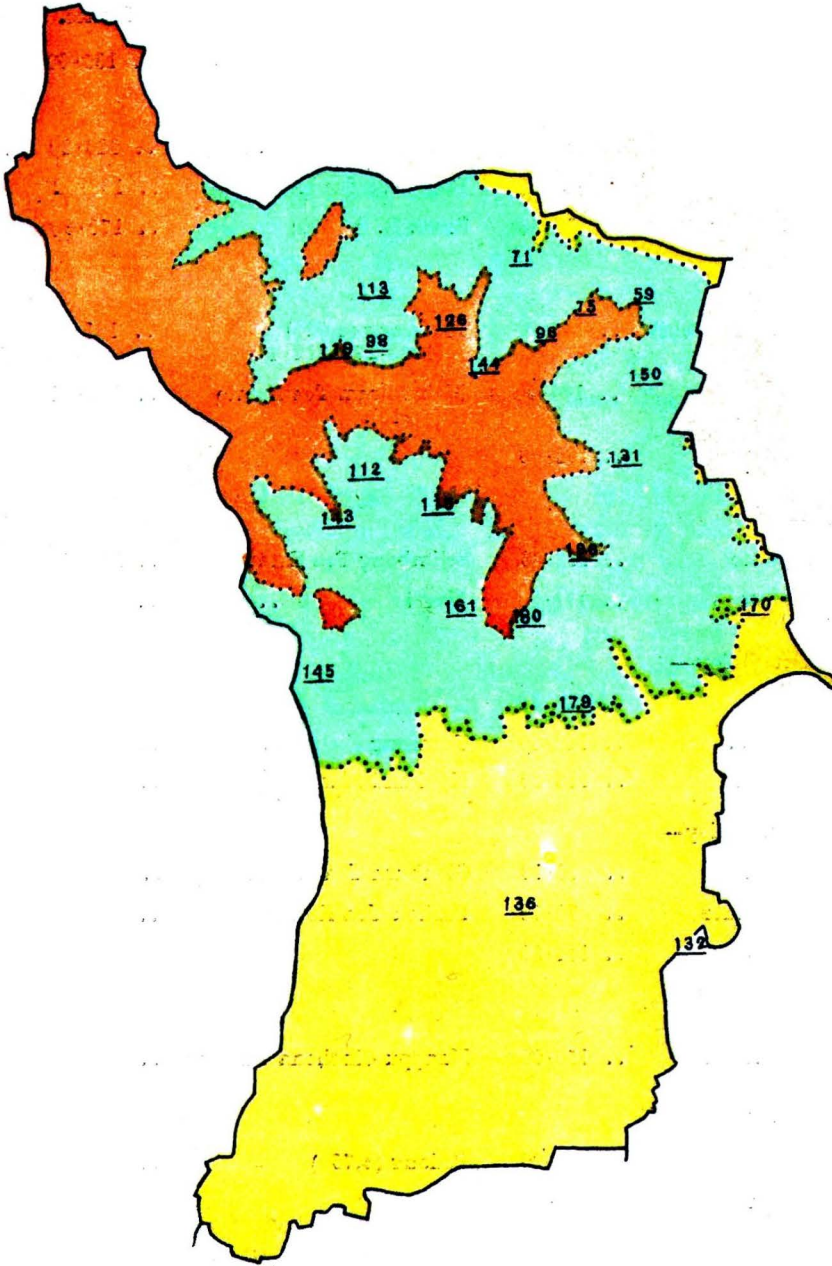
Precipitation is heavy throughout the monsoon months in all parts of the District but average rainfalls vary considerably from place to place, being dependent on a number of local conditions such as the configuration and height of local mountain features.

Average annual rainfall figures are given below for different parts of the District (height above sea-level in feet shown in brackets):—

Terai—	Inches.		Inches.
Siliguri (396) ..	.. 131·63	Baghdogra (500) ..	.. 135·60
Outer Hill face—			
Samsing Tea Estate ..	.. 212·76	Fagu Tea Estate ..	.. 226·20
Minglas Tea Estate ..	.. 190·23	Bagrakot Tea Estate ..	.. 168·52
Rongtong R. S. (1404) ..	.. 178·50	Sivok R. S. (500) ..	.. 170·30
Outer Hills—			
Gyabari Tea Estate (Mechi) ..	.. 145·00	Kurseong (4,920 (1923-27 212·4")	.. 161·26
Mahanadi Tea Estate (in 1938 234").	.. 180·00	Mahaldiram Tea Estate (5,213).	.. 195·92
Dhobijhora (6,066) ..	.. 162·08		
Upper Balasan—			
Poobong Tea Estate ..	.. 112·06	Selimbong Tea Estate ..	.. 112·75
Balasan Tea Estate ..	.. 111·00	Nagri ..	.. 115·00
Inner Hills Rangit Valley—			
Darjeeling (7,376) ..	.. 126·42		
Mim Tea Estate ..	.. 119·30	Tumsong ..	.. 111·00
Singtom Tea Estate ..	.. 113·25	Kyel and Marybong ..	.. 97·95
Inner Hills Rangnu Valley—			
Lopchu Tea Estate ..	.. 96·13	Glenburn Tea Estate ..	.. 74·99
Badamtam Tea Estate ..	.. 70·78	Pashok Tea Estate ..	.. 58·92
Rangiroon Tea Estate ..	.. 144·39		
Tista Valley—			
Tista Valley Tea Estate ..	.. 150·00	Mangpu Cinchona Factory ..	.. 131·22
Inner Hills East—			
Kalimpong (3,933) ..	.. 86·20	Pedong (4,760) ..	.. 103·75
Munsong Cinchona ..	.. 96·23		
Sikkim—			
Gangtok (5,667) ..	.. 135·11		

A map follows giving the salient figures from the above from which it will be seen that rainfall is heaviest on the outer face of the hills overlooking the plains and particularly heavy at the eastern end of this face where annual falls of over 300 inches are known to take place. Localities protected on the south by hills and mountains tend to have a lower rainfall as intervening high land intercepts some of the moisture. This is noticeable in the areas north of the ridge running east from Manibhanjan to Senchal and the Rishi La.

DISTRICT DARJEELING excluding KALIMPONG SUBDIVISION.



Scale 1" = 8 Miles

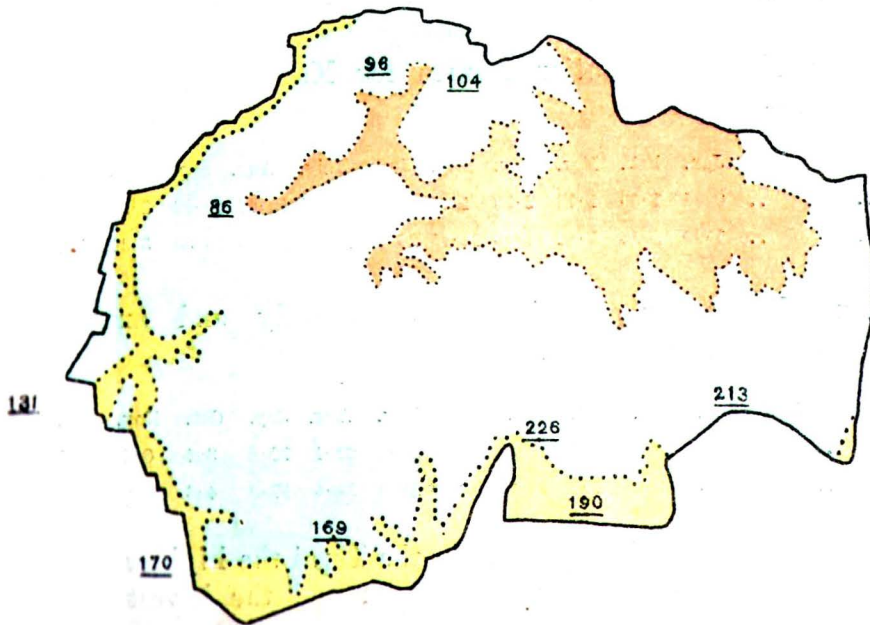
REFERENCES

5000 Contour

1000 Contour

Rainfall inches 136

KALIMPONG SUBDIVISION.



Snow is caused by depressions coming from the north-west and falls in the District on the average only on one or two days in the year and then only at higher altitudes and during the period December to March. There was a particularly heavy fall in Darjeeling town on the 7th of March 1913. On ground below 8,000 feet, snow rarely remains unmelted for more than a few hours.

Hailstorms occur throughout the District during the months of March, April and May. They are less frequent in the Terai than in the hills but very large hailstones sometimes fall in the Terai. Falls of hail vary locally in a capricious way and in the hills they are more common at the higher altitudes and often do much damage to vegetation.

Normally monthly distribution of rainfall (including snow and hail) at Darjeeling town is—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
Darjeeling town ..	0.53	1.19	1.88	4.14	9.63	24.18	32.92	26.56	13.90	5.41	0.81	0.27

For comparison distribution figures for Kalimpong and Gangtok are also given—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
Kalimpong ..	0.45	1.50	1.13	2.59	4.45	15.55	22.97	19.17	10.93	2.55	0.29	0.24
Gangtok ..	1.00	2.54	5.12	11.43	19.45	20.62	24.90	22.69	19.30	5.34	1.83	0.89

The normal number of rainy days (monthly and annual) for Darjeeling and Kalimpong are:—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
Kalimpong ..	1.3	3.0	3.1	6.5	8.8	15.9	23.3	21.1	12.8	3.4	0.5	0.5	100.2
Darjeeling ..	1.5	2.4	3.6	7.1	13.9	20.6	25.0	24.4	17.0	4.3	0.8	0.7	121.3

Temperatures vary with altitude. In the Terai the highest maximum recorded has been 104.0° F. and the lowest minimum 36.0° F. At Kalimpong the highest maximum temperature 87.0° F. occurred in April and June and the lowest minimum 31.0° F. in December. In Darjeeling town the highest maximum temperature occurred in June (80.1° F.) and the record lowest minimum 19.9° F. in February.

The following are the monthly and annual normals of maximum and minimum temperature in degrees Fahrenheit for Kalimpong, Darjeeling and Gangtok:—

<i>Maxima.</i>	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
Kalimpong (Alt. 3,933') average for year 69.5°	58.9	60.7	68.3	73.1	74.3	74.9	75.1	74.7	74.3	71.6	66.5	61.0
Darjeeling (Alt. 7,376') average for year 58.8°	46.6	48.4	56.3	62.5	64.0	65.5	66.3	65.9	64.9	61.3	55.1	49.2
Gangtok (Alt. 5,667') average for year 68.2°	57.5	59.1	66.3	70.4	72.4	73.9	74.6	74.6	73.9	70.8	64.7	60.3
<i>Minima.</i>	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
Kalimpong (Alt. 3,933') average for year 57.6°	45.9	47.4	52.7	58.2	62.1	65.9	66.9	66.9	65.4	60.3	52.5	46.8
Darjeeling (Alt. 7,376') average for year 47.4°	34.7	35.5	42.1	48.5	52.1	56.2	57.7	57.4	55.7	49.9	42.7	36.7
Gangtok (Alt. 5,667') average for year 45.8°	32.2	34.9	41.7	47.1	50.5	54.9	56.0	55.6	53.6	48.4	40.8	34.1

The information given above can serve as a prelude to a general description of weather in the District, which follows more or less closely the course of weather in the plains in that there is a cold weather, a hot weather and a rainy season. There are however in Darjeeling town two short periods, and these the most delightful in the year, which correspond in some ways to the autumn and spring of

temperate latitudes. The cold weather has two parts: the first at the end of the rains is mild and pleasant, the atmosphere being tolerably clear and generally free from the mist and cloud which is so common at most other times of year. This is the autumn. The second part begins in December when the first hoar-frost brings in winter. Quite often the air is cloudless, dry and bracing. In the early morning it is very cold but later, if there is sunshine, it can be pleasantly warm. January and February are often far less pleasant especially when fog and cloud obscure the sun. Snow falls occasionally in these months and life in houses not built to keep out the cold has some hardship when the range of temperature outside is from a maximum of 34 to a minimum of 32 Fahrenheit and the temperature inside a bedroom is found to be 38 in the early morning. Snowfalls are not common and snow rarely lies long on the ground. In 1837 more than a foot of snow was recorded and in February 1887 snow lay for three weeks on the higher ranges near Darjeeling.

Spring begins in March when there are often strong winds. At the beginning of the month rhododendrons and magnolias are in full flower in the forests nearby and garden flowers begin to bloom. April and May give a short-lived summer with frequent showers of rain (and often hail). In June the monsoon begins and for three months Darjeeling is exposed to heavy monsoon rain and is usually shrouded in mist. In September a change is expected. The rain gives way to showers which become less and less frequent. The sun shows itself more often and by October the rains come to an end.

Weather in Darjeeling even when apparently most settled cannot be relied on and cloud and fog may at any time rise from the deep humid valleys and hang for days over the station.

In the District, abrupt changes of altitude, aspect and exposure to moist winds give rise to a wide variety of climatic conditions many of remarkable severity. In the Terai and lower valleys the heat is tropical and on the outer face of the hills monsoon rainfall is very heavy. On the high mountains exposed to the moist southerly winds from the plains rainfall may be lower but a condition of cold humidity obtains which is only found in a few parts of the world. Climate in intermediate situations varies through a wide range.

Although normally wind force is small in all parts of the District, storms occur from time to time accompanied by heavy rainfall and winds of great force. Such a storm took place in September 1899 when in the 24 hours preceding 8 a.m. of 25th September 1899, 19.40 inches of rain fell at Darjeeling (the maximum fall during 24 hours recorded during 48 years). This followed heavy rainfalls on the 23rd and 24th September: these coming after an already heavy seasonal rainfall caused many disastrous landslips, loss of life and destruction of houses, roads and property. The storm originated in a disturbance coming from the Bay of Bengal and the centre passed through the

western part of the District close to Darjeeling and Pulbazar. Rainfall was much less heavy at Kalimpong and at Pedong only 7.58 inches were recorded. On the other hand 27.20 inches fell in the Happy Valley Tea Estate near Darjeeling and at Pulbazar the little Rangit rose from 30 to 50 feet and 67 deaths resulted. This flood was due to landslips upstream damming up water: when these dams burst, huge masses of water were projected into the river bed and caused an abnormal rise in river-level.

The Tista came down in a flood of unprecedented height and most of the houses in the Tista bazar and whole sections of the Tista valley road disappeared. Two thousand acres of tea and large stretches of forest were swept away: the most serious forest damage being in the Balasan river valley where three-quarters of the Balasan forest was destroyed. Very great damage was done to road and rail communications in the District and the stoppage of transport caused distress and soaring prices. The total loss of life in the District was 219 and in Darjeeling town 72 were killed (including 10 Europeans). Along the eastern side of the Mall was an almost continuous series of landslides.

Immediately after the disaster, a Committee of engineers and residents was appointed to devise measures to prevent recurrence of landslips or to minimise their consequences. The report of the Committee, which was assisted by a member of the Geological Survey, showed that the slips were confined to the soil-cap and that the underlying rock was massive and secure. The report clearly traced the cause of each slip and indicated the remedial measures needed. These required legislation and the result has been special drainage and building regulations applicable to hill municipalities and adequate powers to ensure properly designed buildings, drains, roads and protective sloping of hillsides on private and public land. With these powers the authorities have succeeded in preventing slips occurring subsequently under similar conditions.

Another cyclonic storm caused the destruction of the Kalimpong Subdivisional Court building in 1932. A heavy rainstorm in 1942 in the foothills (36 inches in 40 hours in some places) caused a large landslip which gave the railway authorities much trouble at mile 14. Minor storms of considerable intensity are not infrequent such as those which in July 1943 and July 1944 struck Darjeeling town.

The richness and variety of the vegetation of this District are the result of a number of physiographic, climatic, edaphic and biotic factors. Although it is situated in that part of Asia where China, Tibet and India meet, geographical conditions have meant not so much actual isolation as lack of opportunity for interpenetration and types common to these three countries are few.

The configuration of the mountains and hills of the District and the impact upon them of strong moisture-laden monsoon winds from

the south greatly influence the character of the vegetation from place to place. The outer spurs have a heavy rainfall and are densely clad with moist forest of tropical and sub-temperate genera. But the valleys and gorges further inside the District have a lower rainfall and tend to bear a drier type of forest. The higher ridges of the interior, however, intercept the moisture of the upper layers of the atmosphere which have passed over the outer spurs and thus develop an exceptionally most temperate climate in which moss-clad, lichen-draped trees and moist temperate flora thrive.

It is estimated that the plant communities in the District consist of about 4,000 species of flowering plants under 160 families. There are also 300 ferns, including their allies, chiefly *Selaginellas*, *Lycopodiums* and *Equisitums*. Of these about eight species are Tree Ferns. The most common species met with between 2,000 and 5,000 feet is *Cyathea Spinulosa*. In addition there are many other non-flowering plants—Liverworts, Mosses, Algæ, Fungi and Lichens. Of 180 species of thallose and foliose Liverworts reported from India, about 140 species are recorded from this area of which 72 per cent. are endemic. Abundant green and blue green algæ are met with in lakes, water courses, pools and swampy places. A beautiful epiphytic brick-red alga that covers walls, rocks and tree trunks everywhere is the subaerial Alga—*Trentepohlia aurea*. Iron bacteria of brick-red colour are seen in lumps by the side of water-courses and where water oozes from the hills. Seventy-five species of the hard fungi which attack timber trees have been recorded as occurring in this District.

Taking altitude as the prominent factor in determining range of distribution of the various species, the different associations of plants may be grouped under five main zones—the Plains, the Tropical or Lower Hill Zone, the Subtropical or Middle Hill Zone, the Temperate or Upper Hill Zone and the Alpine Zone.

In the Plains (Terai), communities of tall grass *Saccharum arundinaceum* and developmental association of *Dalbergia sissoo* and *Acacia catechunoides* sometimes mixed with *Albizzia odoratissima* and *Albizzia procera* cover open river-banks and adjoining open areas. There are also open grass-land and savannah areas covered with tall elephant grass—*Saccharum elephantinum*, *Cymbopogon nardus*, *Arundo donax*, *Neyraudia reynaudiana*, *Saccharum spontaneum*, *Saccharum procerum*, *Narenga porphyrocoma*, *Thysanolaena maxima*, *Desmostachya bipinnata* and others. In swampy areas, groups of *Phragmites karka* are met with. The tree association of this belt is mainly of *Shorea robusta*, *Lagerstroemia parviflora*, *Mallotus philippensis*, *Terminalia* species, *Erythrina* species, *Garuga pinnata*, *Albizzia* species and may be termed the *Shorea-Lagerstroemia-Stereospermum-Terminalia-Garuga-Albizzia-Erythrina* association.

The Lower Hill Zone forms a definite belt of vegetation from the plains up to 3,000 feet and upwards in a rather rapid ascent. This belt of about 1,500 feet and more is very unhealthy and is clothed in fairly dense forest, mainly Malayan in character and composed of trees commonly met with in the hotter parts of India. There are about 850 species of trees and shrubs in this belt and among these many are timber trees. The dominant species are *Shorea robusta* (Sal) and others belong to the families of *Orchidaceae*, *Leguminosae*, *Gramineae*, *Urticaceae*, *Euphorbiceae*, *Cyperaceae*, *Rubiaceae*, *Compositae*, *Asclepiadaceae* and *Acanthaceae*. The interior of the forest is marked by three storeys:—The ground vegetation with a thick undergrowth of herbs and shrubs, the second storey of tall shrubs and small trees and in some places Bamboos and Canes and a third storey of tall trees forming the overhead canopy. Large climbers and lianes interlock the branches of taller trees. *Bauhinia vahlii*, *Beaumontia grandiflora*, *Entada scandans*, *Rhaphidophora* species, *Tinospora cordifolia*, *Combritum* species, *Millettia pachycarpa*, *Cissampelos pareira*, *Cissus repanda* (wood holding large quantity of water) and other lianes are met with in this forest and associates of *Shorea-Phæbe-Dillenia-Amoora-Eugenia-Bauhinia* frequently occur.

The Subtropical or Middle Hill Zone extends from 3,000 to 6,000 feet. At 3,000 feet association of *Duabanga-Castanopsis-Eugenia-Phæbe-Callicarpa* is observed but the principal association is *Engelhardtia-Castanopsis-Schima-Betula*, the extensive range of this association being due to the fact that there is no change in geological formation, the whole area being on Sikkim gneiss. Between 4,000 and 5,000 feet associations of *Schima-Ostodes-Castanopsis* and higher up *Machilus-Michelia-Castanopsis-Magnolia* sometimes mixed with *Pandanus* species are often noticed.

Gamble remarks "The European character of this Middle Hill Forest is sometimes very remarkable; in one small forest near Kalimpong the following trees were found, though of course the species were different:—Oak, chestnut, cherry, maple, birch, alder, all of them fine large trees. A noticeable feature in many of these forests is the prevalence of tree ferns, *Alsophilas*, with tall graceful stems and feathery foliage making them at once the most conspicuous and the most beautiful of forest plants; the dense thickets of hill cane *Plectocomia himalayica*, especially found wherever the rocks are too steep for big trees: and the multitude of large-leaved *Aralias* whose leaves are often much used for feeding cattle".

The species found in this zone are *Castanopsis tribuloides*, *Machilus* species, *Quercus spicata*, *Schima wallichii*, *Castanopsis indica*, *Phæbe lanceolata*, *Erythrina stricta*, *Callicarpa arborea*, *Terminalia myriocarpa*, *Jambosa ramosissima*, *Engelhardtia spicata*, *Betula cylindrostachys*, *Alnus nepalensis*, *Talauma hodgsoni*, *Cinnamomum*

cecicodaphne, *Evodia fraxinifolia*, *Quercus lancaefolia*, *Ostodes paniculata*, *Eurya* species, *Prunus nepalensis*, *Magnolia campbellii*, *Quercus lineata*, *Acer thomsoni*, *Machilus odoratissima*, *Jambosa kurzii*, *Erythrina arborescens*, *Elaeocarpus lanceaefolius*, *Acer laevigatum*, *Brassaiopsis* species, *Machilus edulis*, *Symplocos* species and *Echinocarpus dasycarpus*.

In the Temperate or Upper Hill Zone and the Alpine Zone changes in the composition of plant communities are observed in the succession of vegetation from 6,000 to 12,000 feet. The two zones are roughly divisible into a lower non-coniferous and an upper coniferous and Rhododendron belt; but the line of demarcation between these varies so greatly with the exposure and humidity of the locality that they cannot be dealt with apart. Of about 100 families of flowering plants that occur in these zones, ten families dominate, viz., *Orchidaceae*, *Compositae*, *Gramineae*, *Rosaceae*, *Cyperaceae*, *Geraniaceae*, *Ericaceae*, *Liliaceae*, *Labiatae* and *Umbelliferae*.

Of the above families, the *Orchidaceae* alone are strongly Malayan in character; the others are mostly European, Central Asian, Japanese or Chinese. The most conspicuous trees are Magnoliaceae (five species), of which one, *Magnolia campbellii*, before the destruction of the forests, clothed the slopes around Darjeeling starring them in spring, when still leafless, with magnificent pink and white flowers. Other conspicuous trees of these zones are Oaks, Laurels, Maples, Birches, Alders, *Bucklandias*, *Pyrus* and Conifers. Of these, the Conifers are chiefly confined to the Alpine Zone from 9,000 to 12,000 feet in elevation. The monarch and most common of them is Webb's Himalayan Fir (*Abies webbiana*), which is also the most gregarious; others are the English Yew, the Sikkim Spruce (*Picea morindoides*), a Larch (*Larix griffithii*, the only deciduous Conifer in the Himalaya), the weeping *Tsuga brunoniana* and two species of Juniper, both of which, in dwarf forms, ascend high beyond the Alpine Zone. The absence of any true Pine or Cypress in the forest of this region of the Himalaya is notable, in contrast with similar elevations in the Western Himalaya. Of shrubs the most conspicuous are the *Rhododendrons* (25 species), which abound between 9,000 and 12,000 feet elevations, some of them forming impenetrable thickets; a few of these are arboreous, though never attaining any great height. Other shrubs are species of *Clematis*, *Theaceaenaceae*, *Berberidaceae*, *Ilex*, *Rosa*, *Rubus*, *Cotoneaster*, *Spiraea*, *Hydrangea*, *Aucuba*, *Lonicera*, *Leycesteria*, *Osmanthus*, *Osbeckia*, *Luculia*, *Buddleia*, *Vacciniaceae* (some epiphytic), *Ericaceae*, Elder, *Viburnum*, *Polygonum* and Ivy. Beautiful herbaceous plants abound—Anemones, Aconites, Violets, many species of Balsams, *Potentilla*, *Fragaria*, *Gentianaceae*, *Campanulaceae*, *Gesneriaceae*, *Scrophulariaceae*, *Orchidaceae*, *Ceologynè* (8 species), *Cypripediums*, *Polygonatum*, *Smilacina*, *Lilium*,

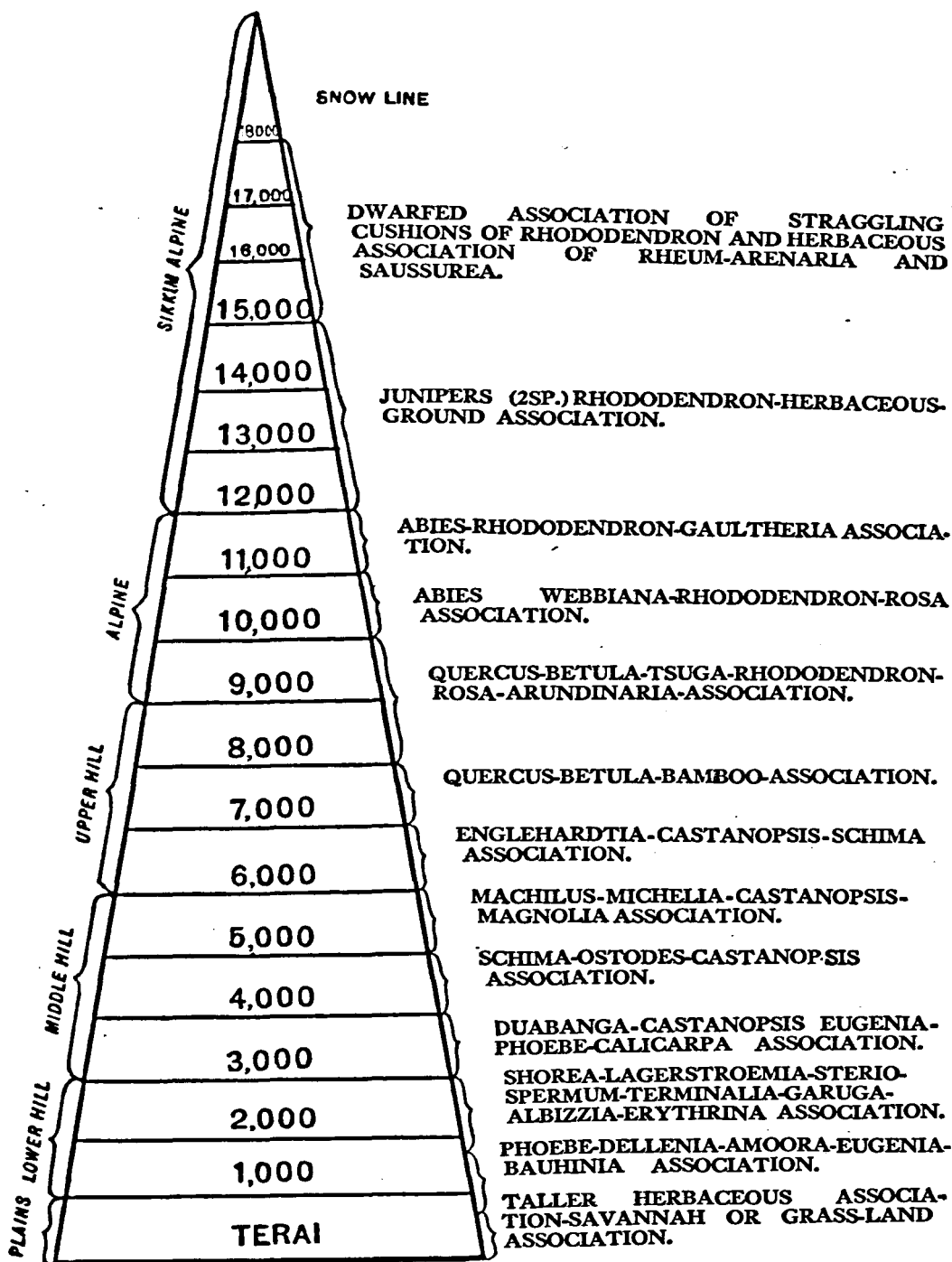
Fritillaria, *Arisaema* and others. Only two Palms inhabit this zone, a scandent rattan (*Plectocomia himalaica*) and a very rare Fan-palm (*Trachycarpus martiana*). Dwarf bamboos, of which there are six species, abound, some of them forming impenetrable thickets infested with leeches and large ticks. Ferns are also characteristic of this zone. The bamboo *Arundinaria* species forms in some open spaces dense associates between 8,000 and 10,000 feet particularly after a forest fire.

The plant communities observed in these zones are the associations of *Englehardtia-Castanopsis-Schima* between 6,000 and 7,000: *Quercus-Betula-Rosa-Bamboo* between 7,000 and 8,000: *Rhododendron-Rosa-Arundinaria* between 8,000 and 9,000: *Quercus-Betula-Tsuga* between 9,000 and 10,000: *Abies webbiana-Rhododendron-Rosa* between 10,000 and 11,000 and *Abies-Rhododendron-Gaultheria* between 11,000 and 12,000 feet.

There is a higher Alpine Zone in Sikkim which descends to about 12,000 feet from the upper limit of the existence of flowering plants and may be usefully mentioned in connection with the vegetation of the Darjeeling District. This higher zone presents two climates with conforming differences in their vegetation. The number of species of flowering plants recorded for this zone is about 400, no doubt far below the figure to which future collectors will raise it. They include 46 families, of which *Compositae*, *Scrophulariaceae*, *Primulaceae*, *Saxifragaceae*, *Cruciferae*, *Caryophyllaceae*, *Ranunculaceae*, *Cyperaceae*, *Gramineae* and *Fumariaceae* are the dominant.

Of the above, the first three greatly outnumber the others, some of which may give place to *Rosaceae*, *Gentianaceae* or *Umbellifera*. The largest genera are *Pedicularis*, *Primula*, *Corydalis* and *Saxifraga*. The low position of *Cyperaceae* and *Gramineae* in the decad is in notable contrast to the Western Himalayan decad; but future herborizations may bring them up higher. The few trees to be found only on the lower skirts of this zone are scattered Birches and *Pyri*. The principal bushes are *Rhododendrons* (of which several species reach 14,000 feet elevation and three dwarf ones 16,000 feet), two junipers and species of *Ephedra*, *Berberis*, *Lonicera*, *Caragana*, *Rosa*, *Cotoneaster*, *Spiraea* and dwarf Willows. Of ferns there are very few. About 30 species reach 18,000 feet elevation, some of them a little higher. The highest recorded plant is a *Festuca* species at about 18,300 feet. In drier valleys about 15,000 feet elevation, several species of *Arenaria* occur; these form hard, hemispheric or globose white balls and are a characteristic feature in the desolate landscape. By far the most striking plants of this zone are species of *Meconopsis*, *Rheum nobile*, the Edelweiss, many *Primulas*, *Tanacetum*, *Gossypinum*, *Saussurea obvata* and *Gossypifera* and the odorous *Rhododendron anthopogon*.

The succession of vegetation in these different zones, namely, the Plains, the Lower Hill, the Middle Hill, the Upper Hill, the Alpine and the Sikkim Alpine Zones is shown in the following diagram.



ALTITUDINAL SUCCESSION OF VEGETATION

It was formerly supposed that there was a considerable European element in the temperate flora of the Himalaya in addition to the Tibetan and Siberian floras and that Chinese and Japanese elements were strongly represented in the temperate belt. This theory cannot be maintained in view of recent research.

Of the flora in and about the town of Darjeeling, including both wild and cultivated species, nearly 50 per cent. are indigenous to the Himalaya. The rest of the plants under cultivation in Darjeeling are

of foreign species of which Japan has supplied about 14 per cent., North America 7 per cent., Australia 6 per cent., China 6 per cent., Malay 4 per cent., Europe 4 per cent., South America 3 per cent., Tropical Asia 3 per cent., Central America 2 per cent., Burma 1 per cent. and Africa 0.5 per cent.

A recent survey of species of plants occurring in India gives the number of endemic species in the Himalaya as 3,165. Nearly 70 per cent. of the known species are endemic, which is a much higher percentage than was estimated earlier.

The moist and sunless conditions of the monsoon period have a checking effect on many forms of plant life, particularly at the higher and cooler altitudes. There the effect is more noticeable because the severer cold of the winter shortens the period of growth. The culture of certain fruit, for example, fails because there is no time for ripening before the onset of the monsoon. Gardening in Darjeeling, consequently, has two flowering seasons. The better is the pre-monsoon season for which seeds of annuals are sown in September and seedlings are planted out in November to show little growth until the spring. The other season is the autumn, when a show of flowers is possible by the use of seedlings raised while the first season's display is at its height and planted out before the rains set in. These are limited to a few varieties that will stand the soaking and will bloom in September or October.

Throughout the year, temperate climate perennials and biennials add their flowers to those of the annuals: some however give disappointing results because their natural flowering time coincides with that of the heaviest rainfall.

Fauna. Due to the diversity of elevation, climate and vegetation the Fauna of this District is varied and interesting. There is still much to be learnt especially in regard to local migration, which depends greatly on climatic conditions and food supply.

Mammals. The mammals consist of between 80 and 90 species, some of which are dealt with below. There are two monkeys, the common Rhesus (*Macaca m. mulatta*) and the Nepal Macaque (*Macaca assamensis pelops*); the latter may often be seen on Birch Hill in Darjeeling. Cats are well represented. The Indian Tiger (*Panthera t. tigris*) is common in the plains and has been known to ascend as high as 10,000 feet in the hills: Leopards (*Panthera pardus sp.*) are likewise common and may also be found at high elevations. Among the rarer cats are the Nepal Clouded Leopard (*Neofelis nebulosa macrosceloides*), the East Himalayan Marbled Cat (*Pardofelis marmorata charltoni*) and the Golden Cat (*Profelis t. temminckii*). Other cats are the pretty Horsfield's Leopard-Cat (*Prionailurus bengalensis horsfieldi*), the Fishing Cat (*Prionailurus viverrinus*) and the Himalayan Jungle-Cat (*Felis chaus affinis*): the last is the commonest of these. There are five civets: the Tiger-Civet (*Prionodon pardicolor*) and the Naga Hills Palm-Civet (*Paguma*

larvata neglecta) occur above 2,000 feet: the others, the Large Indian Civet (*Viverra z. zibetha*), the Bhutan Duars Little Civet (*Viverricula indica baptistae*) and the Northern Palm Civet (*Paradoxurus hermaphroditus pallasii*) are found in the hills and the plains.

The Crab-eating Mongoose (*Herpestes urva*), the largest of three mongooses, is also found both in the hills and plains. There are three species of *Canidæ*, the Himalayan Jackal (*Canis aureus indicus*), the Hill Fox (*Vulpes bengalensis*) and the Nepal Wild Dog (*Cuon alpinus primævus*): the last is seldom met with. Two Bears occur, the Indian Sloth Bear (*Melursus u. ursinus*) and the Himalayan Black Bear (*Selenarctos t. thibetanus*). The former lives in the plains and foothills; the latter is common up to 7,500 feet and occasionally comes down to plains level. It does considerable damage to the maize crop in the hills, destroying more than it can eat: it also feeds on roots, fruit, carrion and sometimes kills cattle. All bears are short-sighted and, if stumbled upon, are likely to attack. An interesting animal is the Panda (*Ailurus f. fulgens*) found in the hill forests about 7,000 feet. Many of its chestnut-red skins may be seen in Darjeeling furriers' shops.

Space will not permit the mention of all the otters, martens and weasels. The Northern Indian Yellow-bellied Marten (*Charronia f. flavigula*) is detested by all who preserve game or keep poultry on account of its predatory habits. Squirrels, rats, mice and bats are far too numerous for details of all to be given here but two squirrels deserve mention, the Himalayan Flying-Squirrel (*Petaurista nobilis*) found in the hills and the Assam Giant Squirrel (*Ratufa g. gigantea*) found both in the plains and the hills. The former may sometimes be seen in the heart of Darjeeling and it is interesting to watch it "flying" from one tree to another: this it does by spreading out the membrane which connects the limbs and springing from a height in one tree, landing lower down on a neighbouring one. Three porcupines and one hare occur in the District.

The Gaur (*Bibos g. gaurus*), usually called "Bison", is found in the forests of the foothills and the Terai and is strictly preserved. One unfortunate individual strayed far from its normal haunts and visited Darjeeling on the 8th May 1922. It was first seen below St. Paul's School and gradually worked its way down the hill to the Chowrasta where it quenched its thirst at the fountain. It wandered about and then took a road down to Lebung, killing two persons on its way: it was ultimately shot in the Phubsering forest. These animals go about in herds but bulls are sometimes solitary and can be very dangerous.

Two species of the goat tribe are found in the hills, Jamrach's Serow (*Capricornis sumatrensis jamrachi*) and the Brown Himalayan Goral (*Nemorhaedus hodgsoni*), at elevations between 2,000 and 9,000 feet. The serow loves wooded gorges and the goral precipitous slopes. They give fine sport if stalked on foot. There are four or five species of deer; the two commonest are the Bengal Barking-Deer (*Muntiacus*

vaginalis) and the Sambhur (*Rusa u. unicolor*). The former is found all over the district and its barking call is frequently heard: the latter is the largest of our deer inhabiting the plains and hills up to 3,000 feet. The Chital (*Axis a. axis*) is the most beautiful of them. It is not common and loves glades and forest near streams. It is gregarious and is strictly preserved.

There is one pig in the District, the Indian Wild Boar (*Sus c. cristatus*) found in the plains and ascending the hills as high as 8,000 feet.

The Indian Elephant (*Elephas m. maximus*) is now rather rare in the District. It has been reputed to ascend as high as the Rishi La (10,300 feet). It is usually found in herds but old males live alone and are apt to be vicious. Elephants are destructive to crops, especially paddy, but there is a bearded variety of paddy which up to the present elephants will not touch. *Kheddas* were held in the Terai many years ago.

The last thirty years have wrought great changes in the distribution and numbers of animals in the District, due to the reduction in the area under forest, the extension of motor roads and a huge increase in the number of gun licences. From the dense forests of the Terai, through the valleys of the Tista, Rangit and Balasan rivers to the high forests of the Singalila ridge there could formerly be found elephant, tiger, sambhur, large herds of spotted deer and pig, leopard, bear, goral and serow. Nowadays the elephant is only a casual visitor and the few tigers that still roam the foothills are forced to supplement their natural diet of sambhur, spotted deer and pig with cattle from the jungle villages. The leopard still flourishes in the plains jungles and the lower hills and sloth bear too may be quite often met; but in the mountains, the serow and goral are rapidly disappearing as their rocky fastnesses are invaded by man. The Himalayan black bear, once such a menace to the cultivator, is sharing the same fate. The barking deer alone appears to be holding its own in spite of everything.

Of the rarer animals especial mention must be made of the Clouded Leopard, with its beautiful tortoiseshell markings, very seldom seen but commoner than is usually supposed; and of the Bay or Golden Cat about which very little is known. The latter grows up to 31 lbs. in weight at least and has been known to kill goats, visiting the village pens at night. Its colour is a bright foxy red, with curious yellow markings about the face: tabby and melanistic skins with the same facial markings are said to be those of varieties of this species.

The rarest and undoubtedly the most curious animal is the Pangolin (*Manis pentadactyla*) which is about 2½ feet long and has thick scales like an armadillo. It is a nocturnal animal, lives in deep and secluded burrows and is very seldom seen. It is found both in the hills and the plains.

Among the smaller mammals, the Himalayan wild cat, leopard cat, large Indian civet, palm-civet, pine-marten and porcupine are

still found in large numbers all over the district and do great damage to game and poultry.

The District is very rich in bird life, there being nearly 550 species within its limits. Of these more than half are passerine birds, the largest families being the *Timaliidae* (Laughing-Thrushes, Babblers, etc.), with 61 species; and *Turdidae* (Chats, Thrushes, etc.) with 56; the *Sylviidae* (Warblers) with 60; the *Muscicapidae* (Flycatchers) with 27; and the *Fringillidae* (Finches) with 22. The *Passeres* found in the District include some of the most beautiful birds, especially the Flycatchers, Minivets, the Darjeeling Fairy Bluebird (*Irena puella sikkimensis*), Orioles, Finches, Sunbirds and the Long-tailed Broadbill (*Psarisomus dalhousiae*). The ubiquitous Indian House-Sparrow (*Passer domesticus indicus*) has not yet penetrated into the station of Darjeeling, the more pleasing Malay Tree-Sparrow (*Passer montanus malaccensis*) reigning supreme.

The best represented families in the *Coraciiformes* are the *Picidae* (Woodpeckers) with 15 species; the *Cuculidae* (Cuckoos) with 16 and the *Asionidae* (owls) with 14. Amongst the Woodpeckers the handsomest are the Large Yellow-naped Woodpecker (*Chrysophlegma f. flavinucha*) and Tickell's Golden-backed Woodpecker (*Chrysocolaptes g. guttacrastatus*): the tiny Indian Rufous Piculet (*Sasis o. ochracea*) is also found. Amongst the cuckoos there is the beautiful Emerald Cuckoo (*Chalcites m. maculatus*).

Female Hornbills have the peculiar habit of plastering up the entrance of the hole in which they will be incarcerated during the rearing of the young with their own ordure leaving only a vertical slit through which they are fed by the males. There are 5 species of hornbills found in the District including the Indian Great Hornbill (*Dichocheiros b. bicornis*). Eight species of kingfisher, some of the most beautiful birds of the order, occur in the District specially noteworthy being the tiny Indian Three-toed Kingfisher (*Ceyx e. erithaca*) a forest species which, when it flashes ahead, resembles a gem of vivid lilac or gleaming blue.

Fifteen owls are found, but one belongs to a separate family. They vary in size from the largest Forest Eagle-Owl (*Huhua nipalensis*), which is powerful enough to kill peafowl and take cats from villages, to the tiny Eastern Collared Pigmy Owlet (*Glaucidium brodiei tubiger*).

Accipitrine birds number about 40 and include the fine Himalayan Lammergeyer (*Gypaetus barbatus hemachalanus*), Hodgson's Feather-toed Hawk-Eagle (*Spizaetus n. nipalensis*), the Himalayan Rufous-bellied Hawk-Eagle (*Lophotriorchis k. kieneri*) and the handsome, bold miniature Falcon, the Himalayan Red-legged Falconet (*Microphierax c. coerulescens*). One of these was found once with its claws so fast embedded in a Tibetan Ruby-Throat (*Cyanosylvia pectoralis tschebaiewi*), a bird not much smaller than itself, that it could not rise and was captured by hand: another in the plains was seen to dash into a verandah in an attempt to capture a canary in a cage.

There are about a dozen species of pigeon and dove, some being only found at high elevations. One found in the plains is the Bengal Green-Pigeon (*Crocopus p. phoenicopterus*). In the hills, the Kokla Green-Pigeon (*Sphenocercus s. spenurus*) and the Himalayan Pin-tailed Green-Pigeon (*Sphenocercus a. apicaudus*) are common. The melodious call of the former may be heard even in Darjeeling. The latter can be easily recognized by the long pointed central tail feathers. Both descend to the foothills. A very fine pigeon, Hodgson's Imperial Pigeon (*Ducula badia insignis*), is found in the hills up to 6,000 feet and though it has not been found in the plains area of the District, it has been noticed in the plains forests of the Jalpaiguri District. The Ashy Wood-Pigeon (*Columba pulchricollis*) is found between 6,000 and 8,000 feet: it is to be seen on Birch Hill (6,874 feet) in Darjeeling and, although a bird of high elevations, it does occur in the foothills during the winter. The Speckled Wood-Pigeon (*Dendrotreron hodgsonii*) is generally found at higher elevations but it has been noticed as low as 5,500 feet. The beautiful Emerald Dove (*Chalcophaps i. indica*) occurs from plains level up to 6,000 feet. It is often seen rising from forest roads and flying away at great speed, its metallic green colours glinting when the sun shines on it. The Indian Bar-tailed Cuckoo-Dove (*Macropygia unchall tusalia*) is a forest bird occurring from plains level up to 7,400 feet. The male has the head and neck beautifully glossed and the back barred black and chestnut: the hen has the same coloured back and its lower plumage is barred buff and dark brown: these birds have long tails.

The game-birds are of 8 species. The Indian Red Jungle-Fowl (*Gallus bankiva murghi*), the ancestor of our domestic fowls, is common in the forests of the plains and ascends the hills to over 4,500 feet. The Black-backed Kalij Pheasant (*Gennæus melanotus*) ranges from the foot-hills up to about 8,000 feet; these birds live in forest but often come into tea. The Monal (*Lophophorus impejanus*) formerly occurred on the Singalila ridge at altitude between 10,000 and 12,000 feet, but it is doubtful if any survive there now or on Senchal (8,600 feet) where it had been reintroduced by the Fishing and Shooting Club. The cock is resplendent in metallic bronze, green and purple and has a metallic green crest. The Crimson Horned-Pheasant or Tragopan (*Tragopan satyra*) is the "Monal" of the hill folk and is found between 8,000 and 12,000 feet. It occurs on the Singalila Ridge: specimens are frequently brought to Darjeeling. The lower plumage of the cock is crimson spotted with white and blue fleshy horns are present above each eye. The Blood Pheasant (*Ithaginis cruentus*) is found on the same ridge between 10,000 and 12,000 feet. The cock is green below with splashes of crimson on the breast varying in extent. These are stupid birds and so tame that a so-called sportsman once wiped out a whole covey. In the hills there are two partridges, the Assam Common Hill-Partridge (*Arborophila t. torqueola*) and Blyth's Rufous-throated Hill-Partridge (*Arborophila r. rufogularis*): the latter is found in forests from 2,000 to 8,400 feet and the former from 7,000 to 10,000 feet. They do not rise readily, preferring their legs to

their wings. The Common Grey Quail (*Coturnix c. coturnix*) is sparingly found in the hills during winter at elevations between 5,000 and 6,000 feet. There are two three-toed quail; the Burmese Bustard-Quail (*Turnix suscitator plumbipes*), and, more rare, the Indian Large Button-Quail (*Turnix t. tanki*). The males are fought for by the females and to them is given the task of incubating the eggs and bringing up the young.

The remaining Orders are briefly mentioned. The Woodcock (*Scolopax r. rusticola*) is found in the hills where it is regularly shot. A nest with eggs was taken at Sandakphu (11,929 feet) in July 1904. Woodcock are fond of cardamom patches. In the hills are found the Wood-Snipe (*Nemoricola n. nemoricola*) and the Eastern Solitary Snipe (*Neospilura solitaria*). The former is a dark coloured bird found above 3,200 feet and is much commoner than the latter. The Solitary Snipe is somewhat similar to a large sized common snipe. It is rare and found up to 10,000 feet or even higher but does descend to the foothills. One was obtained near Sukna in the month of December. The Fantail Snipe (*Capella g. gallinago*) and the Pintail Snipe (*Capella stenura*) are both regularly shot in the District. Amongst the plovers the Eastern Golden Plover (*Pluvialis dominicus fulvus*) is found in the Terai: the Ibis-Bill (*Ibidorhyncha struthersii*) is a bird of high elevations but, during the winter, can be found in the beds of the Great Rangit and Tista rivers. It moves in small parties and is not shy.

A fine heron, the Great White-bellied Heron (*Ardea imperialis*) is occasionally seen on the Tista and in the forests of the foothills on the Gulma river. Ducks are poorly represented in the District. The Eastern Goosander (*Mergus merganser orientalis*) is a handsome duck often seen in parties on the Tista. The Bar-headed Goose (*Anser indicus*) has been shot on the Rammam river during the winter and unidentified geese have often been seen going north.

Darjeeling District contains nearly one-quarter of the species of birds found in the Indian Empire, Burma and Ceylon. In spite of this, the visitor's first impression is that there are very few birds about. The frequent mists and clouds and the many patches of fir trees with dark interiors and lack of undergrowth are not conducive to successful bird-watching. Birds react to sunny days like human beings and it is on such days and especially in the early mornings and evenings that they are most easily observed.

• Although a great number of species, Crows, Laughing-thrushes, Babblers, Bush-Warblers, Mynas, Sunbirds, Woodpeckers, most of the Owls and about half the Hawks and Eagles are strictly resident, a large number of birds are local migrants, moving up and down the hills according to season. Others are passage-migrants, merely using the District as a port of call on their way from their breeding haunts in Siberia, Tibet or China to the Plains of India.

The tendency among all birds in India is to go north to breed and south for the winter. Thrushes, Flycatchers, Willow-Warblers,

Shrikes, Swallows, Cuckoos, Pigeons and Woodcock all breed on the higher mountains and work their way down to the foothills and sometimes well out into the Plains in the autumn, returning in March and April. This is a most interesting time for the bird watcher, as these local migrants often appear on the same date and, over a number of years, dates of appearance will not be found to vary by more than two or three days.

Great numbers of migrating Finches, Larks, Pipits, Wagtails, Swifts, Redstarts, a few species of Eagle and Hen-Harriers, Snipe, Quail and Duck will stop for a short time in the District on their way to swell the winter bird population of the Plains. Huge flocks of Geese and Cranes fly over the District without coming to earth.

During the last thirty years Darjeeling District has altered considerably owing to rapid deforestation and to an increase of cultivated areas. Birds from the Plains such as the House-Crow, the White-breasted Kingfisher, the Blue Jay or Roller are infiltrating up the valleys and changing the character of the Fauna, while Hornbills, Imperial Pigeon and Green Pigeon have almost disappeared from large areas owing to the lack of suitable trees for nesting and feeding.

There is however plenty for the bird lover to study and observe and much still remains to be discovered and recorded to complete a satisfactory account of the birds of the District.

Fifty-one species of snakes are found in the District: of these eleven are more or less poisonous, namely 4 Kraits, 2 Cobras, 1 Coral-snake and 4 Vipers. The largest is the King Cobra, or Hamadryad (*Naia hannah*), with a record length of 15 feet 5 inches; but specimens over 10 feet are rare. This snake is sometimes ferocious and its poison is deadly. The Cobra (*Naia naia*) is found: it measures up to 6 feet 7 inches and its poison is also deadly. The Lesser Black Krait (*Bungarus lividus*) and the Greater Black Krait (*Bungarus niger*) are the commonest of the Kraits: little is known about their poison. Either one, or two, Green Pit Vipers (*Trimeresurus gramineus*) occur and the repulsive looking Large Spotted Viper (*Trimeresurus monticola*) is common. None of these last are deadly but the painful swelling produced by their venom may last several days.

Over 125 species of fish have so far been recorded from this area. Some of them are found in torrential streams and are remarkably well adapted for clinging to rocks in swift currents. From a zoogeographical point of view, the fish-fauna is of special interest as the area is a meeting place of the Chinese, Malayan and Indian elements of the fishes of the Oriental Region. Certain specialised hill-stream Chinese and Malayan fishes of this region are not found in the Western Himalayas, but it is remarkable that allied forms, sometimes identical, are found in the Western Ghats and the connected hill ranges of Peninsular India. There is considerable faunistic evidence to show that at some, not very remote, geological period the Eastern Himalayas or the Hills of Assam had a connection

with the Western Ghats through the intermediation of the Satpura trend of mountains which served as a highway for the migration of torrential fishes from this area westwards and southwards.

The chief interest of a visitor to this area, however, lies in the sport that is provided by certain well-known Indian game fishes. All the hill sections of the larger streams and especially the Tista river abound in Mahseer, Katli, Indian Trout and Goonch, generally fished for in clear running streams by means of rod and line. The junctions of smaller streams with the main rivers are usually the most suitable places for angling.

The premier place among Indian game fishes is deservedly occupied by the Mahseer—a popular name for varieties of large-scaled Barbel. In this area there are three varieties, (i) The Golden Himalayan Mahseer [*Barbus (Tor) putitora*], of which the length of the head is considerably greater than the depth of the body, (ii) The Red-finned Mahseer [*Barbus (Tor) -tor*], of which the head is shorter than the depth of the body, and (iii) The Copper Mahseer [*Barbus (Tor) mosal*], of which the head is more or less equal to the depth of the body. The first two species attain a notable size. The heaviest fish caught in the Tista scaled 54 and 52 lbs. and were caught by Messrs. Ritchie and Meiklejohn at the junction of the Riyang with the Tista.

The Katli [*Barbus (Lissochilus) Hexagonolepis*] possesses large scales and in general facies is similar to the Copper Mahseer. As a sporting fish, size for size, there is little to choose between it and the Mahseer. It is, however, a much smaller fish, rarely exceeding 10 lbs. in weight or 2 feet in length. This species is suitable for culture in pond-like depressions or small lakes in the hills and the channels feeding the fish ponds can be so adjusted as to enable the fish to run into them for breeding.

Like the Mahseer and the Katli, the Indian Trout (*Barilius Opsarius bola*) also belongs to the carp family. Though it runs up to 5 lbs. in weight it is usually under 2 lbs. The Indian Trout resembles the true Trout not only in possessing scattered black and occasional red spots on the body, a wide oblique mouth and a graceful form, but also because of its sporting qualities. Several attempts have been made to introduce true Trout in this area but so far it has not been possible to acclimatise them on account of the precipitous courses of the streams and the large amount of silt they carry during the rains. Trout have however, been successfully established in Bhutan and are known to breed there.

The Goonch is not a sporting fish of any value; it lives in Mahseer waters and is often caught on rod and line. It grows to about 6 feet in length and to a weight of about 250 lbs.

Some study has been given to the effect of the effluent from the Mangpu Cinchona factory on fish life in the Rangbee (Rambi) tributary of the Tista. Pollution is most noticeable in March and April when the mouth of the tributary is too shallow for the entry of

Mahseer from the Tista. As soon as floods occur pollution is reduced and fry are found in the side pools. No serious harm to fish therefore results from such pollution as occurs.

The leeches in the District number 6. They are *Dinobdella ferox*, a dark green cattle leech: *Hirudinaria manillensis* a very large species: *Haemadipsa zeylanica montivindicis* the commonest leech: *Haemadipsa montana* found from 5,000 to 9,000 feet: *Haemadipsa sylvestris*: and *Haemadipsa ornata* the stinging land leech, a handsome black and yellow striped species.

The insect fauna is vast. The District is exceedingly rich in *lepidoptera*, the Tista Valley being famous for the variety found there. Amongst the Swallow-tails there are such beautiful species as *Troides helena carberus*, *Papilio p. Paris*, *Papilio K. Krishna*. *Teinopalys i. imperialis* is considered a prize and is found in Darjeeling: females of this species are rare. Among the moths, the Atlas Moths (*Attacus atlas* and *edwardsi*) attain a span of ten inches or more: two species of *Actias* are also very beautiful. Dragonflies are well represented and many new species have been discovered of late years, some at very high elevations. *Allogaster latifrons* has been found as high as Tonglu (10,000 feet). There are some very beautiful species with iridescent wings (*Rhinocypha* species and *Neurobasis chinensis*).

Beetles are very numerous: some of the finest are *Euchirus macleaii*, *Chrysochoa bicolor* and *Chrysochoa chinensis*, the last two being brilliantly coloured. Among the *Orthoptera* is the curious Leaf Insect (*Phyllium scythe*) which even with the legs and the veins of the wings resembles a green leaf.

Amongst the *Rhynchota* are *Eurostus grossipes* and *Belostoma indicum*: the last is a huge water bug: and the cicadas, the song of whose males is known so well while the females are voiceless. Two very fine species are *Cryptotympana corvus* and *Tosena melanoptera*.

Hymenoptera are well represented: one of the finest of these is the very large Hornet (*Vespa magnifica*) which will certainly attack if its nest is disturbed: it has a sting that may prove fatal to man.

CHAPTER II.

HISTORY.

The District was part of the dominions of the Raja of Sikkim. **Early Political History.** In 1706 what is now the Kalimpong Subdivision of the District was taken from the Raja of Sikkim by the Bhutanese. The Rajas later became engaged in unsuccessful struggles with the Gurkhas who had seized power in Nepal and invaded Sikkim in 1780. During the next 30 years they overran Sikkim as far east as the Tista and conquered and annexed the Terai. In the meantime war broke out between the East India Company and the Nepalese at the end of which in 1817 by the treaty of Titaliya the tract which the Nepalese had wrested from the Raja of Sikkim was ceded to the Company. The Company restored the whole of the country between the Mechi and the Tista to the Raja and guaranteed his sovereignty. Sikkim was thus maintained as a buffer state between Nepal and Bhutan.

Under the above treaty the Raja was bound to refer to the arbitration of the British Government all disputes between his subjects and those of neighbouring states. Ten years after it was signed disputes on the Sikkim Nepal frontiers arose and were referred to the Governor General. Two officers, Captain Lloyd and Mr. Grant, were deputed in 1828 to deal with the disputes and they penetrated into the hills as far north as Rinchinpong (in the Kulhait valley in Sikkim). Lloyd spent six days in February 1829 in "the old Goorkha Station of Darjeeling" and was attracted by its advantages as a site for a sanitarium. Darjeeling was then deserted although it had been occupied by a large village and the residence of one of the principal Kazis.

Mr. Grant reported accordingly to the Governor General Lord William Bentinck the numerous advantages promised by a Sanitarium at Darjeeling and also recommended its occupation for military purposes as the key of a pass into Nepal. The Governor General then deputed Captain Herbert, the Deputy Surveyor-General, to examine the country with Mr. Grant and in due course the Court of Directors approved the project. General Lloyd (formerly Captain Lloyd) was directed to open negotiations with the Raja on the first convenient occasion and this occurred when General Lloyd was deputed to enquire into the causes of an incursion from Nepal of Lepchas who had taken refuge there from Sikkim. He succeeded in obtaining the execution of a deed of grant by the Raja of Sikkim on the 1st February 1835. The deed was worded as follows:—

"The Governor General, having expressed his desire for the possession of the hill of Darjeeling on account of its cool climate,

for the purpose of enabling the servants of his Government, suffering from sickness, to avail themselves of its advantages, I, the Sikkimputtee Rajah, out of friendship for the said Governor General, hereby present Darjeeling to the East India Company, that is, all the land South of the Great Rangit river, East of the Balasun, Kahail and Little Rangit rivers and West of Rungno and Mahanadi rivers."

This was an unconditional cession of what was then an uninhabited mountain. But in 1841 the Government granted the Raja an allowance of Rs. 3,000 per annum as compensation and this was raised in 1846 to Rs. 6,000 per annum.

After the cession, General Lloyd and a Dr. Chapman were sent in 1836 to explore and investigate the climate and the capabilities of the place. They spent the winter of 1836 and part of 1837 doing this and when it was finally decided to develop the site as a Sanitarium, General Lloyd was appointed a Local Agent to deal with applications for land which began to pour in from residents of Calcutta. Progress was rapid: whereas in 1836 General Lloyd and Dr. Chapman found only a few huts erected by the Raja of Sikkim, by 1840, a road had been made from Pankhabari: there was a staging bungalow there and at Mahaldiram; a hotel had been started at Kurseong and another at Darjeeling: and at Darjeeling 30 private houses had been erected and nearly as many "locations" or building sites had been taken up at Lebong.

The rest of the ceded area was however under forest and practically uninhabited. According to Captain Herbert, this was because about ten years previously 1,200 able-bodied Lepchas forming two-thirds of the population of Sikkim, had been forced by the oppression of the Raja to fly from Darjeeling and its neighbourhood and take refuge in Nepal. What little cultivation there had been was abandoned and the Raja prohibited his subjects from going to Darjeeling and helping in the establishment of new settlements.

In 1839 Dr. Campbell of the Indian Medical Service, British Resident in Nepal, was transferred to Darjeeling as Superintendent. In this capacity he was in charge not only of the civil, criminal and fiscal administration of the District but also of political relations with Sikkim. Dr. Campbell gave much encouragement to immigrant cultivators and population rose from about 100 in 1839 to about 10,000 in 1849. "Whatever has been done here", wrote Mr. W. B. Jackson, an Inspecting Officer in 1852, "has been done by Dr. Campbell alone. He found Darjeeling an inaccessible tract of forest, with a very scanty population; by his exertions an excellent sanitarium has been established for troops and others; a Hill Corps has been established for the maintenance of order and improvement of communications; no less than 70 European houses have been built, with a bazar, jail and buildings for the accommodation of the sick in the depot; a revenue of Rs. 50,000 has been raised and is collected punctually and without balance; a

simple system of administration of justice has been introduced, well adapted to the character of the tribes with whom he had to deal; the system of forced labour formerly in use has been abolished and labour with all other valuables has been left to find its own price in an open market; roads have been made; experimental cultivation of tea and coffee has been introduced and various European fruits and grapes; and this has been effected at the same time that the various tribes of inhabitants have been conciliated and their habits and prejudices treated with a caution and forbearance which will render further progress in the same direction an easy task."

In the meantime relations with Sikkim deteriorated. The increasing importance of Darjeeling under free institutions was a source of loss and frustration to the Lamas and leading men of Sikkim, headed by the Dewan Namguay, who were sharers in a monopoly of all trade in Sikkim and lost their rights over those slaves who settled as free men and British subjects in the Darjeeling territory. Frequent kidnappings and demands for return of slaves took place and the climax was reached when in November 1849 Sir Joseph Hooker and Dr. Campbell were made prisoners, while travelling in Sikkim with the permission of the Raja and the British Government. Various demands were made as conditions of release but the Sikkimese eventually released both the prisoners unconditionally on the 24th December 1849. In February 1850 a small punitive force entered Sikkim and remained on the north bank of the Great Rangit river for a few weeks. But the serious punitive action taken was the withdrawal of the grants of Rs. 6,000 from the Raja and the annexation of the Terai and the portion of the Sikkim hills bounded by the Ramman and the Great Rangit on the North, by the Tista on the East and by the Nepal frontier on the West. The area annexed was 640 square miles in extent.

Immediately after annexation of the Terai in 1850 the southern portion was placed under the Purnea District, but in consequence of the dislike of the inhabitants to this transfer it was cancelled and the whole area was attached to Darjeeling. At the time of annexation there were Bengali officers in the Terai called Chaudhuris who exercised civil and criminal powers.

The Terai and the hill territory annexed from Sikkim were managed by the Superintendent who from the 8th May 1850 was called the Deputy Commissioner. The change was welcomed by the inhabitants who now had to pay only small fixed sums into the treasury in Darjeeling instead of having to meet uncertain and fluctuating demands in kind and for personal service made by the Raja and Dewan.

The annexations brought about a significant change in the relations between Sikkim and the British. Previously the Darjeeling District had been an enclave in Sikkim territory and, to reach it, the British had to pass through a country acknowledging the rule of a foreign, though dependent, Raja. After the annexations British

territory in Darjeeling was continuous with the British Districts of Purnea and Rangpur in the plains and the Sikkim Raja was cut off from access to the plains except through British territory.

For some years after the annexations, relations with Sikkim were not disturbed but raids on British territory later recommenced and British subjects were carried off and sold as slaves or detained in Sikkim. The Raja was now an old man of nearly 80 and had retired to Chumbi in Tibet leaving the government to Dewan Namguay who had arrested Dr. Campbell and Dr. Hooker in 1849. Six months negotiation proved fruitless and it was decided to take possession of the portion of Sikkim north of the Ramman and west of the Great Rangit until British subjects were released, offenders handed over and security obtained against a recurrence of similar offences.

With this object Dr. Campbell, with a small force of 160 rank and file, crossed the Ramman in November 1860 and advanced as far as Rinchinpong. He was however attacked and forced to fall back on Darjeeling. Later Colonel Gawler with Sir Ashley Eden as Envoy and Special Commissioner moved with artillery and a force of 2,600 men and entered Tumlong, the capital of Sikkim, in March 1861. The Dewan fled and the Raja abdicated in favour of his son with whom, on the 28th March, a treaty was made which was of particular importance to Darjeeling because it finally put an end to frontier troubles with Sikkim and secured full freedom for commerce across the Sikkim border.

But frontier trouble elsewhere was not over. Along their long frontier with India, the Bhutanese were responsible for a series of incursions in which property was plundered, lives taken and many innocent persons carried off into captivity. In 1862 news came that the Bhutanese were preparing to make an attack on Darjeeling and troops were hurried up from Dinapore to restore confidence. This was followed in 1863 by the despatch of a Special Mission to Bhutan under Sir Ashley Eden to settle differences and obtain the restoration of plundered property. The Mission failed as the British Envoy was compelled by threats to sign a document giving up all claims to the Bhutan Duars on the Assam frontier. He was treated with indignity and only with difficulty in April 1864 succeeded in leaving Punakha by night and returning to Darjeeling.

Negotiations continued fruitlessly and the Government of India decided to annex the Bengal Duars and such hill territory as might be necessary to prevent Bhutanese incursions into Darjeeling District or the plains south of Bhutan. Small expeditions were sent into Bhutan in the winter of 1864. These met with very little opposition and the operations terminated when, in November 1865, the treaty extorted from Sir Ashley Eden was replaced by a fresh one by which what is now the Kalimpong Subdivision as well as the Bhutan Duars and passes leading into the Bhutan hills were ceded to the British in return for an annual subsidy. The Kalimpong area was first notified

as a Subdivision under the Deputy Commissioner of the Western Duars District but in 1866 it was transferred to the District of Darjeeling. This was the last addition to the District which then reached its present dimensions.

The year 1866 thus marks an epoch in the history of the District. **Development after 1866.** Peace was then established within and on its borders and development, which had been considerable in spite of pioneering difficulties and interruptions due to political disturbances, now proceeded with more certainty and momentum.

This chapter deals primarily with the political, administrative and constitutional history of the District. The history of other developments has been detailed in later chapters and will only be briefly alluded to here.

The development of agriculture has been noteworthy. Three aspects deserve mention. First, large areas of forest land were brought under cultivation. This was partly due to sounder political conditions and partly to the second development, i.e., the replacement of the primitive agricultural method of *jhuming* by the more efficient methods of terracing, ploughing and irrigating lands. The third development of agriculture in the District was the introduction of new crops, the most noteworthy being tea, cinchona, potatoes, cardamoms and oranges.

The systematic conservation and utilisation of forests has been parallel to agricultural development. Practically the whole of the hill area in 1835 was under forest with an exiguous population extracting subsistence from it by collecting various natural forest products (roots, leaves, herbs and fruits) and by the destructive and inefficient method of *jhuming*, by which a patch of jungle is burnt down and crops are grown by hoeing the land thus cleared. The soil soon becomes exhausted by a quick succession of crops and in a year or two the plot is abandoned and a fresh patch of forest is burnt down.

The rapid extension of agriculture in the early days of development resulted in the clearance of large areas of forest at favourable altitudes. This rendered reservation of the remaining forests necessary for the conservation of timber and water-supply and for protection against erosion. The effect was to eliminate the *jhum* method of cultivation, to ensure supplies of water, timber and firewood and to develop certain minor industries such as wood cutting, charcoal burning and timber sawing.

The most notable development without which progress in other directions would have been impossible has been the improvement of communications. From earliest times, the British Administration perceived the importance of road development for Darjeeling. At the outset roads had to be built to improve access to it. There has been a steady application of capital to the improvement of the roads ever since and, after the development of the mechanically propelled road vehicle, the road system of the District has attained further utility and

importance. The opening of the railway in 1881 brought an important addition to the road communication system and, more recently, the construction of various ropeways has still further improved facilities for the transport of goods.

Darjeeling had the earliest hydro-electric power plant in India but there has been no attempt to use the vast water power at hand for any but purely local and very limited purposes. There has been no development of mining and quarrying has only taken place as required for local house or road construction.

From early times Darjeeling has been a centre for European education and there are now a number of schools providing for the education of European and Anglo-Indian boys and girls at Darjeeling, Kurseong and Kalimpong. Many of these are boarding schools. This educational development can be considered part of the original purpose for which Darjeeling was obtained, that is to say, use as a Sanitarium for Europeans. Access to Darjeeling from the plains has been made more and more convenient and comfortable and this has caused it to expand as a resort for visitors, although in common with other hill stations in India its tourist traffic has suffered from the cheapening and acceleration of travel to Europe and its European educational development from the tendency of parents who can afford it to send their children to Europe at an early age to receive education.

- The District has not been developed as a centre of curative institutions. This may perhaps be due to difficulties of altitude and climate but medical institutions and personnel have only been provided as far as have been needed for the visitor and resident population.

The developments summarised above have resulted in a great immigration of populations, much of it permanent but with a considerable proportion semi-permanent, temporary or seasonal.

After Kalimpong had been brought under British Administration the District was divided into two Subdivisions, the **Later Administrative History.** Headquarters Subdivision with an area of 960 square miles including all the hills on both sides of the Tista and the Terai Subdivision with an area of 274 square miles which included the whole of the country at the foot of the hills. The headquarters of the Terai Subdivision were at Hanskhawa near Phansidewa from 1864 to 1880 when they were transferred to Siliguri. Then the metre gauge railway of the North Bengal State Railway had been extended to Siliguri and Siliguri, at that time in the Jalpaiguri District, was transferred to Darjeeling District with a small surrounding area and made the headquarters of the Terai Subdivision.

In the meantime Kurseong had begun to develop and in 1891 it was made the headquarters of a new Subdivision which included both the Terai and the lower hills west of the Tista.

Later in 1907 Siliguri was made a Subdivision, thus re-establishing the Terai Subdivision which had in 1891 been absorbed into the

Kurseong Subdivision. Up to 1907 there had been a Deputy Magistrate at Siliguri working under the Subdivisional Officer, Kurseong, and managing the Terai Government Estate under the Deputy Commissioner.

Kalimpong in the meantime had been in the Sadar Subdivision with a Manager of the Khas Mahals working at Kalimpong under the Deputy Commissioner, police work being controlled by an Inspector. In 1916 the Kalimpong Subdivision was created as a preliminary to working out development schemes in Kalimpong.

The District was included in the Rajshahi Division until October 1905 when, as a result of the Partition of Bengal, it was transferred to the Bhagalpur Division. With the re-arrangement of the provinces it was retransferred to the Rajshahi Division in March 1912.

A similar transfer and retransfer took place of the jurisdictions of the District and Sessions Judge. The District was under the District and Sessions Judge of Dinajpur until October 1905 when it was placed under the Judge of Purnea and again in April 1912 it was brought under Dinajpur. The District is peculiar in respect of civil judicial powers. The Subdivisional Officers of Kurseong, Kalimpong and Siliguri all have powers of a Munsiff and Small Causes Court Judge up to Rs. 50. Appeals from these Munsiffs and from the Munsiff at Darjeeling lie to the Deputy Commissioner. The Court of the Deputy Commissioner has been invested with jurisdiction under the Insolvency Act where declared debts do not exceed Rs. 5,000. The Senior Deputy Magistrate of Darjeeling was formerly vested with the powers of a Subordinate Judge, Munsiff and Small Causes Court Judge. But since March 1939, a Munsiff with powers of a Subordinate Judge and Small Causes Court Judge up to Rs. 500 has been posted in Darjeeling and he performs the work of a Magistrate in addition to his civil judicial work.

The Subdivisional Officer, Siliguri, has powers to dispose of rent and other suits under Act X of 1859. The Subdivisional Officer, Kalimpong, is vested *ex-officio* under section 388(1) of the Indian Succession Act with powers of a District Judge. Appeals from the Subordinate Judge of Darjeeling lie to the District Judge of Dinajpur and to the High Court in Calcutta.

In addition to having appellate powers, the Deputy Commissioner is *ex-officio* a Sub-Judge and also has the powers of a Small Cause Court Judge up to Rs. 500 and is a District delegate under section 26(1) of the Indian Succession Act.

By the exercise of these special powers the Deputy Commissioner can do something to secure that hillmen's interests and customs are given proper attention by the local courts. He has in addition powers as Registrar of Births and Deaths under Act VI of 1886 and powers to control the movements of Europeans across the frontiers with Nepal, Sikkim or Bhutan.

The authority of the Deputy Commissioner is greater in Darjeeling than that of the District Officers in other Bengal Districts by reason of his powers of control over a very considerable khas mahal (233 square miles), over most of the Bazars in the District, over the work of the District Board as Chairman and over the Darjeeling Town Administration as Chairman of the Municipality.

Administration in the District has peculiarities due to the special application of various enactments. The Bengal Tenancy Act is not in force and Act X of 1859 and Act VIII of 1879 regulate the rights and liabilities of the rural population. The Bengal Local Self-Government Act and the Bengal Municipal Act have special modifications adapting them to local conditions. The Bengal Village Self-Government Act is in force only in the Siliguri Town area and the Chaukidari Act only in the non-tea rural areas of the Siliguri Subdivision: it is not in force anywhere in the hills. A number of special amendments to the Motor Vehicles Act have been found necessary to meet hill conditions. To regulate amenities in the small residential area of the abandoned Takdah Cantonment, one Union Committee has been established.

An account of the administrative history of the District would not be complete without reference to certain policies carried out for prevention of the exploitation of hillmen. After Kalimpong was annexed, Government would not lease any portion of it for tea cultivation except for very special reasons. Transfers of holdings in the Hill Khas Mahals of the District from hillmen to plainsmen have not been permitted and except for special reasons, transfers from Bhutias and Lepchas to Nepalis have not been allowed in the Kalimpong Khas Mahal.

Maps showing present administrative boundaries within the District will be found on pages 46-47.

The District was formerly a non-regulation District, that is to say, Acts and Regulations did not come into force unless they were specially extended to the District. Darjeeling had no representative in the Legislative Council constituted under the Government of India Act, 1919. It was excluded and declared a backward tract. The administration of the District was then vested in the Governor in Council and expenditure for the internal administration of the District was not subject to the vote of the legislature. The effect of exclusion was that any Act passed by the legislature which extended to the whole of Bengal automatically applied to the Darjeeling District, unless the Governor in Council directed that the Act in question should not apply or that it should apply subject to such modifications as the Governor thought proper.

Under the Government of India Act of 1935, Darjeeling sends representatives to the Bengal Legislative Assembly. For the purpose of election to that body, the Siliguri Subdivision has been excluded from the District and is included in the Jalpaiguri-cum-Siliguri General

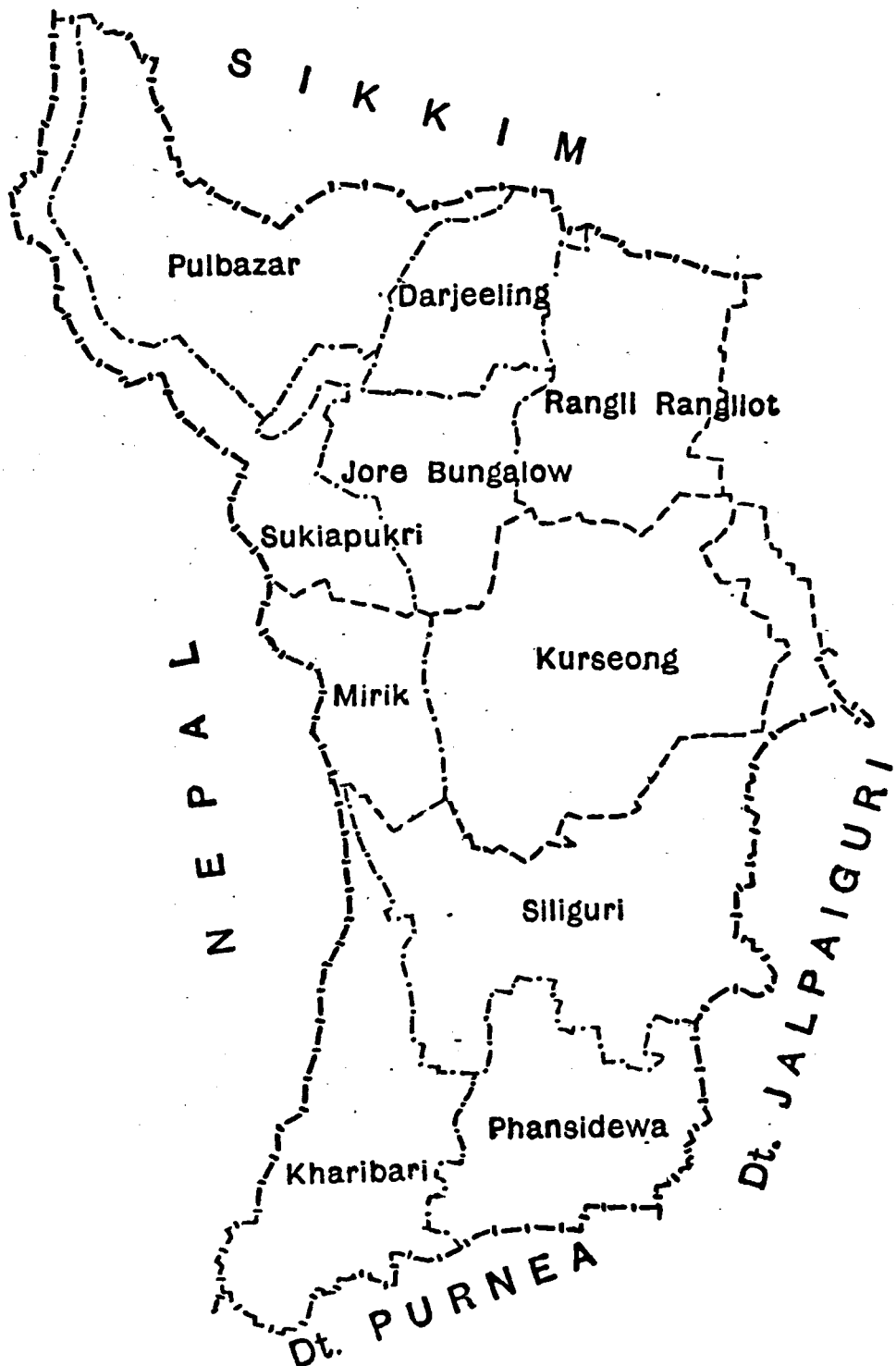
Constituency. The Sadar, Kurseong and Kalimpong Subdivisions form a general constituency having one seat. As the number of Muhammadans in the District is small, Muhammadans of Darjeeling vote for one representative in the Jalpaiguri-*cum*-Darjeeling Muhammadan Constituency. The Europeans of the Darjeeling District send one representative to the Bengal Legislative Assembly.

The special feature of franchise qualifications in the District is that in the Darjeeling General Constituency consisting of the Sadar, Kurseong and Kalimpong Subdivisions, in addition to those persons who have the qualifications laid down for a voter in other areas of Bengal, a person is also entitled to vote who either—“(a) has paid during and in respect of the previous year rent of not less than twenty rupees for any land in the province situate in a Municipal area or for any hired building in the province, or rent of not less than two rupees for any land in the province not situate in a Municipal area, or (b) is the wife of a person who, during and in respect of the previous year, has paid rent of not less than sixty rupees for any land in the province situate in a Municipal area or for any hired building in the province, or rent of not less than six rupees for any land in the province not situate in a Municipal area”.

There is a Elected Tea Garden Labour Seat in the Legislative Assembly allotted to four constituencies in rotation. It went to the Bengal Dooars (Western) Constituency at the first election and has gone to the Darjeeling Sadar Subdivision at the next election: thereafter it will go to the Bengal Dooars (Eastern) Constituency and after that to the Kurseong Subdivision.

As the District is a partially excluded area under section 92 of the Government of India Act, 1935, no Act of the Provincial or Central Legislature applies to it unless the Governor by public notification so directs and the Governor in giving such a direction with respect to any Act may direct that the Act shall, in its application to this District, or to any specified part of it, have effect subject to such exceptions or modifications as he thinks fit.

DISTRICT DARJEELING excluding KALIMPONG SUBDIVISION
(Showing Police Stations)



Sadar Subdivision ----- Pulbazar, Darjeeling, Rangli Rangliot,
Jore Bungalow and Sukiapukri
Kurseong do ----- Kurseong and Mirik
Siliguri do ----- Siliguri, Phansidewa and Kharibari

KALIMPONG SUBDIVISION
(Showing Police Stations)



Scale 1"=8 Miles

REFERENCES

- District Boundary - - - - -
- Subdivision Boundary - - - - -
- Police Station Boundary... . . - - - - -

CHAPTER III.

THE PEOPLE.

When the East India Company in 1835 first acquired the nucleus of the Darjeeling District from the Raja of Sikkim, it was almost entirely under forest and practically uninhabited. Although it was stated to have been uninhabited probably a more accurate estimate was that this hill tract of 138 square miles contained a population of 100. The heavy forest and poor communications must have kept down numbers to those who could make a precarious living from rough cultivation of forest lands and the collection of forest fruits. A primitive system of Government which countenanced slavery did nothing to encourage development and an increase of population.

The decision of the Company to develop Darjeeling as a hill resort gave an opportunity to neighbouring peoples to immigrate and take part in the development. The original inhabitants, probably Lepchas, were rapidly outnumbered by settlers from Nepal and Sikkim. By the year 1850, Dr. Campbell the first Superintendent reported that the number of inhabitants had risen to 10,000. The rapid influx was noted by Sir Joseph Hooker when he visited Darjeeling about that time. When in 1869 a rough census was taken of the inhabitants of this tract, the total was found to be over 22,000.

Previous to 1860 there had been some fighting with the Sikkim Raja, which was followed by annexations of territory. In the hills an area was added to the Darjeeling tract mentioned above which brought the boundaries to the Nepal frontier on the west and the Tista river on the east. The Terai was also added. It is not clear what was then the population of the Terai but it can be assumed that it was considerable from the fact that, in 1874, it was reported that at the time of annexation there were 544 *jotes* which brought in a revenue of Rs. 19,000. The census of 1872 showed the total population of the Terai to be 47,985.

The Kalimpong Subdivision of the District was annexed after the Bhutan War of 1865. The population of this area then was estimated to be 3,536. As the area was treated as part of the Headquarters Subdivision of the District, early census records gave no figures for this area but an estimate of the population of the Kalimpong area in the year 1881 was 12,683. Immigration was considerable between annexation and 1881.

The first regular census took place in 1872 when annexations were over and the District had reached its present area. The total number of persons in the District at each of the censuses is shown below:—

					Increase.	Per cent.
1872	..	..	..	94,712	..	..
1881	..	..	..	1,55,179	60,467 or	64
1891	..	..	..	2,23,314	68,135 or	44
1901	..	..	..	2,49,117	25,803 or	12
1911	..	..	..	2,65,550	16,433 or	7
1921	..	..	..	2,82,748	17,198 or	6
1931	..	..	..	3,19,635	36,887 or	13
1941	..	..	..	3,76,369	56,734 or	18

The large increase in 1881 has been attributed in part at least to the incompleteness and inaccuracy of the first census. There is no doubt however that the expansion of population between 1872 and 1891 was remarkable in spite of the vague alarm which caused numbers to escape across the border into Nepal rather than face the 1891 enumeration. The main causes of the rapid increase of population have been the development of the tea industry and the influx of settlers to cultivate the waste lands of the District. The steady improvement in communications due to the building of railways and roads also facilitated development generally and made possible a seasonal tourist traffic, encouraged the Provincial Government to stay longer and more often in the town and made Darjeeling a centre of educational activity for Europeans. Census returns do not reflect directly or fully the seasonal increases of population due to visitors or school children as, at the time of year when the census is usually taken, schools, hotels and boarding houses are empty: but this seasonal traffic undoubtedly helps to raise the level of the permanent population figures.

The increase due to the expansion of agriculture will be understood from a study of the general figures of population and of the details given below of the increases in each Subdivision. The expansion due to development of tea will be appreciated when it is explained that, in 1872, there were 74 tea estates in the District with 14,000 acres planted: these figures increased in 1881 to 153 and 30,000: and in 1891 to 177 and 45,000. Local labour could not meet the resultant demand and immigration on a very large scale made up the deficiency. After 1891 the tea industry entered a period of depression and this may account for the check in population increase which followed. Up to 1921 the rates of increase for the District declined to 12, 7 and 6 per cent. and the population of the Kurseong Subdivision actually decreased in the decades 1901-1911 and 1911-1921.

Immigration, very vigorous in the past, has now steadied down. But it is not possible to give exact figures of the volume of recent immigration. In the census of 1891, 88,000 persons were recorded as having been born in Nepal. The table below summarises the 1931 census records of birth place of the population of the District—

Born in Bengal (including Darjeeling District)	2,18,935
Born in Behar	24,540
Born in Sikkim	5,321
Born elsewhere in India	8,277
Born in Nepal	59,016
Born elsewhere in Asia	2,052
Born in Europe outside U. K. and Ireland ..	130
Born in U. K. and Ireland	486
Miscellaneous	878
Total ..	3,19,635

Elsewhere in the 1931 census report it is stated that the mother-tongue of 37,444 persons resident in the District was Bengali. As many of

those whose mother tongue was Bengali were probably born in the Terai, all that can be stated with certainty is that 2,18,935 - 37,444 = 1,81,491 represents the minimum population which was born in the District and that the correct figure lies between 1,81,491 and 2,18,935. The number of Nepalis born outside the District had declined from 88,000 in 1891 to 59,016 in 1931.

Sample figures of the 1941 census show that, out of a rough total for the District of 3,74,350 persons, 2,64,300 were born in the District, 14,300 were born elsewhere in the province and 95,750 were born outside the province. The corresponding figure of the 1931 census for those born outside the province was 1,00,700: the percentage of those born outside the province thus falling from 32 to 26.

When immigration is temporary, it often results in a preponderance of male population over female. In the previous edition of this gazetteer it was noted that there were only 87 females to every 100 males in the District. This disparity has slightly diminished for the 1941 census figures gave the male population as 1,99,891 and the female population as 1,76,478, i.e., just over 88 females for every 100 males. The corresponding figures for each of the Subdivisions are:—

Sadar	..	..	..	..	92
Kurseong	..	..	..	..	93
Kalimpong	..	..	..	..	91
Siliguri	..	..	..	..	78

These figures perhaps indicate that the population of the hill areas is more permanent than that of the Terai.

Increases in the Subdivisions have, in the main, followed the trend of the District changes. In the Sadar Subdivision the population in 1891 was 79,041. The figures for 1921 and later were:—

Year.	Population.	Increase. Per cent.
1921	1,06,511	
1931	1,19,178	11.9
1941	1,47,327	23.6

The highest rates of increase in both decades were in the Sukhiapokri thana (between 25 and 28 per cent.) and the lowest in the Darjeeling and Pulbazar thanas. From 1921 to 1931 there was a decrease in the population of the Rangli Rangliot thana. Jorebungalow thana showed a rapid increase (52 per cent.) in the period 1931-41.

The following are the figures for the Kurseong Subdivision:—

Year.	Population.	Increase. Per cent.
1891	44,649	
1901	45,187	+ 1
1911	41,207	- 9
1921	40,357	- 2
1931	51,996	+29
1941	59,986	+15

The decline in population between 1901 and 1921 is significant and may be attributed, at any rate in part, to depression in the tea industry.

On the other hand the following figures for the Kalimpong Sub-division show a continuous increase although 1921 was the year in which the rate of increase was lowest:—

Year.	Population.	Increase. Per cent.
1865	3,536 (Estimate).	..
1881	12,683	..
1891	26,631	110
1901	41,511	56
1911	55,653	34
1921	60,093	8
1931	68,203	13
1941	79,042	16

In the decade 1921-31 the Gorubathan thana showed a greater rate of increase (27 per cent.) than the Kalimpong thana (11 per cent.) but in the following decade the positions were reversed with percentages of 14 and 17. The higher rate for the Kalimpong thana is probably due to the rapid expansion of the Kalimpong urban area.

Increases in the Siliguri Subdivision have also been continuous:—

Year.	Population.	Increase. Per cent.
1872	47,985	..
1881	63,038	31
1891	72,993	16
1921	75,787	4 (for three decades.)
1931	80,258	6
1941	90,014	12

The Kharibari thana showed the lowest rate of increase and the Siliguri thana the highest. The high rate for Siliguri was no doubt due to the abnormally rapid expansion of the Siliguri urban area.

The District has an area of approximately 1,192 square miles and the density of population is 316 persons per square mile. The Sadar Subdivision is about 19 per cent. of the area of the District and holds 39 per cent. of the population thus having a higher density (408) than that of the District. The existence of the town in the Darjeeling thana no doubt accounts for the high density (1,218) in that thana.

The Kurseong Subdivision, with an area 14 per cent. of the District, holds a population 16 per cent. of the District population and thus has a density slightly higher (364) than that of the District. Mirik thana (38 square miles) has 449 persons per square mile, a considerably higher figure than that of the Kurseong thana (339) although this last contains an urban area.

The Kalimpong Subdivision, with an area 35 per cent. of the District, holds only 20 per cent. of its population. The density of

population here is appreciably lower (194) than that of the District. This is accounted for by the large areas of Government forest in the Subdivision and particularly in the Gorubathan thana where density is as low as 88 per square mile.

The Siliguri Subdivision has an area 22 per cent. of the District area and a population 24 per cent. of that of the District. The density of population here (349) is thus slightly higher than that of the District. Population is evenly distributed throughout the Subdivision, density varying from 342 in the Siliguri thana to 366 in the Phansidewa thana. The Subdivision has only small areas of forest and although there is waste land, large areas are well cultivated, much being under tea. As it lies almost wholly in the plains, a much higher density of population might have been expected: the neighbouring Sadar Subdivision of the Jalpaiguri District with many points of similarity carries a population of 540 persons to the square mile. One of the causes may be the unhealthiness of the Terai which was given in the past as the reason for a low population development, rendering necessary the importation of aboriginal tribes from Chota Nagpur and the Santal Parganas to develop and work tea gardens. The Terai is still unhealthy.

There are four urban areas in the District, the towns of Darjeeling, Kurseong, Kalimpong and Siliguri. The population of Darjeeling town has varied as follows:—

Year.					
1872	..	..	..	..	3,157
1881	..	..	..	..	7,018
1891	..	..	..	..	14,145
1901	..	..	..	..	16,924
1911	..	..	..	..	19,005
1921	..	..	..	..	22,258
1931	..	..	..	..	21,185
1941	..	..	..	..	27,222

The steady increase of population received a check in 1931 but was resumed in 1941. No particular significance need be attached to the recorded decline as the number of summer visitors is large and an enumeration later in the year may include a number of those who are not permanent residents. The 1941 figures probably do not include any of the temporary summer population. The town area lies partly in the Jorebungalow thana and it includes the cantonments of Katapahar, Jalapahar and Lebong. At the time of the census the last two were empty of troops and the Katapahar area was being used as a parole camp for foreign internees of whom 131 were recorded.

The population of this urban area was over 7 per cent. of the District population and 18 per cent. of the population of the Sadar

Subdivision. It covers an area of 4.88 square miles and thus has a population density of just below 5,580 persons per square mile. If the cantonment areas be omitted, the density is 6,341.

It is difficult to estimate what the summer population of the town rises to as the number of temporary visitors varies from year to year. Trade depressions, military requirements and political conditions have from time to time checked the flow of summer visitors. On the other hand the presence of troops in cantonments and the visits of His Excellency the Governor and of the Bengal Government bring many other visitors. In war time, Darjeeling experiences somewhat of a boom in visitor traffic and it has been estimated that in peak years the summer population of the town exceeds 50,000.

The population of Kurseong town has varied as follows:—

Year.				Population.	Increase. Per cent.
1881	..	..	..	4,033	..
1891	..	..	..	3,522	..
1901	..	..	..	4,469	27
1911	..	..	..	5,574	25
1921	..	..	..	6,445	16
1931	..	..	..	7,451	16
1941	..	..	..	8,497	14

There are special school areas in the neighbourhood of Kurseong town with a population of about 1,500 persons. The total population of both urban and the special areas connected therewith would be over 9,800 persons.

The town has an area of 1.5 square miles and a density of 5,665 persons per square mile. Its population is 14 per cent. of the population of the Subdivision.

Kalimpong was described as a village with over 1,000 inhabitants in the Gazetteer of 1907. Changes since then have been as follows:—

Year.			Population.	Increase. Per cent.
1911	..	..	7,880	
1931	..	..	8,776	11 (for two decades).
1941	..	..	11,961	36

The Kalimpong urban area consists of the bazar with a population of 5,242 and special areas nearby (St. Andrews Homes, Mission and the Development area). The total population represents 15 per cent. of the population of the Subdivision. The area is 3.6 square miles giving a density of 3,323 persons per square mile. Kalimpong is important as the terminus of one of the pack mule routes from Tibet to India.

The most remarkable urban expansion has taken place at Siliguri which was described in the 1907 edition of this Gazetteer as a swampy malarious village close to the foot of the hills with a population of 784. In 1941 it had a population of 10,487 which shows a 73 per cent. increase over the figure (6,067) for 1931. With an area of 3.6 square miles, it has a population density of 2,913 persons per square mile. An indication of rapid expansion is found in a remarkable disparity between the numbers of males (7,121) and of females (3,366). This expansion has taken place in spite of unhealthy and insanitary conditions and has no doubt been due to Siliguri's increasing importance as a focus of communications. The town's population is just under 12 per cent. of the population of the Subdivision.

The total of urban and special area populations in the District is just over 60,000, i.e., about 16 per cent. of the population of the District. An attempt has been made to ascertain the population of certain other areas which are not purely rural. Such areas may be described as semi-urban and include bazars and settlements on the railway lines of the District (including the railway workshop area of Tindharia) and various other bazars and *hats* such as the Rambhi, Algarah, Pedong, Labha and Tista bazars in the Kalimpong Subdivision and Simana, Sukhiapokri, Badamtam, Bijanbari and Pulbazar in the Sadar Subdivision. It has only been possible to make a rough classification but the total population of such areas is 12,707.

Rural areas fall into two main categories, first, what may be described as plantation areas, i.e., areas which have been exploited by large capitalist or departmental agencies and, secondly, those worked by the small cultivator controlled by the Revenue Administration or the Terai *jotedar*.

The plantation areas are the reserved forests of Government, the Government Cinchona plantations and tea gardens. The population on Government Cinchona plantations in the District is 13,507 and the density is, as might be expected, not high. Still lower is the density on Government Forests which have a population of 10,014. On the other hand areas leased for tea hold a population of 1,46,508 persons or about 39 per cent. of the population of the whole District. As 1,67,680 acres of land (258.75 square miles) were leased out for tea, the density of population in tea areas is over 560 persons per square mile, appreciably higher than the density rate for the District.

Of the areas worked by the small cultivator, by far the largest part is Government Khas Mahal land: the only appreciable area not described as Khas Mahal is the Kurmi Estate in the Sadar Subdivision. But the Terai Khas Mahal has little resemblance to other Khas Mahals in the District because Government does not there deal direct with cultivators but only with middlemen. The population of the Terai Khas Mahals has not therefore been classed with that of other Khas Mahals but with the rural population of areas outside the Khas Mahals. The population of this rural area totals 57,471. The areas of the Terai Government Estate and Kurmi Estate total 199

square miles so that the density of population in the above area amounts to about 289 persons per square mile. In the Government Estates of the District other than the Terai Government Estate, 74,893 persons reside. As the area of these estates is 228 square miles, they have a density of population of 328 persons per square mile.

A study of the racial composition of the population of the District is interesting because of the number of races and tribes found and is of significance for those who wish to understand its history and forecast its future. In early times the Terai was sparsely populated by aboriginal Koches and Meches and the hills by aboriginal Lepchas. All had animistic religions and practised primitive methods of agriculture. Exploitation followed which radically altered the racial composition of the population as well as increasing it enormously. First some Mussalman conversion of Koches in the Terai probably occurred and an increase of Tibetan (including Bhutanese) influence from the north which began a process of domination over the Lepchas. Warfare between the Nepalis and Tibetans and Chinese resulted in further regression of the aboriginals and placed the Nepalis in a position to exploit when the British intervened politically. British exploitation was mainly in the development of tea, engineering, trade and education and did not result in any appreciable permanent British population. It brought in its train two large immigrations: in the hills, of Nepalis who were more useful as labourers on tea gardens and more efficient and thrifty as cultivators than the aboriginal Lepchas: in the Terai, of tribes from Chota Nagpur. As a consequence Lepcha and Tibetan influence in the hills declined.

Development of communications and trade brought a further exploitation by Marwari, Behari and Bengali traders and professional men. Economically these completely dominate the Nepali in spite of his strong numerical position. But in numbers they are comparatively few and many of those who do reside here have not made their permanent residence in the District.

The result is a very mixed population of Nepalis, Lepchas, Bhutias, Tibetans, Bengalis, Marwaris and Beharis in the hills and of Bengalis, Muslims, Marwaris, Beharis, Rajbanshis, Santals, Oraons and Mundas in the plains with a sprinkling of British, Anglo-Indians, Chinese, Uriyas and Punjabis. Immigration has been considerable and still continues, much of the population being temporary or only semi-permanent.

It can readily be understood that many languages and dialects are current. The great majority of the inhabitants in the hills speak Nepali and, of those in the Terai, Bengali or Hindi. Nepali is a form of Hindi. There are however in addition dialects of various Nepal tribes which are still in use in the District: among these are the Gurung, Limbu, Khambu, Sunawar, Yakha, Mangari and Murmi dialects. It appears however that the use of Nepali is spreading and the people of this District rely more and more upon it for use outside the family.

The census of 1931 classified the 3,19,635 persons then enumerated in the District as having a mother-tongue as follows:—

Bengali	..	..	..	37,444	
Hindi	..	..	..	22,595	
Urdu	..	..	..	2,448	
Bhutia and Tibetan	..	..	..	11,761	
Gurung	..	..	..	2,029	
Limbu	..	..	..	14,706	
Mangari	..	..	..	10,445	
Murmi	..	..	..	32,319	
Nepali	..	..	..	92,970	
Newari	..	..	..	6,956	
Other Bengal languages	..	..	..	55,793	
Assam languages	..	..	..	823	
Khewari (Behar)	..	..	..	11,570	
Mundari	..	..	..	5,649	
Santali	..	..	..	4,771	
Oraon	..	..	..	11,742	
Burma languages	..	..	..	46	
Languages of other parts of India	..	..	..	1,800	
Languages of other parts of Asia	..	..	..	429	(Chinese 399)
Languages of Europe	..	..	..	2,174	(English 2,050)

Lepchas have a language of their own called by them Rong-ring: it has been pronounced by General Mainwaring to be the oldest in the world. Tibetan is spoken by the Bhutias domiciled in the District. Other immigrants have brought with them their own languages, for instance Marwaris, Panjabis, Santals, Oraons and Mundas. The primitive race of Dhimal aborigines who lived in the Terai seem to have disappeared from census records. They were a primitive sept of Koches with a language of their own who, in the 1931 and previous censuses, were recorded as numbering a few hundreds only.

Accurate classification by religion or religious practice is not easy to accomplish. No difficulty is presented in dealing with Muslims or Christians. Uncertainty enters when it has to be decided which tribes or groups ought to be classed as Hindus, Buddhists or Animists. The terms "Animist" and "Animism" are conveniently applied to the religious beliefs and practices of backward communities among which no intensive anthropological study has been conducted. Anthropologists now do not hold that tribal religions throughout the world are based on an assumption that all natural objects possess spiritual counterparts (often of an anthropomorphic form) which must be placated. This was the former theory associated with the term "Animism".

Religious practices are now considered to be based on a belief in a neutral, superphysical power neither well nor ill-disposed towards mankind. This new theory has been called the "Mana" concept. Analysis of backward religions has usually shown that magical practices are designed to harness the neutral superphysical power for the good of mankind and so to avoid the dangerous consequences of uncontrolled power. This often demands a belief in ancestral spirits,

which are in process of being re-absorbed into the reservoir of super-physical power from which they came and also in the effectiveness of charms, amulets, fetishes and various phenomena which for one reason or another are deemed to be heavily charged with the super-physical power and therefore of use in magical ritual. As no scientific anthropological studies are known to have been carried out in the Darjeeling District, it is not possible to write very accurately on the tribal religions. For want of a better term, the words "Animist" and "Animism" are therefore used in the following paragraphs with the caveat that the religious premises which underlie the practices of sacrifice and ceremonial are not known. The area, with its strange mixture of beliefs and practices, should prove an interesting field for anthropological research.

In addition to the lack of knowledge, there is a vagueness and casual adaptability about the practice of many hillmen which confuses the task of classifying. And in the Terai there has been a large immigration of animistic tribes from Chota Nagpur whose adoption of Hindu practices is slight. About the Rajbanshis who are predominant in the Terai and are the remnants of the aboriginal race of Koches, it may be said that they have become Hinduised. Their language is Bengali and they have no separate dialect. But that their adherence to Hinduism is comparatively recent is shown by their own customs in regard to burial, food and marriage as well as by the existence, up to recent times, of the Dhimals who "may be defined as a non-Hinduised Koch or Rajbanshi among and beside them". There is more uncertainty however about others classed as Scheduled Castes and particularly about those who immigrated from the Chota Nagpur plateau. With the above the difficulty is to decide whether the individual or tribes can be termed Hindu or ought to be described as Animist. With Nepalis the dilemma is between the terms Hindu and Buddhist. With the Lepcha it is between the terms Animist and Buddhist for these people, formerly animists, have adopted many Buddhistic beliefs and practices.

The indefiniteness which seems to pervade the religious practices in the District can perhaps best be appreciated by perusal of the following quotations from the edition of the District Gazetteer published in 1907:—

"Broadly speaking, the Hinduism professed in the District is nothing more than a thin veneer over animistic beliefs. Beneath this veneer the real popular religion can be seen in the worship paid to a host of spiritual beings whose attributes are ill-defined, but whose chief power is to cause evil to their votaries. The religion prevalent is in fact demonolatry, of which exorcism and bloody sacrifices are the most prominent feature. Throughout the hills there are signs of the prevailing fear of demons, such as "the little offering in the middle of the path to bar the progress of an evil spirit or the living sacrifice being offered to propitiate

another, or the flattering rice image of a demon supposed to be causing sickness or the burning of a rag before the door, over which the friends step when they return from burying a relative, to prevent any accompanying spirits from entering with them."

"In the Terai the same fear and worship of evil spirits prevails. The Rajbanshi, whose greatest enemy is the deadly Terai fever, has three chief deities whom he appeases by offerings of goats, ducks, etc., viz., Kali Thakurani, 'the mother of sickness'; the Gram Devata, 'the goddess who prowls round village sites to cause illness among children'; and Bishhaari Thakurani, 'the source of all pains'—a trinity which would scarcely be selected by a happy and contented race. Should drought last long, the Rajbanshi women make two images of mud or cowdung, which are supposed to represent a god called Hudum Deo. This they carry away into the fields at night and dance and sing round the images in the belief that this will cause rain to fall. The household god is represented by a round lump of clay made smooth by smearing it with cowdung. This is set up before a bamboo and offerings are made to it of rice, which is afterwards eaten by the worshippers. If this duty is neglected, disease or some other calamity is sure to visit the family."

"The form of Buddhism prevalent is not of a much higher type. The craving for protection against malignant gods and demons causes the people to pin their faith on charms and amulets and to erect tall prayer-flags, with strings of flaglets, which flutter from house-tops, bridges, passes and other places believed to be infested by evil spirits. Prayers hang upon the people's lips. The prayers are chiefly directed to the devils, imploring them for freedom or release from their inflictions, or they are plain naive requests for aid towards obtaining the good things of this life, the loaves and the fishes. At all spare times, day and night, the people ply their prayer-wheels, tell their beads and mutter the mystic six syllables—*Om mani padme Hum!* Om! the jewel in the lotus, Hum! 'the sentence which gains them their great goal, the glorious heaven of eternal bliss'. This demonolatry has been aptly described by the late Doctor Graham in his book 'On the Threshold of Three Closed Lands'. 'To the Aboriginal Lepcha' he says, 'the rites of religion are chiefly valuable in averting the anger or malice of an evil spirit and all sickness is caused by such possession. The *Bongting* or sacrificial priest is the cunning expert who indicates the offended demon and prescribes the proper sacrifice of cow or pig or goat or fowl needed to appease him. As a perpetual offering to ward off danger, each household keeps in one corner a little basket, containing rice and a small silver coin'."

"On the whole, Hinduism seems to be spreading at the expense of Buddhism. Cut off from his home, the Buddhist Nepali soon adopts the religious beliefs of his neighbours and, in the absence

of a Buddhist priest is fain to accept the ministrations of Brahmans and to enrol himself, nominally at least, in the ranks of Hinduism. This is all the easier owing to the fact that the popular religion both of the Hindus and the Buddhists is based on demonolatry and that there is no deep cleavage between the two sects. Even the Brahman joins the other peasants, both Hindus and Buddhists, in making regular contributions to the Buddhist monasteries in order that the Lamas may protect his crops from hail. How narrow a dividing line there is between the forms of the two religions in the hills may be seen from the practice of the Limbus. The phlegmatic and utilitarian habit of mind which is characteristic of the Mongolian races comes out conspicuously in the nonchalant attitude of the Limbus towards religion. Where their surroundings are Hindu, they describe themselves as Saivas and profess to worship, though with sparing and infrequent observance, the deities most favoured by the lax Hinduism of Nepal. In a Buddhist neighbourhood the yoke of conformity is still more easy to bear: the Limbu has only to mutter the pious formula, *Om mani padme Hum*, and to pay respect and moderate tribute to the Lamas, in order to be accepted as an average Buddhist. Beneath this veneer of conformity with whatever faith happens to have gained local acceptance, the vague shapes of their original Pantheon have survived."

Some changes of course have taken place since 1907 but no investigation seems to have been attempted which would justify defining with precision what are now the dividing lines between religious practice. The Mongolian tribes of the hills still retain animistic practices which are only gradually giving way to the spread of education and the powerful influence of Hinduism. Rais for instance go to Hindu temples and have Brahman priests: but they have their taboos, viz., some will not eat goats' meat, others, the flesh of some other animal. The acceptance of the Brahman as a priest is very common: he tells the hillman of the Hindu fasts and festivals, performs the naming ceremony of new born children, reads horoscopes, helps in selection of brides and in marriages and takes some part in their death ceremonies. The veneration of cows is accepted by practically all Nepali tribes except Tamangs.

Marriage ceremonial is very simple and in most cases living together as husband and wife is sufficient. Tribal customs however still persist in the death ceremonies which are rather elaborate.

The religious ceremonial of Brahmans and Chetris of the District is much more lax than in Nepal or the plains and the ritual followed much simpler and more perfunctory. The lower castes, such as the Kamis or the Damais, however, are fond of elaborate ritual in marriage and funeral ceremonies and their own priests officiate with all the rigidity prescribed by the Hindu Shastras. These lower castes are looked down upon by the higher and intermarriage is not permitted: but they are allowed to eat at the same table and there is nothing like untouchability in their inferior position.

It is a common practice in the District to vow worship to some favourite god such as Satya Narayan, Mahakal or some tribal god such as Budhini. This practice is called *Bhakal*. The vow is made during illness or difficulty and when the trouble has passed the worship is invariably performed either with or without the sacrifice of some animal or bird.

Certain forms of Hinduism are followed by *Sadhus* or mendicants of the Das Nam sects which are prohibited in Nepal because they are Anti-Vedic. This prohibition also applies to the Arya Samaj which is professed by a few followers in the Darjeeling District.

Such analysis of population figures by religions as has been found possible will be found later in this chapter.

Before the subject of religious classification is left, it may be pointed out that recent attempts by Government in the censuses of 1931 and 1941 to classify have done little to clear up obscurities and indeed seem to have added others. These additional uncertainties have arisen (1) from the introduction of a class "Tribes" and changes in definition after it had been introduced, (2) from a sub-classification of Hindus and (3) from the classification of a large part of the population under "Others". These points will be understood from a comparison of the following tables from the census reports for 1931 and 1941:—

				Provincial Table II, 1931.	Provincial Table II & Imperial Table XIII, 1941.
Hindus—					
	Scheduled Castes	..	..		28,922
	Castes not returned	..	..		17,718
	Others	..	..		1,31,856
	Total Hindus	..	..	2,36,913	1,78,496
Jains	..	..	..		54
Sikhs	..	..	..		54
Muslims	..	..	..	8,391	9,125
Christians—					
	Indian Christians	..	..		2,599
	Anglo-Indian	..	..		1,109
	Other Christians	..	..		984
	Total Christians	..	..	8,280	4,692
Parsees	..	..	..		28
Buddhists	..	..	..	58,943	42,575
Jews	..	..	..	..	42
Tribes	..	..	..	6,963	1,41,301
Others	..	..	..	145	2
	Total	..	..	3,19,635	3,76,369

Note.—Table II only differs from Table XIII of the 1941 census in that it shows the 1,109 Anglo-Indian Christians, the 984 Other Christians, the 28 Parsees, the 42,575 Buddhists, the 42 Jews and the 2 Others under one head Others 44,740.

Comparison between the 1931 and the 1941 figures is more or less ineffective because of the great divergence between the figures for Tribes and for Hindus. It has also not been explained why the number of Buddhists has altered so much.

An entirely new method of classification has been adopted here, aimed first of all at showing how many hillmen there are of Nepali or of other origins. Some of these may be Buddhist and some Hindu. But the primary classification is based on racial origin and not on religion. This has the advantage that racial origin is perfectly clearly known and individuals have recorded this with the minimum of ambiguity. The second point in the classification below is that Scheduled Castes, in the 1941 census classified partly under Hindus (Scheduled Castes) and partly under Tribes, are all brought together under one head. The whole of those under Tribes are thus re-allotted either to Hillmen (Nepalis or other Hillmen) or to Scheduled Castes and the classification refrains from stating whether Scheduled Castes are Hindus or not.

There is then left a category of Plains Hindus which was devised to include only those who were not Scheduled Castes. But some of those included under Plains Hindus are members of Scheduled Castes who have not so described themselves. This was due in some measure to propaganda the effect of which was to cause an appreciable number of Rajbanshis to omit to record themselves as such. They thus got recorded as Hindus and as they speak Bengali it is most likely that they were classified under the heading Bengalis. A certain number of Scheduled Castes of Chota Nagpur were also probably recorded as Hindi-speaking Hindus (Beharis). Although, therefore, the classification here adopted is more useful than former ones in that it separates and classifies figures of the politically important hillman population accurately, it does not achieve so high an accuracy with its presentation of the population figures of the important political unit of the Scheduled Castes.

The details of the population of the District are summarised in the statement below which gives the main classifications for the whole District and for each of the Subdivisions:—

Population of the Subdivisions of the Darjeeling District according to race, tribe and caste.

	Sadar.	Kurseong.	Kalimpong.	Siliguri.	District Total.
Muslims	1,122	350	332	6,924	8,728
Scheduled Castes	1,182	962	1,095	47,511	50,750
Plains Hindus (Other than Scheduled Castes).	4,417	2,608	2,607	29,644	39,276
Nepalis	1,32,767	53,936	62,333	5,572	2,54,608
Other Hillmen	7,010	1,549	11,451	73	20,083
Indian Christians	72	94	205	359	730
British	474	179	186	45	884
Anglo-Indian	126	193	600	16	935
Europeans	145	66	8	9	228
Asiatics	223	95	214	56	588
Total	1,47,538	60,032	79,031	90,209	3,76,810

For the District the percentages of populations of various races and groups are as follows:—

					Per cent.
Muslims	..	..	..	..	2.3
Scheduled Castes		..	..	..	13.5
Plains Hindus	..	..	..	..	10.4
Nepalis	..	..	..	..	67.6
Other Hillmen	..	..	..	..	5.3
Others ..	..	..	..	..	.9
					<hr/>
			Total	..	100.0
					<hr/>

A more significant set of percentages will be obtained by separating the Siliguri or plains part of the District from the other three or hill Subdivisions. These separate percentages are shown below:—

				Three Hill Subdivi- sions.	Siliguri or Terai Sub- division.
				Per cent.	Per cent.
Muslims	..	..	..	.6	7.7
Scheduled Castes	..	..	..	1.1	52.7
Plains Hindus	..	..	..	3.4	32.9
Nepalis ..	..	..	..	86.8	6.2
Other Hillmen	..	..	..	7.0	0.0
Others ..	..	..	..	1.0	0.5
				<hr/>	<hr/>
			Total	..	99.9
					100.0
					<hr/>

* The preponderance of Nepalis in the Hill Subdivisions over the other hillmen is very noticeable and the fact that in this area the two combined are nearly 94 per cent. of the whole population is concealed in the 1941 census method of presenting the relative importance of communities. It is interesting to compare percentages with those for the Sikkim State. Nepali population in Sikkim State is 77 per cent. of the total population: there also Nepali colonisation has been overwhelming, in spite of attempts to protect and maintain, in certain areas, the indigenous populations against the encroachment of Nepalis.

As stated elsewhere, such an administrative policy has been in operation in the Kalimpong Subdivision of the Darjeeling District and does not appear to have achieved any very positive success.

In the hill area Muslims and Plains Hindus are few and mainly found in the towns with a relatively small number in semi-urban areas. A few Bengali Hindus, Beharis and Marwaris are scattered in tea and rural areas in the hills. More than half of the Scheduled Caste population of hill areas are menials employed in urban areas. Practically all the rest are aboriginal immigrants on tea gardens at the base of the hills. Other Hillmen are very meagrely represented in the Kurseong Subdivision and this must be due to the position of this Subdivision—close to Nepal and cut off from Sikkim and Bhutan.

In the Siliguri Subdivision on the other hand, while the percentage of Nepalis is 6·2 per cent. as against nearly 87 per cent. in the hills, the percentage of Scheduled Castes and Plains Hindus is 85·5 per cent. There is also an appreciable Muslim rural population in addition to a strongish Muslim element in the town of Siliguri.

Statement A at the end of the chapter shows the distribution of races and communities in the semi-urban areas of the District. Nepalis are remarkably numerous (83 per cent.) in these areas. The 1,221 Plains Hindus are mostly Marwari and Behari merchants with a sprinkling of Bengalis.

Distribution of races in tea areas is shown in Statement B at the end of the chapter. It shows that Nepalis predominate heavily being 78 per cent. of the District tea area population and 96 per cent. of the tea population in the hill Subdivisions. In the Terai they are only 7 per cent. of the tea area population while Scheduled Castes and Plains Hindus make up 91 per cent.

Corresponding figures for Government Cinchona areas and Government Reserved Forests are given in Statements C and D at the end of this chapter. In these plantation areas percentages of Nepalis are high (93 per cent. in Cinchona and 86 per cent. in Forest) and there is a not insignificant number of Other Hillmen (7 per cent. and over 8 per cent.).

Hill Khas Mahal population is shown in Statement E at the end of this chapter. Here Nepalis form nearly 84 per cent. of the population of Khas Mahals and Other Hillmen nearly 16 per cent.

More detailed information of the numbers of the various races and tribes found in the District has been compiled. Although tribal distinctions and dialects may not be as strong as in Nepal and Chota Nagpur and although they may not have great political significance, they are still very important in the social life of the individual and are of interest historically. For these reasons detailed figures are presented and discussed somewhat fully.

Details of the race, caste and tribes of the population of the Darjeeling District.

<i>Muslims</i>	..	..	..	8,728
<i>Scheduled Castes</i>	..	..	..	50,750
Menials	..	..	..	2,699
Rajbanshis	..	..	..	17,991
Others	..	..	..	2,945
Santals (Tribes)	..	..	..	4,045
Meches (Tribes)	..	..	..	275
Oraons (Tribes)	..	..	..	12,433
Mundas (Tribes)	..	..	..	4,993
Christians (Tribes)	..	..	..	3,031
Others (Tribes)	..	..	..	2,338
<i>Plains Hindus (Other than Scheduled Castes)</i>				39,276
Bengalis	..	..	..	13,830
Marwaris	..	..	..	2,416
Punjabis	..	..	..	320
Hindi-speaking	..	..	..	21,996
Others	..	..	..	714
<i>Nepalis</i>	..	..	..	2,54,608
Rai	..	..	..	56,794
Sherpa	..	..	..	6,929
Chettri	..	..	..	25,941
Sanyasi	..	..	..	1,335
Brahman	..	..	..	8,999
Bhujel	..	..	..	5,816
Yogi	..	..	..	454
Others	..	..	..	472
Caste un stated	..	..	..	4,304
Christians	..	..	..	2,392
Mangar (Tribes)	..	..	..	17,262
Newar (Tribes)	..	..	..	12,242
Tamang (Tribes)	..	..	..	43,114
Damai (Tribes)	..	..	..	8,162
Gurung (Tribes)	..	..	..	15,455
Limbu (Tribes)	..	..	..	17,803
Kami (Tribes)	..	..	..	16,272
Sunawar (Tribes)	..	..	..	4,822
Yakha (Tribes)	..	..	..	824
Sarki (Tribes)	..	..	..	2,778
Gharti (Tribes)	..	..	..	496
Others (Tribes)	..	..	..	1,942
<i>Other Hillmen</i>	..	..	..	20,083
Bhutia & Tibetan	..	..	..	7,271
Lepcha Buddhist	..	..	..	9,911
Bhutia Christian	..	..	..	341
Lepcha Christian	..	..	..	2,559
Others	..	..	..	1
<i>Indian Christians</i>	..	..	..	730
<i>British</i>	..	..	..	884
<i>Anglo-Indians</i>	..	..	..	935
<i>Europeans</i>	..	..	..	228
<i>Asiatics</i>	..	..	..	588
			Total	3,76,810

Note.—

Total of Scheduled Castes classed as tribes	..	..	27,115
Do. not so classed	..	..	23,635
Total of Nepalis classed as tribes	..	..	1,41,172
Do. not so classed	..	..	1,13,436

The classifications of the foregoing statement may require some explanation before the figures can be correctly appreciated.

Any caste or race named in a certain list prepared by the census authorities is classed as a tribe. Certain of these castes so classed are Scheduled Castes and are shown in the statement under the heading of Scheduled Castes. Those of the Scheduled Castes who did not disclose themselves as of castes classed as tribes have been placed under three categories, viz., (1) menials, (2) Rajbanshis and (3) Others. Menials are mainly sweepers, dhobis and mochis. The group Hindi-speaking Plains Hindus is mainly composed of Beharis. The heading Panjabis includes Sikhs and Jains and "Others" includes Oriyas, Assamese and Madrasis.

Under Nepalis certain castes whose names are included in the census list of Tribes have been marked accordingly. All "Other Hillmen" were classed as Tribes in the census. Indian Christians are those Christians who have not been classed as Scheduled Caste, Nepali, Bhutia or Lepcha Christians or who are not British, Anglo-Indian or European. They include Goanese Christians.

The class British includes those of British, Scotch, Irish, American, Canadian or Australian nationality. European includes those who described themselves as Jews but happened also to be of European origin. Asiatics include Chinese, Armenians and Parsis.

The number of *Muslims* in the District is 8,728. In 1872 there were just over 6,000 Muslims and recently numbers have been steady with 8,516 in 1921 and 8,391 in 1931. Most Muslims (75 per cent.) are found in the Terai where changes in numbers have been as follows:—

1872	..	..	..	..	..	5,221
1881	..	..	..	..	..	6,659
1891	..	..	..	..	..	7,863
1921	..	..	..	..	..	6,889
1931	..	..	..	..	..	6,771
1941	..	..	..	..	..	6,924

Very few Muslims are found in the tea areas of the Terai and they were most numerous in the rural areas of the Phansidewa thana (2,520), Siliguri thana (1,227) and Kharibari thana (905). Elsewhere in the District they are found mainly in urban areas, viz.:—

Darjeeling	..	..	..	1,041
Kurseong	..	..	..	246
Kalimpong	..	..	..	332
Siliguri	..	..	..	1,961

Those falling within the category of *Menials* under Scheduled Castes are found mainly in the towns as will be seen by the following table:—

Darjeeling	..	..	..	924
Kurseong	..	..	..	318
Kalimpong	..	..	..	218
Siliguri	..	..	..	523
				<hr/> 1,983 <hr/>

Practically no menials are found in rural areas other than tea gardens.

The *Rajbanshis* have been described as the predominant race in the Terai and the survivors of an aboriginal race, the Koches, who formerly possessed a powerful kingdom at the foot of the hills. There are two views as to their origin. The first is that they are descended from a Dravidian stock occupying the valley of the Ganges at the time of the Aryan advance into Bengal and that, driven forward by this advance into the Terai, they were brought into relations with the Mongoloid races of the Lower Himalayas. They have been described as "the most conspicuously Dravidian race in Bengal: their men are tall and robust, and neither in feature nor dress strikingly Tamulian. But at a market or village gathering thronged by their women one could imagine oneself transported to Kanara or Tamil land. The Rajbanshi women, whose cast of feature is singularly homely and rough-hewn, leave the head uncovered and wear a dress in which blue or purple predominates, reaching only to the knee and bound over the bosom, leaving both shoulders bare in a fashion not seen among other people in Bengal: while the ornaments of the head and limbs recall those worn in southern India." The other view of their origin is that they are a Mongoloid race that entered Bengal from the East by way of the Brahmaputra valley. Certainly the true Koches seem to be a Mongoloid race as those known as Rajbanshis in Jalpaiguri, Cooch Behar and Goalpara are either pure Koches who, though dark, have a distinctly Mongoloid physiognomy, or a mixed breed in which the Mongoloid element predominates.

The Rajbanshis became Hinduised by contact with Hindus in the plains and discarded the name of Koch for the magniloquent title of Rajbanshi or scion of kings. The Rajbanshis speak Bengali and have no separate dialect or patois.

History of the numerical strength of the Rajbanshi population is somewhat confused. The following table shows the figures recorded for Rajbanshis, Koches and Dhimals:—

	1872.	1881.	1891.	1901.	1911.	1921.	1931.	1941.
Rajbanshi ..	23,124	..	..	29,460	28,944	23,191	26,969	17,991
Koch ..	..	30,801	..	..	..	..	122	..
Dhimal ..	873	..	631	..	444	..	375	..

The 1941 census seems to have lost trace of the Dhimals and Koches are apparently no longer recorded as such.

The serious decline in the recorded Rajbanshi population which is noticed in 1941 is almost certainly due to faulty declaration on the census slips. There was, at the time of enumeration, propaganda aimed at getting Scheduled Castes recorded as Hindus and this was no doubt rendered more effective by a readiness to claim higher status. Those Rajbanshis who recorded themselves as Hindus would be classed as Bengalis. How many did this is a matter of speculation but it seems unlikely that the number of Rajbanshis would decrease between 1931 and 1941: an increase rather might be expected. It may therefore be surmised that 9,000 at least were so recorded as Hindus and classed as Bengalis.

Practically the entire population recorded as Rajbanshis was resident in the Siliguri Subdivision (17,788 out of 17,991 in the District). Only 140 were recorded as residents of the Siliguri town and none in the tea garden areas of this thana. It is not known how far these records are vitiated by misstatement. In the Siliguri thana 5,416 were recorded in rural areas (32 per cent. of the population of those areas). Practically all the 8,158 Rajbanshis recorded as living in the Kharibari thana were found in rural areas outside tea gardens where they made up 45 per cent. of the population. Similarly in the Phansidewa thana there were practically no Rajbanshis recorded in tea areas and 4,038 in non-tea rural areas (27 per cent. of the population of those areas). Rajbanshis recorded formed about 20 per cent. of the rural population and 36 per cent. of the non-tea garden rural population. The full Rajbanshi population would of course give higher percentages.

A tribe called the *Meches* has been described as aboriginal. They were reported to be comparatively immune to the Terai fevers and, with the Dhimals and Koches, to have lived in the malarious and marshy jungles of the Terai in which they burnt clearings and raised scanty crops of rice and cotton by methods of "nomadic husbandry". This probably means the method of *jhuming* by which a portion of the forest is burnt down and cultivated for a year or two and then abandoned. Population figures recorded do not however indicate that Meches were ever at all numerous in this District although in the neighbouring District of Jalpaiguri their recorded population exceeded 10,000. For the Darjeeling District the following figures are available:—

	1872.	1881.	1891.	1901.	1911.	1921.	1931.	1941.
Meches ..	893	..	267	342	201	..	379	275

Practically all the Meches recorded in the District (273) were found in the Siliguri Subdivision. As far as can be ascertained the religion of Meches is animistic and it is doubtful if they should be classed as Hindus.

There are 4,045 *Santals* in the District, practically all (3,956) residing in the Siliguri Subdivision. This well known tribe has its original home in the Santal Parganas in Bihar but numbers have emigrated to many parts of Bengal where they have been especially successful in clearing jungle and bringing waste and forest lands under cultivation. They were used for the purpose of opening out land in the Terai for tea. In 1891, 999 persons were recorded as speaking Santali as their mother-tongue and in the 1911 census this figure rose to 3,537 and in 1931 to 4,771. Population figures recorded for Santals are as follows:—

	1901.	1911.	1921.	1931.	1941.
Santals ..	1,859	2,246	3,607	4,299	4,045

It is possible to suspect that the decline shown for 1941 is due to misstatements and that there has been a slight increase rather than a decline.

About 2,900 of the Santals in the Siliguri Subdivision lived in non-tea garden areas and only about 1,000 within tea gardens. It may be presumed that all were recruited for tea garden work most of whom are still employed as labourers: it is possible that they actually live on land which has not been leased for tea but has been acquired by the management of tea gardens for occupation by their labourers.

If it were necessary to decide if Santals are to be classed as Hindus or not, the answer would probably be that they should be so classed. Although they have many practices contrary to strict Hinduism and eat much that is entirely prohibited, they follow forms of worship similar to those of Hindus and would probably declare themselves to be Hindus if questioned.

The Oraons and the Mundas immigrated into the District from the Chota Nagpur plateau and like the Santals were recruited for the purpose of opening out land for tea cultivation. They are animists in origin but now it would be difficult to say that they should not be classed as Hindus. Census figures show the following to be the numbers of *Oraons* in the district:—

	1872.	1881.	1891.	1901.	1911.	1921.	1931.	1941.
Oraons ..	1,648	..	4,632	8,042	7,543	10,952	12,412	12,433

The figure for 1941 does not include Oraon Christians who number about 2,000. In 1891 1,968 persons were recorded as speaking Oraon as their mother-tongue: in 1911 this figure was 7,736 and in 1931 11,742.

There are no Oraons in the Sadar Subdivision and just over 100 in Kurseong and about 250 in Kalimpong where they are coolies on tea gardens at the foot of the hills. Practically all the Oraons of the District are found in the rural areas of the Siliguri Subdivision: they totalled over 13 per cent. of the population of the Subdivision. Distribution was as follows:—

			Siliguri Thana.	Kharibari Thana.	Phansidewa Thana.
Tea Areas	..	..	2,356	803	1,978
Other Areas	..	..	3,731	999	2,137

Census figures give the following as the population of *Mundas* in the District:—

	1891.	1901.	1911.	1921.	1931.	1941.
Mundas ..	255	3,980	3,365	5,322	5,062	4,993

The figure for 1941 does not include Munda Christians of whom there were about 1,000. In 1891, 1,921 persons were recorded as having Mundari as their mother-tongue: this figure was 3,168 for 1911 and 5,649 for 1931.

There are no Mundas in the Sadar Subdivision and hardly any in the Kurseong Subdivision. In the Kalimpong Subdivision there are between 400 and 500 all of whom are in tea areas at the foot of the hills. Practically all the rest are found in the rural areas of the

Siliguri Subdivision where they form 5 per cent. of the population of the Subdivision. Mundas are more numerous in tea areas as will be seen from the table below showing their distribution:—

	Siliguri Thana.	Kharibari Thana.	Phansidewa Thana.
Tea Areas	1,728	591	347
Other Areas	1,068	505	232

Mundas are greatly outnumbered by Oraons in the Phansidewa thana.

Oraons and Mundas show no decline in numbers and probably they are increasing at a fairly steady rate but immigration may no longer be a cause of increase.

The Scheduled Castes who have been classed as Christians are those who declared themselves to be Oraon or Munda Christians. A few of these lived in tea areas in the Kurseong and Kalimpong Subdivisions. The rest (2,892) were in the Terai distributed as shown below:—

Siliguri thana	650
Kharibari thana	480
Phansidewa thana.. ..	1,762

Those declaring themselves members of Scheduled Castes which are not of the main groups detailed above are shown under the headings "Others" and "Others (Tribes)". Almost all were found in the Siliguri Subdivision.

The group "Plains Hindus (Other than Scheduled Castes)" was not intended to include any who were members of Scheduled Castes. But owing to certain of the Scheduled Castes failing to show that they belonged to those castes, numbers recorded as Plains Hindus have probably been inflated: the number of Bengalis should probably be reduced by 9,000 (with a corresponding increase under Rajbanshis) and the number of Hindi-speaking Hindus reduced by about 2,000 (with a corresponding increase under the various Tribes of Scheduled Castes). Revision would therefore give a total of Plains Hindus 28,276 with the following details:—

Bengalis	4,830
Marwaris	2,416
Panjabis	320
Hindi-speaking	19,996
Others	714
Total Plains Hindus (other than Scheduled Castes) ..	28,276

The *Bengali* population of the District is in the main confined to towns although there were 201 in semi-urban areas and 131 in tea areas in the Kurseong Subdivision and 84 in tea areas in the Kalimpong

Subdivision. The figures of the Bengali-speaking population in the District given in various censuses are confusing. In 1891 Bengali was stated to be the mother-tongue of 47,435 persons: in 1911 45,985 and in 1931 37,444. If the totals of those shown as Rajbanshis and Bengalis in the 1941 census are added a total of 31,821 is obtained which seems to indicate a decline in the Bengali-speaking population.

Marwaris are by no means entirely confined to the towns. For instance, in the Sadar Subdivision out of 1,002 Marwaris only 559 live in the town of Darjeeling, in the Kurseong Subdivision 66 reside in tea areas and in the Kalimpong Subdivision 140 live outside the urban area. In the Siliguri Subdivision only 40 live outside the town area. No reliable information is available to show if the number of Marwaris living in the District has increased or decreased in recent times.

Under *Punjabis*, have been included Sikhs and Jains. The total number does not seem to have altered much since 1891 when 344 were recorded as speaking Punjabi.

Hindi-speaking Hindus are mainly Beharis. They are most numerous in the Terai where in tea areas they number 10,711 and in other rural areas 3,824: there are also 2,968 in the Siliguri town. In the Sadar Subdivision over 1,000 out of the 1,698 are residents of the town. In the Kurseong Subdivision there are 733 in tea areas (probably coolies) and 373 in urban and semi-urban areas (many probably traders). In the Kalimpong Subdivision out of 1,438, 579 reside in tea areas (probably coolies), 246 in semi-urban areas and over 500 in the urban area.

As explained above those classed as *Others* include Assamese, Madrasis and Oriyas.

To sum up, it is estimated that the District holds 61,750 persons who are members of Scheduled Castes and 28,276 Plains Hindus who are not members of Scheduled Castes. Of this population of 90,026, 77,155 live in the Siliguri Subdivision. The revised totals for Scheduled Castes and Plains Hindus in the statement on page 61 above would thus be:—

	Sadar.	Kurseong.	Kalimpong.	Siliguri.	District Total.
Scheduled Castes ..	1,182	962	1,095	58,511	61,750
Plains Hindus (other than Scheduled Castes) ..	4,417	2,608	2,607	18,644	28,276

The foregoing remarks deal with the population whose place of origin is the plains. The following is an account of persons originating in the Hills. The first to be discussed are the *Nepalis* of whom there are over 2½ lakhs in the District. In numerical strength the most important Nepali tribe is the *Kiranti*. Their original home lies between the Sankos river and the Singalila ridge and Mechi river in eastern Nepal. Included in the Kiranti tribe are the Limbus or Yakthumbas, the Jimdars or Rais and the Yakhas. When the

Kirantis were conquered by the Gurkhas, the Gurkha king, perhaps anxious to conciliate his vanquished enemies, conferred upon the most influential amongst them powers to rule certain districts. The Jimdars so empowered were given the title of Rai and the Limbus that of Subba: these titles are now applied in the Darjeeling District to all Jimdars and Limbus. Those Kirantis living south-west of Mount Everest in the Khambu District usually call themselves Khambus.

The Rais are the most numerous tribe in the Darjeeling District and had their original home in Eastern Nepal. Their religious practices include both Hindu and Buddhistic rites: they have many customs in common with the Limbus and intermarriage tends to draw them closer together. Though Rais and Limbus are not considered to be of the warrior classes they offered a gallant resistance to the invading Gurkhas and they are recruited to combatant rank being considered equal in every respect to other fighting tribes.

The following table shows the number of Rais recorded as residing in the Darjeeling District:—

	1901.	1911.	1921.	1931.	1941.
Rais ..	33,133	40,409	41,236	47,431	56,794

In 1911, 39,448 residents of the district were recorded as speaking the Khambu dialect. The Rais have always been numerous in the district and numbers have steadily increased. They are distributed throughout the District wherever Nepalis are found.

Sherpas originally came from the north-east of Nepal and are of Tibetan descent. They seem to be more definitely Buddhist in religion than any other of the Nepalis. They are mostly found in the Sadar Subdivision and in the Kalimpong Khas Mahal, Forest and Cinchona areas. In 1901 there were 3,450 Sherpas in the District: in 1931 their number had increased to 5,295 and in 1941 to 6,929. During the war Sherpas have been recruited to combatant rank in Gurkha battalions. This tribe supplies, for climbing expeditions throughout the Himalayas, most of the famous high altitude porters.

The *Khas* tribe, which has adopted the surname of Chettri, was one of the three dominant tribes of Nepal which overthrew the Newar dynasty in 1769. The Chettris of Nepal are recruited to combatant rank in Gurkha regiments. They are reported to be careful and successful cultivators in the Darjeeling District. In 1941 there were 25,941 Chettris resident in the District which gives a considerable increase over recorded figures for 1901 (11,597) and 1911 (12,599). They are widely distributed throughout the District. This tribe has probably a large admixture of Aryan blood and it is the form of Hindi acquired by this tribe from Brahman and Rajput refugees in Nepal that has now become the Nepali of current use.

There are 1,335 *Sanyasis* in the Darjeeling District. This tribe, whose surname is Giri, was never very numerous in the District: 1,151 were recorded in 1901 and 1,060 in 1911. During the war Sanyasis of Nepal were enlisted in small numbers in combatant rank.

Nepali Brahmans are fairly numerous in the District, there being 8,999 recorded in the 1941 census. Brahmans recorded (most of whom were Nepali Brahmans) were as follows:—

	1901.	1911.	1921.	1931.	1941.
Brahmans ..	6,470	6,195	8,174	8,791	8,999

Nepali Brahmans are mentioned with Chettris as careful and successful cultivators. A large number of the Brahmans of the District are residents of the Khas Mahals in the Kalimpong Subdivision (4,106). No Nepali Brahmans are recruited to Gurkha regiments.

Bhujels were originally slaves in Nepal. Their status has improved and during the war some have been recruited to combatant rank. They number 5,816 in the Darjeeling District. Six hundred and ten are found in the tea gardens of the Kurseong Subdivision and 2,308 in the Khas Mahals of Kalimpong.

Yogis are not strictly a tribe or caste but only a group of those who have taken to a religious life. Seven hundred and fifty-two were recorded in 1931 and 454 in 1941.

Four thousand three hundred and four persons declared themselves to be Nepalis but gave no indication of the tribe to which they belong.

Mangars were one of the three dominant tribes of Nepal who overthrew the Newar dynasty and are now chiefly occupied in agriculture, trade and soldiering: but like Nepali Brahmans they take readily to almost any occupation. Mangars of Nepal are recruited to combatant rank of Gurkha regiments. The figures below show how the population of Mangars in the District has increased:—

	1901.	1911.	1921.	1931.	1941.
Mangars ..	11,912	12,451	14,934	16,299	17,262

Mangars are found throughout the District wherever there are Nepalis.

Newars. This tribe ruled in Nepal until 1769 when it was overthrown by the Chettris, Mangars and Gurungs. They are now traders and artisans, agriculturists and domestic servants and during the war Newars of Nepal were recruited to combatant rank in Gurkha regiments. They have the surname of Pradhan and a dialect of their own spoken in 1911 by 5,150 residents of the Darjeeling District. The population of Newars in the District has varied as follows:—

	1901.	1911.	1921.	1931.	1941.
Newars ..	5,770	6,927	8,751	10,235	12,242

Newars of the Darjeeling District have ceased to use the Newar dialect and they have become completely Hinduised.

Newars are numerous in tea areas of the Sadar and Kurseong Subdivisions and in the Kalimpong Khas Mahal areas. Nepal and Newar are really two forms of the same word and Newar merely means an inhabitant of Nepal proper before the Gurkha conquest.

Tamangs are a Mongolian or semi-Mongolian tribe who claim to be among the earliest settlers of Nepal. They are probably descended

from a Tibetan stock modified by intermixture with Nepali races. They bear the title of Lama and follow Buddhistic practices although they still follow Hindu customs at death and on certain festivals. At their weddings Lamas serve as priests and prayer flags fly over their homesteads. They are also known as Murmis. Tamangs of Nepal are recruited to combatant rank in Gurkha regiments and they are very numerous in the Darjeeling District where they are good cultivators and are found in large numbers in tea gardens. In 1911 26,963 persons in the District were recorded as speaking the Murmi dialect. Their numbers in the District have varied as follows:—

	1872.	1901.	1911.	1921.	1931.	1941.
Tamangs ..	6,557	24,465	27,226	30,450	33,481	43,114

Gurungs are in Nepal a nomadic pastoral race subsisting by rearing and grazing cattle. They have a dialect of their own. They helped in 1769 to overthrow the Newar dynasty and Gurungs of Nepal are recruited to combatant rank in Gurkha battalions. Their numbers in the District have been as follows:—

	1901.	1911.	1921.	1931.	1941.
Gurungs ..	8,738	9,628	9,575	11,154	15,455

They are well distributed throughout the District and numerous in tea gardens in the hills.

Limbus who bear the title of Subbah (Subha) are also numerous in the District. Their original home is in East Nepal but from their flat features, oblique eyes, yellow complexion and beardless faces, it can be surmised that they have descended from early Tibetan settlers in Nepal. They have intermarried in the Darjeeling District a great deal with Lepchas. Prior to 1887 most Gurkha regiments enlisted Limbus but after the formation of two Eastern Nepal Gurkha Regiments they, together with Rais, were enlisted exclusively in the Eastern Nepal Regiments of the Gurkha Brigade. They offered a most gallant resistance to the invading Gurkhas in Nepal. They are now engaged chiefly in agriculture, grazing, trade and portorage. They have a dialect of their own and in 1911, 11,489 and in 1931, 14,706 residents of the District were recorded as speaking the dialect. The Limbu population of the District has varied as follows:—

	1901.	1911.	1921.	1931.	1941.
Limbus ..	14,305	13,804	14,191	16,288	17,803

They are quite numerous in tea areas in the hills and in the Khas Mahals of the Sadar and Kalimpong Subdivisions.

Sunuwars are a cultivating tribe who were originally hunters and are recruited from Nepal to combatant rank in Gurkha regiments. They are fairly numerous in the Darjeeling District as the following figures show:—

	1901.	1911.	1921.	1931.	1941.
Sunuwars ..	4,428	3,820	3,691	4,055	4,822

Sunuwars have a dialect of their own which was in 1911 spoken by 3,511 residents of the District.

Yakhas are an agricultural caste calling themselves Diwan. They come from the same area in Nepal as the Rais and Limbus, those who come from the west of the Arun considering themselves Rais and those from the east of the Arun, Limbus. They have a dialect of their own and are recruited to combatant rank in Gurkha regiments. They are not numerous in the Darjeeling District, the following only being recorded:—

	1901.	1911.	1921.	1931.	1941.
Yakhas ..	1,143	1,119	..	850	824

Damais are the tailor caste and are recruited to Gurkha battalions only as darzis. Their numbers in the Darjeeling District are as follows:—

	1901.	1911.	1921.	1931.	1941.
Damais ..	4,643	4,453	5,781	5,551	8,162

Damais are found in most areas in the hills but are more numerous in towns and tea areas.

Kamis or blacksmiths are only recruited to Gurkha regiments as armourers. They are quite numerous in the Darjeeling District as follows:—

	1901.	1911.	1921.	1931.	1941.
Kamis ..	9,826	10,939	11,779	11,331	16,272

They are found in all areas in the hills but are particularly numerous in towns, on tea estates and in the Kalimpong Khas Mahals.

Sarkis are leather workers and are recruited to Gurkha regiments only as such. They have never been very numerous in the District. The recorded figures are:—

	1901.	1911.	1921.	1931.	1941.
Sarkis ..	1,823	1,992	2,036	2,432	2,778

They are more numerous in towns and tea gardens in the hills and in the Kalimpong Khas Mahals.

Gharti is the term applied in Darjeeling District to descendants of freed slaves. There are only a few recorded now but in former censuses they seem to have been more numerous:—

	1901.	1911.	1921.	1931.	1941.
Gharti ..	3,448	3,584	..	2,053	496

There are 2,393 persons resident in the District recorded as *Nepali Christians*. They are found mostly in the Darjeeling town, in the Kurseong and Kalimpong towns and special areas and in the Kalimpong Khas Mahals.

Hillmen other than Nepalis are *Bhutias and Tibetans* who have been classed together and *Lepchas*. *Bhutias and Tibetans* have been classed as follows:—

- (1) Sikkimese Bhutias, a mixed race descended from Tibetans who settled in Sikkim some centuries ago and intermarried with Lepchas,

- (2) Sherpa Bhutias or Bhutias of Nepal who come from the East or North-East of Nepal,
- (3) Drukpa Bhutias or Bhutias of Bhutan proper and
- (4) Bhutias of Tibet or Tibetans.

Sherpas have been dealt with under Nepalis and the other three classes have been grouped together.

In the 1931 census the numbers of these four classes were given as:—

Bhutias of Bhutan	..	..	..	..	2,124
Bhutias of Nepal	..	..	..	..	5,295
Bhutias of Sikkim	..	..	..	..	896
Bhutias of Tibet	..	..	..	..	2,314

This gives a total of 5,334 Bhutias who were not Sherpas. It is not clear whether the census figures below for 1901, 1911 and 1921 included Sherpas or not—

	1901.	1911.	1921.	1931.	1941.
Bhutias and Tibetans.	9,315	10,768	10,710	5,334	7,612 (7,271+341)

If Sherpas are included there would be in 1931, 10,629 Bhutias and in 1941, 14,541 Bhutias resident in the District. In 1891, 5,866 persons were recorded as speaking Bhutia and 1,526 as speaking Tibetan. In 1911, 10,775 persons were recorded as speaking Bhutia and in 1931 this had increased to 11,761. It is difficult from this material to come to a satisfactory decision about an increase or decrease of the Bhutia population of the District.

The Bhutias and Tibetans are people of considerable physical strength and capable of enduring exposure and carrying heavy burdens. They are fond of gambling and display and though somewhat quarrelsome are cheerful and willing workers.

The *Lepchas* are the original inhabitants of the country. They called themselves Rong, i.e., the squatters, and their country, the land of caves. The term Lepcha or Lapche is an appellation given them by the Nepalese and means the people of vile speech. Originally the Lepchas possessed all the hill country of Darjeeling and Sikkim and when the British first acquired Darjeeling it was then reported that they formed two-thirds of the population of Sikkim. About 300 years ago the Tibetans invaded their country and drove them into the lower valleys and gorges: in 1706 the tract east of the Tista, now Kalimpong, was conquered and taken from them by the Bhutanese. The reservation of forests by Government has further cramped their means of livelihood and natural environment and they are far less efficient as cultivators than the Nepalis who seem also to be more prolific. It is not possible to estimate with any accuracy how far they are able to maintain themselves under modern conditions as they perpetuate their families by adoption, intermarry freely with other races, notably Limbus and Sikkim Bhutias, and have emigrated to Bhutan in some numbers. They do not seem to have been ever very numerous in the District.

Their traditional method of cultivation is that of *jhuming* by which they burn down a patch of jungle and cultivate it for a year or two before moving on to some other jungle area. It is a wasteful and inefficient system but it no doubt accounts for their dislike of fixed employment and their interest in jungle life. They have a timid, placid and rather indolent temperament.

The history of the Bhutia and Lepcha populations in the District is given below in detail because, since the annexation in 1868 of the Kalimpong Subdivision from Bhutan, the revenue authorities of the District have been concerned with preserving the Lepcha and Bhutia populations in the Khas Mahals of Kalimpong. The following discussion will show how far they have been successful.

Records of the Lepcha population of the District are as follows:—

	1872.	1901.	1911.	1921.	1931.	1941.
Lepchas ..	3,952	9,972	9,706	9,669	12,101	12,470*

*Note.—Figure 12,470 for 1941 is made up of 9,911 Lepchas classed as Buddhists and 2,559 classed as Christians. In 1891, 9,894 persons were recorded as speaking Lepcha and in 1911 this had increased to 11,275.

The distribution of the Bhutia and Lepcha population of the District is seen from the following table:—

	Urban.	Semi-urban.	Special.	Khas Mahal.	Other rural.	Tea.	Cin-chona.	Forest.
<i>Sadar Subdivision.</i>								
Bhutia and Tibetan	2,225	78	48	646	128	185	62	187
Lepcha Buddhist	563	4	40	1,332	347	330	143	74
Bhutia Christian	1	2	2	0	0	25	8	0
Lepcha Christian	208	1	0	162	1	141	32	16
<i>Kurseong Subdivision.</i>								
Bhutia and Tibetan	140	5	9	0	27	25	0	38
Lepcha Buddhist	83	7	34	226	16	166	463	97
Bhutia Christian	0	0	1	0	4	3	123	0
Lepcha Christian	14	10	30	0	7	10	7	0
<i>Kalimpong Subdivision.</i>								
Bhutia and Tibetan	495	316	93	2,316	0	5	20	175
Lepcha Buddhist	15	76	126	5,456	0	23	10	231
Bhutia Christian	20	10	29	113	0	0	0	0
Lepcha Christian	40	29	270	1,531	0	8	22	19

Bhutias and Tibetans are found in urban areas in appreciable numbers. In Darjeeling many are employed as labourers and in Kalimpong town a number are also concerned with the trade to and from Tibet. Outside the towns Bhutias are found mainly in the Khas

Mahals particularly those of the Kalimpong Subdivision which was formerly part of Bhutan. There are Lepchas in the Darjeeling town area but most Lepchas are found in the Khas Mahals notably Kalimpong and a few on cinchona plantations.

The 1941 census shows the population of the Kalimpong Khas Mahals to be:—

				Per cent.	
Nepalis	40,280	81.0
Lepchas	6,987	14.1
Bhutia Tibetans	2,429	4.9
			Total	49,696	100.0

Corresponding figures are not easy to calculate from previous censuses. Philpot's Settlement Report of 1919-21 gives holdings of Nepalis, Lepchas and Bhutias as follows:—

				Per cent.	
Nepali holdings	4,847	71.3
Lepcha holdings	1,409	20.7
Bhutia holdings	539	8.0
			Total	6,795	100.0

The size of holdings was then estimated to be the same for the three communities so that population could roughly be estimated in the above proportions. In the above Settlement Report the total population of the Khas Mahal and Forest (which can be deemed to include the present cinchona areas) was taken as 41,203. At that time therefore population would have been:—

Nepalis	..	..	..	..	29,377
Lepchas	..	..	..	..	8,529
Bhutias	..	..	..	..	3,296
			Total	..	41,202

The totals of the 1941 census for Khas Mahal, Forest and Cinchona areas in the Subdivision are:—

Nepalis	..	..	..	..	47,516
Lepchas	..	..	..	..	7,269
Bhutias	..	..	..	..	2,624

These calculations show an absolute diminution in the numbers of both Lepchas and Bhutias and indicate that the policy of conserving Lepchas and Bhutias is failing. Even if the Lepcha and Bhutia populations of the semi-urban areas are added (105 and 326) failure is still apparent.

The Kalimpong Khas Mahal blocks where either Lepcha or Buddhist populations exceed 50 are the following:—

Block.	Lepchas.	Bhutias.
North Kalimpong	540	11
Bong	234	10
Dungra	111	317
Bhalukop	187	27
Sindipong	194	35
Echhay	96	163
Sangsay	285	51
Dalapchan	85	105
Lolay	239	6
Pala	128	4
Santuk	109	46
Paiyung	89	357
Sakyong	284	495
Kagay	120	25
Pedong (semi-urban)	84	243
Kashyong	331	34
Ladam	67	19
Lingsekha	260	26
Lingsay	137	94
Seokbir	155	0
Kankibong	391	2
Sinji	238	0
Samalbong	135	0
Samther	248	0
Suruk	105	0
Yangmakung	281	0
Gitdubling Pagang	665	7
Gitbeong	123	28
Nimbong	141	90
Today Tangta	163	182
Miscellaneous	384	29
Total	6,609	2,406

Seven hundred and thirty *Indian Christians* have been recorded in the census. Most have been recorded in tea areas in the Siliguri and Kalimpong Subdivisions: they are probably Scheduled Castes tea garden coolies converted to Christianity. The total number of Christians in the District far exceeds this figure of 730 as will be seen later.

Of the 844 persons recorded as *British*, 231 resided in tea areas as follows:—

Sadar Subdivision	143
Kurseong Subdivision	37
Kalimpong Subdivision	11
Siliguri Subdivision	40

Five hundred and seventy-seven resided in urban or special areas connected with urban areas, many of whom were engaged in teaching or mission work: most of the rest were in retirement. British influence in the District has probably always been very high in relation to the actual numbers residing within the District. The 1872 census

recorded 207 English, 97 Irish and 42 Scots as resident in the District but in 1891, 1,055 persons were recorded as having English as their mother-tongue.

Of the 933 who recorded themselves as *Anglo-Indians*, the majority were from the Special Areas near the towns of Kurseong (126) and Kalimpong (569). Most of these were in educational institutions. One hundred and fourteen Anglo-Indians were recorded in the Darjeeling town area, 55 in the Kurseong urban area and 15 in the Siliguri urban area. There were practically no Anglo-Indians recorded in tea areas.

The 228 persons recorded as Europeans included 96 (50 Jews) from the Special Internment Camp area of the Darjeeling town: 57 from the Kurseong special areas (occupied with mission or teaching work) and 49 (12 Jews) in the Darjeeling urban area.

Most of the 588 *Asiatics* were Chinese and lived in urban areas as follows:—

Darjeeling	..	..	..	..	208
Kurseong	..	..	..	..	51
Kalimpong	..	..	..	..	145
Siliguri	..	..	..	..	15

A few were scattered in tea gardens: Siliguri Subdivision having most on tea (36).

Full details of the race, caste and tribe of residents of urban and connected areas will be found in Statements F, G, H and J at the end of this Chapter.

Before concluding an analysis of the population figures of the District, an attempt will be made to classify according to religion. The difficulty of determining with absolute accuracy which tribes are Hindu and which are Buddhist in religion has already been explained. It is possible to class various Nepali tribes as Buddhist but for present purposes, Sherpas and Tamangs only are taken as Buddhist. All remaining Nepalis other than Nepali Christians are classed as Hindus. Plains Hindus are by description Hindus [the few Sikhs (88) are here included]. To simplify exposition all the Scheduled Castes who are not Christians are shown under Hindus the total being arrived at as follows:—

Scheduled Castes	..	..	..	..	58,719
Plains Hindus	..	..	..	..	28,276
Nepalis	..	..	..	..	2,02,173
					<hr/>
			Total	..	2,89,168
					<hr/>

The total of Buddhists is obtained by adding the number of Sherpas and Tamangs to those of Bhutias, Tibetans and Lepcha Buddhists, i.e., a total of 67,225.

The total of Christians is obtained by adding together the totals of Indian Christians, Scheduled Caste Christians, Nepali Christians, Bhutia and Lepcha Christians to those of British, Anglo-Indians and Europeans (less Jews). The following table shows the totalling and distribution:—

	Subdivision.				Total.
	Sadar.	Kurseong.	Kalimpong.	Siliguri.	
Indian Christians	72	94	205	359	730
Scheduled Caste Christians ..	0	43	96	2,892	3,031
Nepali Christians	733	596	1,040	23	2,392
Bhutia Christians	38	131	172	0	341
Lepcha Christians	562	78	1,919	0	2,559
British	474	179	186	45	884
Anglo-Indians	126	193	600	16	935
Europeans (less Jews)	83	66	1	9	159
Total ..	2,088	1,380	4,219	3,344	11,031

In the Sadar Subdivision, Nepali Christians are mainly in urban areas (500) and about 100 strong in tea areas. The other Hillmen Christians in this Subdivision are almost all Lepchas divided fairly equally between urban, khas mahal and tea areas. The Indian Christians are found entirely in the urban area. In the Kurseong Subdivision most of the Nepali Christians are recorded in the urban area or the connected special areas. An unexpectedly large number of Bhutia Christians (123) is recorded in Cinchona. In Kalimpong 169 Indian Christians are found in tea and are probably converted immigrants from Chota Nagpur. The Scheduled Caste Christians are of similar origin. Nepali Christians are numerous (612) in the khas mahal area with a fairly large group in the special areas of the Kalimpong town. Lepcha and Bhutia Christians are similarly grouped in the khas mahal and special areas. The Indian Christians and Scheduled Caste Christians of the Siliguri Subdivision are mainly residents of tea areas. There are 1,762 Oraon and Munda Christians in the Phansidewa thana, 650 in the Siliguri thana and 480 in the Kharibari thana.

There appears to have been an increase in the number of Christians in the District during the last ten years. The following figures have been collected of the numbers in the District:—

	1891.	1901.	1921.	1931.	1941.
Christians ..	298	2,829	8,098	8,280	11,031

It is not known how far recent increases are due to conversions following missionary effort. In the past missionary effort was quite fruitful.

To sum up, comparative figures are given showing the population by community and religion from 1921:—

	1921 Census.	1931 Census.	1941 Census.	1941 Analysis above.
Muslims ..	8,516	8,391	9,125	8,728
Hindus ..	2,01,316	2,36,913	1,78,496	2,89,168
Christians ..	8,098	8,280	4,692	11,031
Animists ..	12,681	0	0	0
Tribal ..	0	6,963	1,41,301	0
Buddhists ..	0	58,943	42,575	67,225
Jews ..	0	0	0	69
Others ..	52,137	145	180	589
Total ..	2,82,748	3,19,635	3,76,369	3,76,810

It is difficult to make very definite deductions about changes from such rather incongruous figures.

This chapter attempts an exposition of population changes which have occurred during a century of exploitation, colonisation and development. These processes have now slowed down but leave future population trends difficult to forecast. Some of the communities settled in the District are more numerous than influential: others, on the contrary, have a grip on the political or economic life of the District quite out of proportion to their numbers. Future political changes may affect population in new ways and give rise to unforeseen instabilities in the relations between the various communities residing in the District and between the peoples of the District and those of neighbouring areas outside it.

Statement A.

Population of the Subdivisions of the Darjeeling District according to race, tribe and caste in Semi-Urban Areas.

	Sadar.	Kurseong.	Kalimpong.	Siliguri.	District Total.
Muslims ..	31	45	37	3	116
Scheduled Castes ..	43	31	43	1	118
Plains Hindus ..	445	332	392	52	1,221
Nepalis ..	2,511	5,401	2,394	323	10,629
Other Hillmen ..	85	22	431	31	569
Indian Christians ..	0	2	1	0	3
British ..	12	10	0	0	22
Anglo-Indians ..	1	5	0	0	6
Europeans ..	0	0	0	0	0
Asiatics ..	0	14	9	0	23
Total ..	3,128	5,862	3,307	410	12,707

Statement B

Population of the Subdivisions of the Darjeeling District according to race, tribe and caste in areas under Tea.

	Sadar.	Kurseong.	Kalimpong.	Siliguri.	District, Total.
Muslims ..	36	25	11	282	354
Scheduled Castes ..	171	506	799	13,910	15,386
Plains Hindus ..	432	988	725	12,179	14,324
Nepalis ..	75,049	33,469	4,327	1,893	1,14,738
Other Hillmen ..	681	204	36	11	932
Indian Christians ..	1	60	169	232	462
British ..	143	37	11	40	231
Anglo-Indians ..	5	2	0	1	8
Europeans ..	0	0	0	1	1
Asiatics ..	5	15	16	36	72
Total ..	76,523	35,306	6,094	28,585	1,46,508

Statement C.

Population of the Subdivisions of the Darjeeling District according to race, tribe and caste in areas under Cinchona.

Muslims ..	0	0	0	0	0
Scheduled Castes ..	12	0	11	0	23
Plains Hindus ..	54	0	18	0	72
Nepalis ..	5,008	3,124	4,362	0	12,494
Other Hillmen ..	245	593	52	0	890
Indian Christians ..	0	0	2	0	2
British ..	3	0	7	0	10
Anglo-Indians ..	3	0	13	0	16
Europeans ..	0	0	0	0	0
Asiatics ..	0	0	0	0	0
Total ..	5,325	3,717	4,465	0	13,507

Statement D.

Population of the Subdivisions of the Darjeeling District according to race, tribe and caste in Government Reserved Forests.

Muslims ..	7	13	17	1	38
Scheduled Castes ..	5	44	2	144	195
Plains Hindus ..	72	52	48	63	235
Nepalis ..	3,873	1,453	2,874	495	8,695
Other Hillmen ..	277	135	425	9	846
Indian Christians ..	0	0	1	0	1
British ..	3	0	0	0	3
Anglo-Indians ..	1	0	0	0	1
Europeans ..	0	0	0	0	0
Asiatics ..	0	0	0	0	0
Total ..	4,238	1,697	3,367	712	10,014

Statement E.

Population of the Subdivisions of the Darjeeling District according to race, tribe and caste in Khas Mahal rural areas (excluding Terai Government Estate).

Muslims ..	4	6	16	0	26
Scheduled Castes ..	12	0	17	0	29
Plains Hindus ..	156	2	104	0	262
Nepalis ..	20,904	1,533	40,280	0	62,717
Other Hillmen ..	2,140	226	9,417	0	11,783
Indian Christians ..	0	0	2	0	2
British ..	0	0	22	0	22
Anglo-Indians ..	0	0	17	0	17
Europeans ..	0	0	1	0	1
Asiatics ..	4	0	30	0	34
Total ..	23,220	1,767	49,906	0	74,893

Statement. F.

Details of the race, caste and tribes of the population of Darjeeling Town and Special Areas.

	Town.	Special Areas.
<i>Muslims</i>	971	70
<i>Scheduled Castes</i> — ..	750	174
Menials	750	174
Rajbanshis	0	0
Others	0	0
Santals (Tribes)	0	0
Meches (Tribes)	0	0
Oraons (Tribes)	0	0
Mundas (Tribes)	0	0
Christians (Tribes)	0	0
Others (Tribes)	0	0
<i>Plains Hindus (other than S. Castes)</i> —	2,991	131
Bengalis	1,393	23
Marwaris	556	3
Panjabis	50	8
Hindi-speaking	959	97
Others	33	0
<i>Nepalis</i> —	18,060	900
Rai	1,778	223
Sherpa	601	88
Chettri	2,536	77
Sanyasi	19	11
Brahman	708	6
Bhujel	61	1
Yogi	12	0
Christians	497	2
Others	0	0
Caste Unstated	722	69
Mangar (Tribes)	1,029	51
Newar (Tribes)	957	18
Tamang (Tribes)	3,108	85
Damai (Tribes)	916	54
Gurung (Tribes)	1,429	24
Limbu (Tribes)	810	93
Kami (Tribes)	1,633	53
Sunawar (Tribes)	616	26
Yakha (Tribes)	4	0
Sarki (Tribes)	286	19
Gharti (Tribes)	3	0
Others (Tribes)	335	0
<i>Other Hillmen</i> —	2,997	90
Bhutia and Tibetan	2,225	48
Lepcha Buddhist	563	40
Bhutia Christian	1	2
Lepcha Christians	208	0
Others	0	0
<i>Indian Christians</i>	70	1
<i>British</i>	282	28
<i>Anglo-Indians</i>	114	2
<i>Europeans</i>	49	96
<i>Asiatics</i>	209	5
Total	26,493	1,497

Note.—

Total of S. Castes classed as tribes	0	0
Do. not so classed	750	174
Total of Nepalis classed as tribes	11,126	423
Do. not so classed	6,934	477

Statement G.

Details of the race, caste and tribes of the population of Kurseong Town and Special Areas.

	Town.	Special Areas.
<i>Muslims</i>	246	14
<i>Scheduled Castes—</i>	272	46
Menials	272	38
Rajbanshis	0	0
Others	0	0
Santals (Tribes)	0	0
Meches (Tribes)	0	0
Oraons (Tribes)	0	0
Mundas (Tribes)	0	0
Christians (Tribes)	0	0
Others (Tribes)	0	8
<i>Plains Hindus (other than S. Castes)—</i>	1,148	9
Bengalis	502	4
Marwaris	353	1
Punjabis	22	0
Hindi-speaking	270	4
Others	1	0
<i>Nepalis—</i>	6,224	1,101
Rai	508	172
Sherpa	75	0
Chettri	709	124
Sanyasi	53	1
Brahman	208	22
Bhujel	61	2
Yogi	3	9
Christians	197	284
Others	0	0
Caste unstated	365	23
Mangar (Tribes)	334	86
Newar (Tribes)	751	66
Tamang (Tribes)	1,231	81
Damai (Tribes)	344	19
Gurung (Tribes)	354	54
Limbu (Tribes)	160	13
Kami (Tribes)	459	114
Sunawar (Tribes)	199	23
Yakha (Tribes)	2	0
Sarki (Tribes)	174	0
Gharti (Tribes)	0	0
Others (Tribes)	37	8
<i>Other Hillmen—</i>	237	74
Bhutia and Tibetan	140	9
Lepcha Buddhist	83	34
Bhutia Christian	0	1
Lepcha Christian	14	30
Others	0	0
<i>Indian Christians</i>	17	15
<i>British</i>	79	43
<i>Anglo-Indians</i>	55	126
<i>Europeans</i>	9	57
<i>Asiatics</i>	51	15
Total	8,338	1,500

Note.—

Total of S. Castes classed as tribes	0	8
Do. not so classed	272	38
Total of Nepalis classed as tribes	4,045	464
Do. not so classed	2,179	637

Statement H.

Details of the race, caste and tribes of the population of Siliguri town.

<i>Muslims</i>	..	..	1,961
<i>Scheduled Castes—</i>	..	..	839
Menials	..	..	523
Rajbanshis	..	..	140
Others	..	..	150
Santals (Tribes)	..	..	14
Meches (Tribes)	..	..	0
Oraons (Tribes)	..	..	2
Mundas (Tribes)	..	..	5
Christians (Tribes)	..	..	0
Others (Tribes)	..	..	5
<i>Plains Hindus (other than S. Castes)—</i>			6,758
Bengalis	..	..	3,302
Marwaris	..	..	303
Punjabis	..	..	114
Hindi-speaking	..	..	2,968
Others	..	..	71
<i>Nepalis—</i>	..	..	856
Rai	..	..	31
Sherpa	..	..	3
Chettri	..	..	200
Sanyasi	..	..	0
Brahman	..	..	46
Bhujel	..	..	1
Yogi	..	..	3
Christians	..	..	1
Others	..	..	9
Caste unstated	..	..	256
Mangar (Tribes)	..	..	65
Newar (Tribes)	..	..	39
Tamang (Tribes)	..	..	34
Damai (Tribes)	..	..	6
Gurung (Tribes)	..	..	49
Limbu (Tribes)	..	..	18
Kami (Tribes)	..	..	20
Sunawar (Tribes)	..	..	54
Yakha (Tribes)	..	..	0
Sarki (Tribes)	..	..	8
Gharti (Tribes)	..	..	0
Others (Tribes)	..	..	13
<i>Other Hillmen—</i>	..	..	12
Bhutia and Tibetan	..	..	10
Lepcha Buddhist	..	..	2
Bhutia Christian	..	..	0
Lepcha Christian	..	..	0
Others	..	..	0
<i>Indian Christians</i>	..	..	42
<i>British</i>	..	..	4
<i>Anglo-Indians</i>	..	..	15
<i>Europeans</i>	..	..	2
<i>Asiatics</i>	..	..	15
Total	..	..	10,504

Note.—

Total of S. Castes classed as tribes	26
Do. not so classed	813
Total of Nepalis classed as tribes.	306
Do. not so classed	550

Statement J.

Details of the race, caste and tribes of the population of Kalimpong Town and Special Areas (Development, Homes and Mission).

	Town.	Special Areas.		
		Development.	Homes.	Mission.
<i>Muslims</i>	233	17	0	1
<i>Scheduled Castes—</i>	146	34	24	18
Menials	146	34	24	14
Rajbanshis	0	0	0	0
Others	0	0	0	0
Santals (Tribes)	0	0	0	1
Meches (Tribes)	0	0	0	0
Oraons (Tribes)	0	0	0	1
Mundas (Tribes)	0	0	0	0
Christians (Tribes)	0	0	0	2
Others (Tribes)	0	0	0	0
<i>Plains Hindus (other than S. Castes).—</i>	1,153	159	1	7
Bengalis	172	122	0	2
Marwaris	459	0	0	1
Punjabis	5	12	0	0
Hindi-speaking	517	25	1	4
Others	0	0	0	0
<i>Nepalis—</i>	2,986	3,762	869	370
Rai	183	335	97	33
Sherpa	15	23	8	3
Chettri	386	818	56	36
Sanyasi	1	1	0	0
Brahman	60	209	30	10
Bhujel	44	154	20	4
Yogi	4	3	0	0
Christians	76	129	46	95
Others	0	0	0	0
Caste unstated	334	9	1	76
Mangar (Tribes)	175	361	26	18
Newar (Tribes)	316	131	15	23
Tamang (Tribes)	251	609	79	27
Damai (Tribes)	509	77	200	4
Gurung (Tribes)	95	105	13	13
Limbu (Tribes)	56	124	14	10
Kami (Tribes)	442	458	133	11
Sunawar (Tribes)	12	36	3	3
Yakha (Tribes)	2	2	0	0
Sarki (Tribes)	25	172	128	2
Gharti (Tribes)	0	5	0	0
Others (Tribes)	0	1	0	2
<i>Other Hillmen—</i>	570	235	78	205
Bhutia and Tibetan	495	37	5	51
Lepcha Buddhist	15	96	28	2
Bhutia Christian	20	12	0	17
Lepcha Christian	40	90	45	135
Others	0	0	0	0
<i>Indian Christians</i>	8	7	13	2
<i>British</i>	0	56	71	18
<i>Anglo-Indians</i>	1	40	529	0
<i>Europeans</i>	0	7	0	0
<i>Asiatics</i>	145	10	0	4
Total	5,242	4,327	1,585	625

Note.—

Total of S. Castes classed as tribes	0	0	0	4
Do. not so classed ..	146	34	124	14
Total of Nepalis classed as tribes	1,883	2,081	611	113
Do. not so classed ..	1,103	1,681	258	257

CHAPTER IV.

PUBLIC HEALTH.

Health conditions in the District depend greatly upon altitude and climate. Accurate figures are not available to show the prevalence of various diseases in different localities but it may generally be assumed that areas below a height of 2,500 feet above sea-level, and particularly the Terai and the Tista valley, are most unhealthy: and that, as one ascends above that altitude, abnormally unhealthy conditions are replaced by those characteristic of temperate climates. At the altitude of Darjeeling town (between 6,500 and 7,500 feet above sea-level), the mean temperature is about 50° Fahrenheit and the range is moderate. Although humidity is high the climate is relatively bracing and the food better than that of the plains and lower elevations: these are conditions which favour good health for both visitors and permanent residents.

Prevalence and intensity of malaria is measured by the percentage of children between the ages of 2 and 10 whose spleens are enlarged. Areas where the percentage is less than ten are classed as healthy: those with rates between 10 per cent. and 25 per cent., as affected by moderately endemic malaria: those with a spleen rate between 25 per cent. and 50 per cent., as highly endemic and those with rates above 50 per cent., as hyper-endemic. In the Terai malaria is hyper-endemic (90 per cent.) and in the hill valleys (specifically the Tista valley) the rate is below 20 per cent. The disease does not appear as a fresh infection in places above 4,000 feet altitude as the mean temperature is usually too low to permit breeding of the parasites, although anopheles mosquitos have been found in Sikkim at altitudes as high as 5,700 feet. At altitudes between 2,000 feet and 3,500 feet malaria incidence is comparatively slight and cases which occur above 4,000 feet have been imported from lower infected areas.

Transmission of malaria is by the female anopheles mosquito and the chief proven vector in this District is *Anopheles minimus*. This was proved by a survey carried out in 1940 which also revealed that the predominating type of local malaria is malignant tertian: most of the remainder of cases found were of the benign tertian type or a mixed infection of these two. Anti-malaria measures are difficult to carry out as *minimus* breeds in grassy edged streams which abound at the lower altitudes and extend greatly in wet weather.

One of the symptoms of kala-azar also is enlargement of the spleen. Infection is by a small organism *Leishman Donovanii* transmitted to human beings by the bite of an infected sandfly (*Phlebotomus argentipes*). Admissions to dispensaries in the District between 1930 and 1934 showed that the disease was rapidly increasing. A survey was carried out in 1936 which found infection

to be endemic in the Terai and up to about 3,000 feet altitude and that it had become epidemic in the Terai and the valleys of the Tista and Rangit.

All the facts about this fever are not known but it is usually associated with hyper-endemic malaria and the Terai offers favourable conditions for its occurrence. A survey in the District was conducted in 1929 in the course of which it was found that recent immigrants are more susceptible than old residents who may acquire immunity from infection through malignant tertian malaria. This disease is not considered so serious a problem now as in the past.

Accurate information about the prevalence of tuberculosis has not been collected but in 1937 the All-India Institute of Hygiene and Public Health conducted a small tuberculin survey in Kalimpong town which indicated that about 45 per cent. of those examined had been exposed to infection though had not necessarily contracted the disease. Provincial mortality figures show that Darjeeling District was second only to Calcutta town in death rate from pulmonary tuberculosis. No full or district-wide survey has been made but the information given above affords ground for suspecting that the disease has been increasing particularly in the hill areas of the District.

A sample survey was carried out in 1937 by the Bengal branch of the British Empire Leprosy Relief Association which gave an incidence of 2·3 per cent. for the Siliguri Subdivision and a much lower rate for the hill areas and hillmen.

Amœbic infections are extremely common and in the rural areas amœbic and bacillary dysentery present major public health problems. Round worms and hookworms affect large areas: the latter being particularly prevalent on tea gardens at the lower altitudes. Cholera only appears in the submontane areas when imported from other parts of Bengal and is rarely a serious problem. Enteric fever groups are occasionally reported. Measles, chickenpox, German measles and mumps occur as seasonal outbreaks particularly where there are schools. Smallpox only appears sporadically usually in arrivals from the plains. No difficulty is experienced in checking small outbreaks and the public respond well to appeals for mass vaccination. A typhus epidemic broke out in 1944 which caused a number of deaths before it could be checked.

From 1922 to 1932 responsibility for public health in the District was with the District Board under whom the Civil Surgeon controlled public health as well as medical organisations. Proposals for appointing a District Health Officer and a District Public Health Organisation on the model accepted for other Districts in the Province were forwarded to Government in 1930 and resulted in 1932 in the appointment of a District Health Officer who was first to study the peculiar health problems of the District and thereafter

to make proposals. The resultant proposals to combine medical and public health activities were accepted but the need for revision in certain details, an alteration in the department's policy and constitutional changes delayed introduction of a scheme until September 1942.

The Rural Health Scheme adopted in 1942 covered the greater part of the District with 15 Health units, each in charge of a Rural Health Officer under whom is a Health Assistant and one other officer. Supervision is by the District Health Officer, two Assistant Health Officers and four Sanitary Assistants. In addition a travelling Sub-Assistant Surgeon in the Terai visits hâts and other centres. The above units were established but all could not continue to function in war time owing to lack of qualified personnel. They average 54 square miles in area and the Rural Health Officer in charge is responsible for all the health measures required in his area and for an outdoor dispensary at his headquarters which he is expected to attend at least three hours daily for six days in the week. His duties include lecturing to the rural population on sanitation, verification of births and deaths, teaching in schools, inspection of markets and the combating of epidemics by preventive and remedial action. The operations against Kala-azar which had been started in 1938 were also taken over by these units.

In the Darjeeling town, although a conservancy department had been in existence before 1920, it was not until then that a Medical Officer of Health and a Sanitary Officer were appointed. A public health laboratory was established in 1922 which now has a Bacteriologist and a Chemist and deals with clinical work and with the examination of food and water samples. Other Sanitary Inspectors were later appointed and now the scope of activity of the municipal Health Department includes the following:—

- (1) Prevention and control of epidemic diseases, management of the Infectious Diseases Hospital and a Charitable Dispensary at Ghum.
- (2) Anti-tuberculous work and management of the Tuberculosis Hospital.
- (3) Control and supervision of two Maternity and Child Welfare centres.
- (4) Scrutiny of building plans and execution of a sanitary survey.
- (5) Control and inspection of slaughter houses, of the sale of meat and fish and of cooked food in hotels and eating houses; performance of the duties of Public Analyst and under the Bengal Food Adulteration Act.
- (6) Examination (bacteriological, etc.) of samples of water, sewage and of pathological specimens for diagnosis.
- (7) Record and check of vital statistics.
- (8) Management of the conservancy system.

As stated in Chapter XIV, the District Board spends the following sums annually on Public Health and Medical items:—

				Rs.
Medical (Establishment)	..	..	..	4,700
Medical (Hospitals)	..	..	..	21,100
Vaccination	..	..	..	8,000
Sanitation	..	..	..	37,400
Water-supply	..	..	..	4,600

The Darjeeling Municipality spends Rs. 4,00,000 annually on the above and the Kurseong Municipality as follows:—

				Rs.
Water-supply	..	..	..	5,900
Conservancy	..	..	..	19,000
Vaccination	..	..	..	700
Drainage	..	..	..	2,200
Medical	..	..	..	6,200

The following vaccination and Kala-azar treatments have been reported for the District:—

		1941.	1942.	1943.
Vaccination primary	..	13,306	11,483	10,100
Revaccination	..	51,826	66,437	55,600
Kala-azar	..	2,637	1,950	Figures not available.

In municipal areas births and deaths are recorded in the Municipal offices of Darjeeling and Kurseong. In rural areas, **Vital Statistics.** officers in charge of police-stations are the registering officers. The only exceptions are the Siliguri Union Board where the President records and the Cantonments of Lebong and Jalapahar where the Executive Officers record. Information is collected by managers on tea gardens, by rangers for forest villages, by the tehsildars in Darjeeling Improvement Fund hâts and by road khalasis for roadside lands. Outside these areas, in the hills village mandals collect the information and in the Terai village chaukidars. Monthly returns are supplied by registering officers to the District Health Officer and transmitted by him to the Director of Public Health. The following table gives recently recorded figures for the District based, for 1935 and 1940, on the 1931 census and for the other years shown, on the 1941 census:—

Year.		Births.	Rate per 1,000.	Deaths.	Rate per 1,000.
1935	..	12,819	40·15	10,399	32·53
1940	..	11,489	35·94	9,995	31·26
1941	..	11,329	30·08	10,717	28·46
1942	..	10,808	28·72	10,273	27·28
1943	..	9,688	25·72	11,258	29·89

After a severe epidemic of dysentery at Gitdubling in 1937, efforts were made to protect rural supply springs in the hills **Water-supply.** from contamination by leading water therefrom in pipes. In 1940 nearly 10,000 running feet of piping were laid for the

supply of this village at a cost of nearly Rs. 10,000. Improved water-supplies on the above lines have been provided by various authorities at the following places:—

Sadar Subdivision.—Sukhiapokri, Simana, Takdah Cantonment, Takdah Khasmahal, Soreang, Lepcha Bazar, Mangpu Cinchona plantation, Manibhanjan, Kolbong, Sonada, 3-mile basti, Bijanbari and Pulbazar.

Kurseong Subdivision.—Pankhabari, Mirik and Tindharia.

Kalimpong Subdivision.—Algarah, Pedong, Gitdubling, Kankibong, Rambibazar, Riyang and Kalijhora.

The supply of water to the Darjeeling urban area is from springs on the Senchal spur. Water is collected from more than 30 springs and flows by gravity to two lakes above Ghum on the Senchal hill: after settlement there it passes through pressure filters to three service reservoirs in the town from which it is distributed. The spring catchment area is fenced and protected from contamination so that filtering is almost unnecessary. Since completion in 1912 the waterworks have been supplying good potable water with a high standard of purity. During the dry season when the yield of the springs runs low, supply is augmented by pumping water from a perennial spring at Konkhola lower down the hills. The rest of the system of collection and distribution works by gravity. The works are maintained by the Darjeeling Municipality at an annual cost of approximately Rs. 19,000. The average daily supply is 750,000 gallons and the total capital cost has been Rs. 10,76,000.

The Kurseong Waterworks are maintained by the Kurseong Municipality. They supply about 153,000 gallons of filtered water and 40,000 gallons of unfiltered water daily. The unfiltered supply is used only for flushing 8 public latrines. The filtered supply consists first, of 15,000 gallons daily to the Dow Hill area from the Dow Hill springs and second, of a supply to the town area from the Sepoy Dhura spring 4 miles from the town. Water is conveyed from there by a 4" pipe to an 80,000 gallon reservoir near St. Helen's School from which it is distributed by gravity to 400 house connections and 60 street hydrants. Both supplies are filtered through rapid pressure filters. Total cost has been Rs. 1,29,000 and annual maintenance cost about Rs. 3,700. The works began operating in 1913.

The Kalimpong Waterworks are operated by the Engineering Branch of the Public Health Department of the Government of Bengal. Supply is from two springs—at the source of the Rilli and at Thakchu 18½ miles from the Kalimpong bazar. Water is conveyed to Sanser 12 miles from the bazar in a masonry conduit and there chlorinated. It is then conducted by a 6" pipe to a 3,000,000 gallon storage reservoir about 2½ miles from Sanser from which it gravitates to various supply tanks and is delivered to consumers through 300 house connections and 44 street tanks. Average daily supply is 210,000 gallons at an

annual maintenance cost of about Rs. 11,000. The works were completed in 1922 and the capital cost so far incurred has been Rs. 8,75,000.

There was formerly an impression that water in the hills of the district contained mica which frequently gave rise to dysentery. This impression has been proved to be without foundation and the dysentery symptoms wrongly attributed by newcomers to mica in the water are more often due to changes of climate and diet and more particularly to the error of overeating into which visitors are prone to fall due to the unaccustomed cold.

In rural areas, the failure of the people to observe proper sewage disposal results in insanitary conditions and the prevalence of worms. There is a sewerage system in the Darjeeling town to which certain houses are connected as well as 53 public latrines. The majority of houses however are served by a hand collection system dumping into 6 chutes. All sewage is treated in septic tanks and the effluent discharges into *jhoras* at a distance from inhabited localities. The system is operated by the Darjeeling Municipality. The Kurseong sewerage system serves only 10 public latrines and a few houses in the bazar area. The total length of piping is 8,000 feet and sewage is discharged into *jhoras* outside the town after treatment in a septic tank. In Kalimpong, houses in the development area are required to have water-borne sanitation. In the bazar there are 5,000 feet of sewers serving 8 public latrines and a number of houses. Discharge is into *jhoras* below the bazar after treatment in a septic tank. Both at Kurseong and Kalimpong surface drainage enters the sewer piping system through gully pits. The Kalimpong bazar sewerage system was completed in 1930. In the Siliguri bazar there is only the primitive hand removal system of sanitation controlled by the Union Board.

Outside towns, the District is fairly well provided with hospitals and dispensaries. Most tea gardens maintain outdoor dispensaries with a Medical Officer and some have hospitals with beds up to 10 in number. The Darjeeling Himalayan Railway maintains a hospital at Tindharia with 14 beds as well as dispensaries for outdoor treatment at Kurseong, Darjeeling and Siliguri. The medical staff for the whole railway is one Chief Medical Officer and 7 Assistant Medical Officers. Government maintain a Class I hospital at Naxalbari in the Siliguri Subdivision which has 8 beds for males and 3 for females. There is a Medical Officer in charge, a compounder and menial staff but no female nurse. The Medical Officer and menial staff are provided with quarters.

Work done can be understood from the table below—

	1941.	1942.	1943.
Patients indoor	151	102	131
Patients outdoor	7,223	6,117	7,442
Operations indoor	5	8	8
Operations outdoor	79	82	111

The Communications and Works Department maintains dispensaries at Kalijhora and Tista Bridge, primarily for those who work on the road but much general work is also done. The Cinchona Department has a well built and equipped dispensary with a 10-bed hospital at Mangpu and maintains dispensaries at Munsong and Kumai. The Church of Scotland Mission runs dispensaries at Sukhiapokri, Pulbazar, Kizom, Nimbong and Today Tangta. Roman Catholic Missions maintain dispensaries at Bhogibhita and Gayaganga and two near Kalimpong. The District Board maintains a dispensary at Pedong which has good buildings and equipment. Quarters are provided for the hospital staff and there is a female nurse and wards with 7 beds for males and 7 for females. Indoor patients treated annually average 350 and outdoor patients 4,400. The number of indoor operations is about 10 and of outdoor operations about 50 per annum.

In addition there are the following 14 Rural Health Treatment Units which have functioned with fair success in spite of war time difficulties in retaining competent medical officers: (1) Sukhiapokri, (2) Singla, (3) Bijanbari, (4) Lodhama, (5) Takdah, (6) Mirik, (7) Sukna, (8) Algarah, (9) Gorubathan, (10) Samsing, (11) Matigara, (12) Baghdogra, (13) Phansidewa and (14) Kharibari.

The Darjeeling urban area contains the most important medical and health institutions in the District. First, there are two Sanitaria built to accommodate on moderate charges those who desire to recruit their health by rest and change as well as those whose health has been definitely impaired. The Eden Sanitarium occupies part of the building in which the Eden Hospital is housed and accommodates 70 persons who live in European style. The Lowis Jubilee Sanitarium was started in 1887 with a generous gift of the Bryngwyn property by the Maharaja of Cooch Behar and donations of Rs. 90,000 made by the Maharaja of Tajhat and others. It now provides accommodation for 192 persons living in Indian style, including 8 phthisis patients in a separate ward. Free accommodation is available for 23 persons the Committee finds unable to pay the usual fees. Raja Bahadur Maniloll Singh Roy, C.I.E., of Chakdighi, has taken an active part in improving the sanitarium and is a Vice-President for life.

The Eden Hospital has 12 beds and is a self-supporting institution with an annual fee income of between Rs. 35,000 and Rs. 55,000. The hospital has X-Ray, electric diathermy and electric vibrator apparatus and carries out X-Ray work for other hospitals in the District. There is a registered and qualified European nursing staff of one matron and three nurses. They are all provided with free board and lodging. The matron is appointed for continuous service throughout the year: the nurses are ordinarily appointed for a period of 8 months. The following work was done in the years shown:—

	1941.	1942.	1943.
Admissions	170	158	163
Operations	97	113	148
X-Ray photographs ..	628	514	349

The Victoria Hospital is managed by a Committee under the Darjeeling Municipality. Since July 1944 it has been taken over temporarily by Government. Government only contributes Rs. 430 and local contributions are small. The Victoria Hospital has 100 beds: 30 of the beds are for females and 6 are in cabins. There is a nursing staff of one matron, one sister tutor and 10 nurses for whom quarters are provided. The work done in three recent years is shown below—

Patients.		1941.	1942.	1943.
Admissions indoor	..	3,525	2,767	2,294
Patients outdoor	..	20,950	15,578	14,743
Operations indoor	..	390	558	632
Operations outdoor	..	394	252	349

In addition to the male medical staff there is a lady doctor attached to the Hospital.

The Victoria Hospital has excellent substantially constructed buildings to the cost of which Sir Hari Sankar Pal contributed over one lakh of rupees.

A Tuberculosis Hospital was built in 1936 with 11 beds and later enlarged so that it now accommodates 26 beds. This would suffice for the needs of the urban area but considerable expansion will be needed if it is to function adequately as a district tuberculosis hospital.

The Infectious Diseases Hospital originated in 1920 in a segregation camp for smallpox cases. It was enlarged in 1933 and provided with a permanent staff. Up to 1944 the annual average number of patients was between 70 and 80. Its present capacity is 20 beds and it is maintained by the Municipality.

In addition to the hospitals mentioned above, the Martin Charitable Dispensary at Ghum does useful work in the urban area. It was opened in 1932 and now treats over 10,000 patients annually.

Two Maternity and Child Welfare Centres have been established in the Darjeeling Urban area, one in Darjeeling itself and the other at Ghum. Activities during war time have been hampered by shortage of staff.

The Municipal Public Health Laboratory provides valuable help to medical and public health work in the town and District.

The Kurseong Town Hospital is maintained by the Kurseong Municipality. From June 1944 as a temporary measure it was taken over by Government. The hospital has 28 beds for males and 13 for females. There are two rooms in a separate ward for paying patients and a separate phthisis ward with 4 beds for males and 4 for females. The Civil Medical Officer, Kurseong, is Superintendent and has a Sub-Assistant Surgeon working under him. Quarters are provided for the Sub-Assistant Surgeon and subordinate staff.

Work done in recent years is shown below—

	1941.	1942.	1943.
Patients indoor	705	730	808
Patients outdoor	11,439	10,075	8,024
Operations indoor	185	179	75
Operations outdoor	225	168	249

The efficiency of the institution has been affected adversely by financial weakness.

The S. B. Dey Tuberculosis Sanitarium at Kurseong originated in the philanthropy of Rai Bahadur S. B. Dey, M.B.E., and was opened with 20 beds in 1937 as an auxiliary to the Jadabpur Tuberculosis Hospital, Calcutta. An efficient X-Ray plant was installed in 1941 as a result of the generosity of the late Mr. P. C. Kar. In 1942 accommodation was increased to 44 beds and Government have given 20 acres of adjacent forest land on which it is proposed further to increase the capacity of the institution. In 1942 an outdoor clinic attached to the main sanitarium was brought into operation.

The Civil Medical Officer, Kurseong, is in charge of a Central Hospital for the Victoria Boys' and the Dow Hill Girls' Schools in addition to his charge of the town hospital. This central hospital is for the staff and children of both schools and has accommodation for 33. An outdoor dispensary is attached and there is a staff of one Matron, 2 European nurses and a compounder. In 1943, 556 indoor and 1,851 outdoor patients were dealt with.

There is an outdoor dispensary attached to the St. Mary's College at Kurseong which in 1943 dealt with 22,000 patients. It was opened in 1889.

The Charteris Hospital was opened in 1893 and has been maintained ever since by the Church of Scotland Mission. The Mission medical work in this area, which includes this hospital, a Leper Hospital in Kalimpong, a dispensary in the Kalimpong bazar and outdispensaries at Nimbong and Today Tangta, is controlled by its Kalimpong District Committee. The management of the Charteris Hospital is conducted by Committee consisting of the doctors and sisters working in it together with the Subdivisional Officer *ex-officio*.

The hospital trains Nepali, Lepcha and Tibetan girls in general nursing and midwifery and prepares them for the examinations of the Bengal Nursing Council. Boys are trained in compounding and dispensing. The hospital staff includes two European and two Indian doctors, 3 nursing sisters, 3 Indian staff nurses, 18 probationers, 3 trained compounders and 2 apprentice compounders. Quarters are provided for the staff.

The Church of Scotland Mission finances the hospital aided by grants from Government of Rs. 6,735 and Rs. 350 per annum: Government also provides free the services of the two Sub-Assistant Surgeons,

The hospital has separate blocks, opened in 1922 and 1924, one for dysentery and tuberculosis cases and another for surgical and maternity cases and there is attached a small building for smallpox cases put up by the District Board in 1926. There are in all 142 beds including those in 10 rooms for private patients.

The work done can be understood from the following table:—

	1941.	1942.	1943.
Patients indoor .. ..	..	Figures not available.	3,719
Patients outdoor .. ..	..	" "	6,882
Operations indoor	488	455	383
Operations outdoor	154	170	185

There is a Leper Hospital maintained by the Mission with 100 beds to which Government makes a grant of Rs. 1,680. The dispensary in the bazar is maintained by the Mission for Tibetans.

Maternity and child welfare work among the poorer classes was started by the Mission in 1930 and weekly clinics are held in a Mission building in the bazar. In 1944 a trained Health Visitor was appointed to this work.

In 1936 a tuberculosis dispensary was opened in the bazar in connection with the Anti-Tuberculosis Society of Bengal.

Malaria and Kala-azar are common in the valleys and on the hillsides surrounding Kalimpong and though they have not invaded the town itself, the level of advance is stated to be rising gradually each year.

The chief hospital in Siliguri is maintained by the District Board and has 22 beds for males and 6 for females. The **Siliguri Town.** hospital is in charge of an Assistant Surgeon and a female nurse. A Sub-Assistant Surgeon is attached to the hospital whose duty is to visit *hats* and deal with epidemics in the Subdivision.

Work done recently will be seen from the table below—

	1941.	1942.	1943.
Patients indoor	539	540	770
Patients outdoor	12,394	12,065	8,288
Operations indoor	91	81	80
Operations outdoor	403	327	238

There are in addition dispensaries maintained by the two railways for their employees.

The Civil Surgeon is in charge of the Provincial Government's administration of hospitals in the District. In his office and that of the Urban Hospital, Darjeeling, there are five clerks four of whom are hillmen.

CHAPTER V.

AGRICULTURE AND LIVESTOCK.

The physical geography of the District makes conditions for agriculture extremely diverse. The Terai, from the foot of the hills to the southern boundary of the District, is in the plains and contains many level stretches of alluvial soil admirably suited for rice cultivation. There are however in it considerable areas of poor sandy ground and the river beds are large and generally unfertile or unsuitable for cultivation. In the hills, many of the slopes are so stony and precipitous that nothing can thrive on them except scrub jungle or an occasional tree in the crevices of the rocks. Much of the hill land is unsuitable for cultivation of any kind, but on the gentler slopes the soil is often of wonderful fertility. Altitude and aspect, as might be expected, have important effects on agriculture. No part of the District lies above tree level but no crops are grown above 9,500 feet above sea-level owing to the cold. Potatoes can be grown up to that height but the upper limits for rice, maize and millet are much lower. Tea does not grow above 7,000 feet. Below about 2,500 feet much of the ground is steep and unsuitable for cultivation: the temperatures here are too high to suit many of the crops growing in the colder altitudes and the result is that between 1,000 and 2,500 feet there is comparatively little cultivation and most of the area is under forest. Rainfall varies considerably from 60 inches per annum in some parts of the Tista Valley in the north of the District to over 200 inches on the outer slopes of the hills. Further south in the Terai the annual fall goes down to about 120 inches: nowhere in the District is rainfall in such defect or so irregular that outturn of crops is seriously affected. Landslips and river erosion do harm locally to cultivated areas. So also does hail. In the south of the Terai a hot parching wind from the west sometimes blows for a day or two in the hot weather and causes some damage to tea and other crops. But on the whole weather conditions are, with few exceptions, favourable to agriculture throughout the District.

Separate chapters deal with Forests and with the cultivation and manufacture of Tea and Cinchona and from those chapters it will be understood that out of 1,192 square miles, the total area of the District, approximately 259 square miles are under tea leases, 437 square miles are under reserved forest and 33 square miles are under cinchona. This leaves a balance of 463 square miles left for waste, unreserved forests and cultivation of non-plantation crops. It should however be noted that much of the area leased to tea is under ordinary cultivation by tea garden labour. This may be estimated at 50 per cent. of area not under tea, i.e., 80 square miles. The distribution between forest, cinchona, tea and other cultivation varies in different parts of the District which can be divided into three areas in each of which a particular distribution is characteristic. In the hills west of the Tista

a very large proportion of the area is under forest, tea and cinchona and the area under ordinary non-plantation crops is very small, being mainly confined to an area north-west of the Little Rangit river known as Chebu Lama's grant. In the hills east of the Tista, there are very few tea gardens. Here the area under reserved forest is approximately 211 square miles and the area of the Kalimpong Government Estate is 176 square miles. An area of 21 square miles for tea and miscellaneous lands makes up the total area of the Subdivision, 408 square miles. Of the area of 176 square miles of the Government estate only 95 square miles were settled with tenants and of this only 84 were under crops. Thus in the Kalimpong Government estate less than 50 per cent. was actually cropped. There are no similar figures for the Sadar and Kurseong Subdivisions but the area of the West Tista Khas Mahals is 57 square miles and other areas in those Subdivisions not under tea are approximately 22 square miles. It can be assumed that an area of roughly 79 square miles not under tea is let out to tenants in these two Subdivisions. Thirty-five square miles of this land are perhaps actually cropped. The Terai has a total area of 258 square miles of which 28 square miles are estimated to be under reserved forest and 66 under tea leaving 164 square miles of other land. Out of this area of 164 square miles, $14\frac{1}{2}$ were waste and about $8\frac{1}{2}$ were under sal forest: probably 20 square miles of the balance would be uncultivated leaving 121 square miles as the cropped area in the Terai. The total non-plantation cropped area would thus come to 320 square miles as follows:—

				Square miles.
Tea leased land	..	..	..	80
Sadar Kurseong	..	..	..	35
Kalimpong	..	..	..	84
Siliguri	..	..	..	121
				<hr/>
			Total	320
				<hr/>

A rough summary of the use of land in the District is thus:—

				Square miles.
Reserved Forest	..	..	..	437
Under Tea	..	..	..	99
Under Cinchona	..	..	..	33
Cropped	..	..	..	320
Waste, etc.	..	..	..	303
				<hr/>
			Total	1,192
				<hr/>

The areas under the main crops in the Terai were as follows according to the settlement of 1925:—

	Acres.	Percentage.
Rice	49,523	79.0
Jowar (millet)	186	.3
Maize	497	.7
Mustard	2,292	3.6
Sugarcane	282	.4
Jute	3,690	5.9
Dyes	247	.4
Tobacco	542	1.0
Garden produce	801	1.3
Fruit	265	.4
Potatoes	313	.5
Miscellaneous food	620	1.0
Miscellaneous non-food	3,843	6.0
Total ..	63,101	100.5

In the Kalimpong Government Estate in 1920 the following were the acreages under the main crops. Percentages are shown to compare with those for the Terai:—

	Acres.	Percentage.
Rice	8,204	13.4
Wheat	2,542	4.1
Barley, etc.	267	.4
Millet (kodo)	7,454	12.3
Maize	39,739	65.1
Mustard	539	.9
Cardamom and spices	1,466	2.4
Fruit	203	.3
Potatoes	322	.5
Miscellaneous food	291	.5
Total ..	61,027	99.9

There are no complete figures for cropping in the rest of the hill area but the settlement report of the Relling Estate, dated 1928, gave the following figures and percentages which give useful guidance for the whole West Tista area:—

	Acres.	Percentage.
Rice	528	3.3
Wheat	375	2.3
Barley	275	1.8
Millet (kodo)	814	5.1
Maize	12,025	75.2
Cardamom and spices	602	3.8
Potato	1,341	8.4
Total ..	15,960	99.9

When the District was first taken over by the British administration, the hill portion was almost entirely under forest. The only cultivation was that of *jhuming* or burning down the forests, in the interior of the hills by Bhutias and Lepchas and on the foothills by Meches and other aboriginal tribes. The Terai was to some extent under plains cultivation but there were then vast uncultivated grass, forest and riverian areas. Expansion of cultivation was rapid in the middle of the last century but now there are few areas left uncultivated which it would pay to cultivate. *Jhum* cultivation has now entirely disappeared owing to forest reservation, appropriation of land for tea cultivation and extension of plough cultivation to the remaining land. This last is a far more efficient method of cultivation than *jhuming* but requires the application of considerable hard labour both to render the land suitable for this kind of cultivation (i.e., by terracing, revetting and irrigating it) and in the performance of the various operations of agriculture. The Nepalis were far more assiduous and skilful in this superior method and consequently displaced or speedily outnumbered the original inhabitants.

The soil in the Terai is composed of alluvium, a light sandy loam being the most common. There are also considerable tracts of sandy or gravelly soils, unsuitable for cultivation. In the hills, cultivators recognise only three kinds of soil, white, red and black. Of these, the black soil is the richest, the white the poorest, the red soil occupying an intermediate position, requiring heavy manuring to give as good an outturn as the black. This last is often found among large rocks and is suitable for dry crops (*sukhakhet*) such as maize and marwa (*kodo*) owing to the rich vegetable mould it contains. The fertility of the soil depends much on the geological formation of the underlying rocks from which the soil is derived. The greater portion of the hill area lies on Darjeeling gneiss which most commonly gives a stiff reddish loam but may also produce almost pure sand or a stiff red clay. Generally soils throughout the District are deficient in lime.

Agricultural methods in the Terai follow closely the practice in the plains of Bengal. Fields are manured with cowdung, farmyard manure and sometimes silt from the beds of tanks. Irrigation is perhaps more common as the slope of the land offers many opportunities for utilising the water of the numerous small streams. Sixty per cent. of the low land on which the winter or *haimantik* rice is grown thus gets the benefit of irrigation. The *aman* or winter rice is first sown broadcast in nurseries in May or early June after the first rainfall. The fields to which the seedlings are transplanted in July or August have in the meantime been heavily ploughed and surrounded by *ails* to keep in the rain and later irrigation water is led to them by channels (called *pairis*). The *aus* or *bhadoi* rice is grown on higher land called *faringati*. For this crop, ploughing begins in February and is repeated five or six times. The field is then levelled, weeds and clods burnt and the ashes used for manure. Seed is sown broadcast and after germination of the seed the field is carefully weeded. This rice crop is reaped in August. Small areas are also cultivated with *boro* and long stemmed rice.

Methods of cultivation in the hills vary with the crops to be grown. The chief food crops in dry cultivation (*sukhakhet*) are maize (*bhutta* or *makai*), millet (*marwa* or *kodo*) and buck-wheat (*phaphar*) and in wet cultivation rice. Money crops are cardamoms (for which irrigation is needed), potatoes, oranges and vegetables. Land which is not too steep is ploughed: otherwise hoes (*kodalis*) are used. Weeding and harvesting are generally done by the cultivator and his family and with the assistance of neighbours for which help is given in turn to them. This labour exchange system is called *parma*. Hired labourers are only employed when absolutely necessary. Daily rates for day-labourers pre-war were about four annas but war time rates rose to one rupee. Irrigation is essential for rice growing in the hills and water has to be conducted from nearby streams (*jhoras*) by flumes or pipes of bamboo or galvanised iron. Terracing is a distinctive and important feature of Himalayan cultivation. There is no such thing as a large level field to be found in the hills: and to allow of the irrigation which is essential for rice, terraces have to be cut with great labour in the hillsides. Some of these are so narrow that a plough cannot be used and the hoe is the only instrument by which the soil can be broken up. Usually an attempt is made to give an inward slope to the terrace but that is not always possible. It is however required where rice is cultivated, as irrigation water has to stand on the field.

Aman paddy in the hills does not need manure as washings from higher land are brought to the rice field in the irrigation water. For dry cultivation manuring is almost essential. Cowdung is being ordinarily used for wheat, mustard, *marwa*, potatoes and more rarely for maize or buck wheat. For vegetable culture leaf mould when procurable is employed.

The chief implements used are the plough, the hoe or spade (*kodali*, *farua* or *chapra*), the fork (*kata*), the sickle (*hasswa*), the mallet (*martol*) and the crowbar (*jhampel*). A wooden harrow and a thick heavy beam are used in paddy fields and sometimes in dry cultivation to break up clods. There are also various chisels, *kukris* and Bhutanese and Lepcha knives or *chupees*: and baskets, mats, sieves and winnowing trays made locally from bamboo or cane. The *thumsi* and *namlo* are for carrying produce: the *mandro* is a mat for drying grain and for other purposes: the *namlo* is for winnowing grain. For storing grain in large quantities closely woven mats (called *bhakhari*) are made in rounded form from bamboos covered with a paste made from cowdung and earth.

• The average plough weighs 18 or 19 seers and is heavier than that in use in the plains due no doubt to the stiffer soils met with in the hills. The beam is tied to the yoke with a leather rope and the whole plough used to cost only Rs. 2 at most. This has risen now to Rs. 8. It is expected to last a whole season for 7 to 10 acres of land. Wartime prices of other implements are spades Rs. 3-8, fork Rs. 12, sickle Ré. 1-4, mallet Rs. 14 and crowbar Rs. 7-8. Some implements last longer than others and the average annual cost for implements for an ordinary hill cultivator would be about Rs. 25.

More intensive and efficient methods of cultivation are becoming popular. While formerly a single ploughing was thought sufficient and no manuring, now most cultivators plough twice, manure more freely and sow better seeds more efficiently: weeding, hoeing and earthing are often repeated. Men, women and children all use the hoe: where ploughing cannot be done, seeds are sometimes sown broadcast or dibbled in with a long stick either pointed or with an iron spike fixed at the end. Lepchas are ineffective users of the plough and are sometimes seen turning over the soil with a rude wooden stick and are ready to cultivate with a small spade and a spike. They cultivate mostly at the lower levels and are particularly fond of orange growing and cardamom cultivation in the lower valleys, being accustomed to a low elevation: the comparative seclusion of fields surrounded by jungle is congenial to their habits. The Nepali is the most assiduous cultivator leaving practically no part of his holding uncultivated, using his plough cattle to the full and terracing skilfully where it is feasible. Bhutias and Nepali Gurungs are more casual cultivators perhaps because they are descendants of pastoral races more accustomed to grazing: they are for the same reason fonder of cultivating at the higher levels.

The following are brief accounts of the cultivation of the more important crops in the hills. The prices quoted are wartime prices up to 400 per cent. over pre-war prices.

Maize (bhutta or makai). This crop grows on almost any soil at altitudes between 1,000 to 7,000 feet above sea-level. Black soil suits it best as hill cultivators do not usually manure this crop. It does best at low elevations in sunny aspects and grows quite well in places where rocks retain moisture. It is the staple food crop for cultivators and is grown on dry land (*sukhakhhet*). After the ground has been prepared, the seeds are sown from February to April either by broadcasting, by sowing in rows (*phalis*) or by individual planting in holes. It is harvested in August or September. The crop is liable to damage by bears and elephants when near forests and to dangers from landslips on steep slopes. Outturns vary from 4 to 10 maunds per acre and higher with heavy manuring: taking the average yield at 8 maunds per acre and the price at Rs. 15 per maund, net profit per acre can roughly be taken at Rs. 60; cost of cultivation being rent Re. 1, manure (20 maunds) Rs. 5, seeds (16 seers) Rs. 8, ploughing Rs. 15 and labour Rs. 34. Soya bean (*bhotmas*) or millet is sometimes grown with maize, and buck-wheat (or more rarely wheat and mustard) follows it on first and second class lands. It is found difficult to keep strains of better maize pure owing to cross fertilisation.

Millet (marwa or kodo). This crop is grown at heights between 1,000 and 5,000 feet above sea-level and in dry cultivation (*sukhakhhet*). Seeds are sown in April and May in a nursery which is manured. Transplantation takes place in June or July and the crop is harvested in October or November. The cost of a seed bed for one acre of transplanted *marwa* is about Rs. 7-4, the bed being about 1/5th of an acre. The transplanted crop is not usually manured. Outturn varies from 5 to 8 maunds per acre (average perhaps 6 maunds) when the

crop is grown alone and less (say 5 maunds per acre) when it is grown together with maize. At a price of Rs. 16 per maund the profit per acre works out at about Rs. 50 in either case.

Soya beans and pulses are similarly cultivated.

Buckwheat (phaphar). This is grown up to 7,000 feet in dry cultivation. It is sown in August and September and harvested in December and January. The average yield per acre is about 6 maunds and, with a price of Rs. 16 per maund, the profit per acre is about Rs. 68. No weeding is required so that labour costs are low, say Rs. 18 per acre, for which half a maund of seed is required. This crop is quick growing but rather unpopular because it is considered to exhaust the soil rapidly.

Wheat, barley and mustard. These crops are not extensively grown in the hills. They are grown up to 5,000 feet in dry cultivation, are sown in September and October and harvested in the later winter.

Rice. Paddy is grown from plains level up to elevations of 5,000 feet. In the hills it is transplanted into irrigated land (*panikhet*) and no manuring is needed. Seeds are sown in seed beds ($\frac{1}{4}$ th of area to be planted out) in April or May: transplantation takes place in July or August and harvesting in November or the beginning of December. Outturns vary from 8 to 12 maunds per acre and 10 maunds may be taken as the average in the hills although in the Terai double this figure may be attained. The yield of straw is heavy (25 to 35 maunds per acre) and profit reaches Rs. 45 per acre with 24 to 32 seers of seed required per acre and about Rs. 75 per acre as the cost of labour. The price per maund of rice is taken for the above calculation at Rs. 13 per maund. A small quantity of *bhadoi* rice (called *ghaiya*) is grown in the hills. Seed is either sown broadcast or dibbled in rows at the rate of 20 to 35 seers per acre. Manure is required and good rain. The crop is harvested at the end of August or beginning of September. Outturn is less than that of the transplanted rice.

Potatoes. This crop is grown in many parts of the District even as high as 8,500 or 9,000 feet above sea-level. It is grown in dry cultivation but requires heavy manuring. In some places two crops are harvested, one planted in October and harvested in January and February and the second planted in January or February and harvested in July. The success of potato cultivation depends a great deal on the weather: yields vary from 30 to 120 maunds per acre, even reaching 150 maunds per acre in very favourable conditions. Profit varies considerably but, with a price of Rs. 15 per maund, one acre may give a profit of Rs. 300 or more. Costs of cultivating an acre may be as much as Rs. 300, with 100 maunds of manure and 10 maunds of seed potatoes being required. The District produces seed potatoes for export as well as potatoes for consumption as food.

Cardamom (elainchi). This crop is a valuable one, doing best at altitudes from 1,000 to 5,000 feet above sea-level. The crop requires a rich soil, shade, some warmth and a good supply of irrigation water. Fields are usually in the beds, or on the sides, of streams and are liable to destruction by floods and landslips. The crop is harvested

usually from September onwards. For a new plantation, seed is sown in special seed beds and then transplanted in May and June two to four feet apart. It can also be propagated by separating roots from old standing clusters. New cardamom fields have to be thoroughly weeded and for the first two years they yield no crop. In the third year a half crop is obtained and thereafter for about 8 years a full crop can be expected which amounts to about 6 maunds or more of the prepared cardamom per acre. After the tenth year the plants weaken and become liable to blight or damage by insects (*phurkey*). Cardamoms flower from the middle of April to the end of May and after September when the crop is harvested the seedpods are dried in a kiln (*bhati*) and thereby are much reduced in weight. The dried seeds are bagged and sold at prices upwards of Rs. 30 per maund. Prices soar when supply is short and sometimes reach Rs. 120 per maund. It is difficult to calculate the costs of cultivation and consequently the profit, because most of the cost of cultivation is that of labour which is usually obtained not for cash but on the *parma* system of exchange labour. Moreover prices of the finished product vary erratically. It is however a crop which can give a very high return of profit.

Other field crops. Only small quantities of sugarcane are grown in the hills: a soft thick variety is grown in small quantities for chewing. Mustard is grown near towns by Brahmans and Chetris in small quantity for oil and cake.

Fruit cultivation. Orange growing is extremely profitable and has for this reason expanded very considerably in recent years. About 90 per cent. of the output is exported. Two varieties of the local Sikkim orange are grown—one a small tight skinned variety and the other a loose skinned, larger and softer kind. Rich black soil is required and an elevation of between 2,000 and 4,000 feet above sea-level. The crop is harvested from November to January. Seedlings, brought from Sikkim, are transplanted in May and June 14 to 18 feet apart. About 200 are required per acre. About 8 years are required before the trees begin to bear fruit and they continue to give a good crop for 25 years. Trees grow from 15 to 20 feet high and give larger fruit the farther apart they are. The outturn per tree is from 800 to 1,000 oranges annually which sell at a varying price which may be taken as Rs. 20 per 1,000 fruit. The cost of cultivation is not heavy, the main items being initial cost of seedlings including transport from Sikkim Re. 1 each = Rs. 200 per acre, initial cost of manure per acre Rs. 6-4, and Rs. 150 per acre every 3 years for manure. The crop is comparatively free from damage by bad weather.

Pineapple growing is successful in the Terai and the hill areas. There is a considerable export of the fruit and 5 to 6 lakhs of suckers are sold annually to growers in the plains. The Singapore Queen variety grows well up to 4,000 feet and is in good demand. Local markets are well supplied in the appropriate seasons with tree-tomatoes, limes, lemons, bananas, pears, peaches and plums grown in the District at varying altitudes. The heavy rainfall and moisture prevents apples and good quality pears and peaches being grown successfully.

Vegetables. A very profitable vegetable growing business supplies both local and distant markets. Peas, beans and potatoes are well known products of the District but all kinds of foreign vegetables are grown for local and Calcutta markets among which can be mentioned artichokes, asparagus, beetroot, Brussels-sprouts, broad beans, French beans, cabbages, cauliflowers, celery, carrots, turnips, knol-khols, radishes, parsnips, peas, spinach, leeks, tomatoes, rhubarb and onions as well as many herbs. The season for many of the above vegetables is long because it is possible to grow them over a considerable range of altitude. Rainy season vegetables are also grown throughout the District in great variety and profusion.

There was so little cultivation before the British administration arrived that it can almost be said that all the crops, fruits and vegetables grown in the District have been introduced and acclimatised.

Departmental activity has been mainly confined to demonstration work in the Kalimpong Farm and to popularising improved varieties of seed and agricultural methods. A demonstration farm at Mirik was not successful and had to be closed. An investigation into the marketing of oranges has been carried out but no action to improve it has yet been undertaken. Certain war time measures to control the export of oranges and vegetables have been organised. Some damage to crops occurs from wild animals and birds which cannot be prevented where forests adjoin cultivation. But the Department has not been able to do much to counter pests attacking the crops of the District.

The headquarters of the District Agricultural Officer is at Kalimpong. At the time of writing he was a hillman and all the staff at the farm were hillmen. One Khas Mahal Demonstrator (usually plainsman) is employed in the Siliguri Subdivision and for the hill khas mahals two Agricultural Sub-Overseers (both hillmen). Special arrangements in wartime required additional staff to control the 3 seed stores which were opened and to operate the production of vegetables under the Grow More Food Campaign.

In the Terai, domestic animals do not differ appreciably from those found elsewhere in the plains of Bengal. In the hill subdivisions, however, there are considerable differences.

**Veterinary
and Animal
Husbandry.**

The cattle population of the District, according to a census held in 1940, was 1,02,366. The density is not heavy. In the hills bullocks are not so commonly found as the hillman does not usually castrate bulls. In the Terai, cattle are of the usual inferior plains breed, although perhaps, as they get better grazing, they are stronger and better nourished than the average plains cattle. Breeds in the hills are mixed, although animals of pure Siri or Nepali breeds are occasionally met with. Climate and feeding conditions in the hills make for stronger and healthier cattle.

Siri cattle are large handsome animals standing 50 to 54 inches at the shoulders. The bulls have well developed humps and both sexes have a long tail with a tuft of hair at the tip. They are rough coated, sure footed, move well on steep hillsides and are hardy in the cold

moist climate. They need good grazing and perhaps for lack of this, pure bred animals have disappeared into the remoter parts of Sikkim and Bhutan. They are however still found in the District on the Nepal frontier in the north-west. The Siri cow gives about six seers of high class rich milk per day with 10 per cent. fat content and their average lactation period is over eight months. Cross breeds from Siri cattle are common and give yields of 10 to 16 seers per day of milk inferior in quality to that obtained from the pure Siri or pure Nepali cow. This higher milk yield of the cross bred animal is an additional reason for the disappearance of the pure bred Siri cattle.

The *Nepali* breed is smaller than the Siri, bulls measuring 45 inches and cows 40 inches at the shoulder. They are smooth coated, have a thick neck and a small hump. Although they have short legs and poor joints, they are agile on rough steep ground and forage well on poor grazing ground. Cows give two to three seers daily of excellent milk with high fat content. The Siri Kacchar is a cross of the Siri with the Nepali animal intermediate in size and giving about 6 seers per day of high quality milk. The Bhutan or Mithun breed is found mainly in the Kalimpong Subdivision, having a strain of the wild cattle originally found in those parts. They are powerful animals well suited to the damp and cold of the higher altitudes. They yield 3 or 4 seers of rich milk.

Much of the stock of professional graziers is poor and this is mainly due to promiscuous breeding. The District Board has maintained a dozen stud bulls but these are inadequate for real progress and not all their stud bulls are suitable. About 30 years ago a number of persons interested in livestock imported Ayrshire, British Friesian, Jersey and Shorthorn animals. The result of crossing these with local breeds has been an immediate increase in the average yield of milk. The progeny are neither so hardy nor so capable as draught animals and they are suitable mainly for indoor feeding. The subsequent progeny is apt to deteriorate and this indicates that more care in the control of breeding is essential. Hill people take good care of their cattle but pasture is often short rendering stall feeding necessary. Green fodder grass is plentiful from June to November: rice and millet straw are available after the harvest of these crops and from December to May animals are fed with green leaves from lopped tree branches. Even stall fed cattle therefore get fresh fodder in good quantity. Grazing is allowed under control in certain reserved forests and there are also extensive village grazing grounds in various parts of the District. Hillmen are apt to keep cows in milk in confinement owing to a superstition that if they go into the open they will be affected by the evil eye. This practice has a detrimental effect on the health of herds. Rinderpest, foot-and-mouth disease, tuberculosis and hæmaturia are common in the hills. Much disease is brought about by the migration of herds from the neighbouring countries of Nepal, Bhutan, Sikkim and Tibet into the District. It has been estimated that 20 per cent. of the cows in the District are infected with tuberculosis.

Nepalis use bullocks for ploughing and draught and when past that kind of work, they are slaughtered or sold for food. The demand for

slaughter cattle is considerable and 25 per cent. of the animals used for slaughter are specially imported for the purpose. In 1941 a slaughter animal of 3½ maunds weight would sell for Rs. 50 and the sale price of meat was then about 8 annas per seer. In 1944 the corresponding figures were Rs. 140 and Re. 1-8. A pair of bullocks for transport sold in 1941 for Rs. 120 and in 1944 for Rs. 240. The price of a milch cow giving 6 to 10 seers per day has similarly risen from Rs. 150 to Rs. 350.

Buffaloes are not numerous in the hills and are mainly kept at the lower elevations. In 1940 there were only 1,982 in the hill subdivisions out of a total of 11,011 in the whole District. In the hills they are found costly to maintain, do not yield much milk and are little used for cultivation: females are kept for milk and males for slaughter. But practically 100 per cent. of the animals slaughtered are imported for the purpose. A buffalo for slaughter (5½ maunds) sold in 1941 for Rs. 42 and the meat at 6 annas per seer. The corresponding prices in 1944 were Rs. 180 and Re. 1.

There are two breeds of *pony* in the hill areas. The *Bhutia* pony is a sturdy surefooted animal, hardy and with an easy action. It is imported from Bhutan, Sikkim or Tibet. The other type, called *Pantharay*, is bred in Nepal and in Sikkim near the District border. It is smaller than the *Bhutia* and is used for pack work whereas the *Bhutia* is used mainly for the saddle. The *Pantharay* is a hardy hardworking animal when properly fed and tended. Mules and donkeys are imported from Tibet and are also used for pack work. Horses, ponies and mules are often attacked by glanders and surra. There were about 3,000 horses and ponies enumerated in the District in the 1940 census.

There are two breeds of *goat*, the *Sinjalay* and the *Paharay*. The former is larger and is in fact the only actually pure breed in the District. It has long hair and long horns. Grazing is short for goats which are only kept to sell for slaughter. Local supply is insufficient to meet the demand and 60 per cent. of the goats consumed are imported. In 1941 a 25 seer animal sold at Rs. 22 with meat selling retail at 14 annas per seer. Prices in 1944 rose to Rs. 55 and Rs. 2. About 54,000 goats were found in the District in the 1940 census.

Sheep sold at similar prices. The *Lampuchharay* sheep has a long tail and is found only in the Siliguri Subdivision. The *Ghevbhera* is a larger animal. The Gurungs graze large flocks of sheep, taking them to the heights in the rains and in the cold weather bringing them down to lower altitudes and the plains for sale. One variety of hill sheep, the *banpala*, has long pendant ears reaching below the jaw. About 60 per cent. of the sheep slaughtered in the District are imported for the purpose.

Pigs are not very numerous and are only reared by a limited number of castes among whom are the Mangars, Rais, Limbus, Tamangs, Lepchas and Bhutanese. The total number recorded in the 1940 census was 5,735. The plains pig is called *Hurra* by hill people who distinguish it from the *Purni* or hill pig, the meat of which is superior. In 1941 an animal of 1½ maunds sold for Rs. 18 and the meat at

10 annas per seer. Corresponding prices in 1944 were Rs. 70 and Rs. 2. The ordinary hillman rears pigs in insanitary conditions but there are piggeries in the District breeding from imported Yorkshire and Berkshire animals some of which maintain adequate sanitary precautions.

There are two kinds of indigenous domestic *fowls* in the District, the Sikkimay and the Syakinay, the former being the larger bird. They have short legs and feathered toes. They are hardy, stand up well to local conditions and are less prone than other breeds to disease. Pullets mature early and start laying at six months. They are good layers of large eggs, docile and can be easily reared within bounds. These breeds however are giving way to plains birds and foreign cross breeds. Plains birds are imported as they are cheap but their crossing with hill birds has led to deterioration. White Leghorns, Black Minorcas and Rhode Island Reds were imported by a number of persons interested in poultry farming but have been found delicate, not entirely suitable for local conditions and susceptible to diseases, a particular destructive one being the Ranikhet disease.

The following is the veterinary staff and equipment in the District. Stationary Veterinary Assistant Surgeons in charge of hospitals are stationed at Darjeeling, Ghum, Kurseong and Kalimpong to treat non-contagious diseases, accidents and wounds of all animals and Itinerant Veterinary Assistant Surgeons with headquarters at Kurseong, Kalimpong, Ghum and Siliguri are responsible for the prevention and control of contagious and infectious diseases in the District. An Assistant Superintendent is in charge of a Veterinary Vaccine establishment at Kurseong where pathological specimens are examined and rinderpest vaccine and other biological products are prepared. A Glanders Inspector has been posted to the District to deal with glanders, farcy and surra, scheduled under the Glanders and Farcy Act. Each Veterinary Hospital treats about 1,500 to 2,000 animals as out-patients and 300 to 400 animals as in-patients in the course of a year. Touring officers also treat a large number of animals and carry out propaganda on precautions against epidemics. These touring officers are under the sole control of the Provincial Government but the others are under dual control of the District Board and of the Provincial Government.

The officers mentioned above work in close co-operation with the Darjeeling-Himalayan Society for the prevention of Cruelty to Animals which was organised in 1917 and, impelled by the energy of Mrs. Lennox and her daughter, both of Ghumti Tea Estate, this Society has continued effectively to prevent cruelty to animals and to secure them proper treatment and better conditions. The Society has an infirmary for sick and injured animals in Darjeeling, hospitals at Ghum, Kurseong and Kalimpong and dressing stations at Mirik, Patkabari and Sukhiapokri on the Nepal frontier. All poultry being imported into Darjeeling by rail is fed and watered free by the Society at Siliguri and Kurseong and for cattle moving up by road to Darjeeling the Society sells fodder and grain at cost prices. It has also devised a pack pony saddle based on an army model but costing only a small sum within reach of the

poorest. In 1937 a veterinary hospital which carries out admirably the aims of the Society was erected in Siliguri through the benevolence of Mr. J. Goenka.

Darjeeling is on the whole a favourable area for the development of livestock on a commercial basis and for industries distributing animal products. A number of farms are well established among which Keventer's farm at Ghum is prominent. The farm was started in a very small way in the late 90's by Mr. Edward Keventer, a Swede, who had already farms in Calcutta, Delhi, Aligarh and Simla. A few Siri cows and a few yaks were kept, but it was not until 1924 that the farm developed rapidly. Modern cattlesheds were built, up-to-date dairy machinery was installed, and the farm became able to produce first class pasteurised milk.

In 1935 a modern pig farm was started in conjunction with the dairy and English Middle White pigs and Australian Large White pigs were imported. The farm now breeds its own cattle and pigs, having over 200 cows and several hundred pure bred English pigs. Pedigree bulls and boars are frequently imported.

The farm now supplies daily to Darjeeling large quantities of pure pasteurised milk, excellent farm butter, cheese, ham, bacon, pork and sausages.

All stock is stall fed, the grain having to be imported from outside Darjeeling, while good use is made of the green vegetation growing in the hills near the farm which is cut daily for roughage feeding.

The staff employed on the farm numbers nearly 200.

The Kalimpong mela, an annual agricultural and livestock exhibition, was started by Dr. Graham in 1891. It has shown the way to many improvements and has made Kalimpong the headquarters of district departmental demonstrations.

CHAPTER VI.

THE TEA INDUSTRY.

History. Before the transfer of Dr. Campbell to Darjeeling in 1839, the authorities had given some consideration to the possibility of developing the cultivation and manufacture of tea in the territories under the East India Company. In 1821 the tea plant had been discovered growing wild in Assam and in 1834 the Governor General, Lord William Bentinck, had appointed a committee to advise on the introduction of tea culture in India. Government made experimental plantations in Upper Assam, Kumaon and Garhwal and in 1839 private enterprise took the field with the formation of the Assam Tea Company.

Dr. Campbell started experiments in Darjeeling. Their success encouraged others to experiment with seed distributed by Government. In 1852 a Mr. Jackson remarked in a report that bushes of both Assam and China types were doing well in the garden of the Superintendent, Dr. Campbell, in Darjeeling, as well as in the more extensive plantations of Dr. Withecombe, the Civil Surgeon, and of Major Crommelin of the Engineers in a lower valley called Lebong. It appeared from this report that Dr. Hooker and others considered that too much moisture and too little sun at Darjeeling made it unlikely that tea cultivation at that altitude would be remunerative.

By 1856 development had advanced from the experimental to a more extensive and commercial stage. The Rev. T. Boaz, LL.D., in January 1857 stated that tea had been raised from seed at Takvar by Captain Masson, at Kurseong by Mr. Smith, at Hope Town by a Company, on the Kurseong flats by Mr. Martin and between Kurseong and Pankhabari by Captain Samler, agent of the Darjeeling Tea Concern. Development now proceeded at a rapid rate. In 1856 the Alubari tea garden was opened by the Kurseong and Darjeeling Tea Company and another garden by the Darjeeling Land Mortgage Bank on the Lebong spur. In 1859 the Dhutaria garden was started by Dr. Brougham and between 1860 and 1864 gardens at Ging, Ambutia, Takdah and Phubsering were established by the Darjeeling Tea Company and at Takvar and Badamtam by the Lebong Tea Company. The gardens now known as Makaibari, Pandam and Steinthal were also opened out in this period. Experimental plantations had been started in the Terai and in 1862 the first garden in the Terai was opened out at Champta near Khaprail by Mr. James White who had previously laid out one of the largest gardens of the District at Singell near Kurseong. Other gardens had been opened out in the Terai by 1866.

There had been rapid development in the hills as the suitability of the soil and climate became apparent. Government offered land to investors on favourable terms and by the end of 1866 there were 39 gardens in production with 10,000 acres under cultivation and an annual outturn of over 433,000 lbs. of tea. In 1870 there were 56

gardens with 11,000 acres under cultivation, employing 8,000 labourers and giving a crop of nearly 1,708,000 lbs. Development subsequent to 1870 will be seen from the accompanying table:—

Year.		Number of gardens.	Area under tea.	
			Acres.	lbs.
1874	..	113	18,888	3,928,000
1885	..	175	38,499	9,090,500
1895	..	186	48,692	11,714,500
1905	..	148	50,618	12,447,500
1910	..	148	51,281	14,137,500
1915	..	148	54,024	20,303,500
1920	..	148	59,356	15,850,000
1925	..	148	59,356	18,732,500
1930	..	148	59,356	20,870,500
1935	..	148	59,356	20,798,000 black 228,000 green
1940	..	142	63,059	22,743,000 black 978,500 green

Only in the Kalimpong Subdivision (taken from Bhutan in 1866) was land withheld from development under tea, Government's policy being to reserve that area for forest and ordinary cultivation.

Since 1940 production has increased considerably in spite of difficulties with transportation and costs. In 1942 the output was 26,478,500 lbs. of black tea and 1,242,000 lbs. of green tea. In 1943 25,593,000 lbs. of black tea were produced and 2,572,500 lbs. of green tea.

Distribution of tea gardens will be seen from the following table:—

Thana				Number of Tea Estates.
Darjeeling	..	..	..	19
Jorebungalow	..	..	..	16
Sukhiapokri	..	..	..	9
Pulbazar	..	..	..	2
Rangli Rangliot	..	..	..	9
Kurseong	..	..	..	25
Mirik	..	..	..	5
Siliguri	..	..	..	27
Kharibari	..	..	..	11
Phansidewa	..	..	..	13
Kalimpong	..	..	..	0
Gorubathan	..	..	..	6
			Total	<u>142</u>

The map in the folder shows the location of the above tea gardens.

In the year 1910 the total area under tea leases was 1,23,853 acres of which 51,281 acres were under tea. In 1920 these areas had increased to 1,42,152 and 59,356 and in 1940 to 1,67,972 and 63,059. The area under tea rose to a maximum in 1943 when it was 63,227 acres: in that year the total area under lease was 1,65,680 acres. That is to say

258.75 square miles were under tea lease and 98.8 square miles under tea during 1943. Expansion of the area under tea had, for some years before the time of writing, been restricted by Statute.

Outturns per acre for the Darjeeling District have been reported as follows:—

			lbs.	Jalpaiguri.
1910	..	..	280	..
1915	..	..	392	..
1921	..	..	252	426
1925	..	..	327	561
1930	..	..	353	616
1935	..	..	353	589
1940	..	..	383	725

(corresponding figures for the Jalpaiguri District outturns have been given for certain of the years above).

Prices of Darjeeling teas have been somewhat erratic as will be seen from the table below:—

Year.			Price at Calcutta auction sales per lb.
			As. p.
1910	..	..	8 9 (6-5 to 10-3)
1915	..	..	10 9 (7-11 to 11-10)
1920	..	..	7 5
1925	..	..	16 0
1930	..	..	14 9
1935	..	..	12 2
1940	..	..	16 0

While the labour force in the tea industry was in 1870 8,000, numbers employed in 1921 are given as 44,279 and in 1940 61,540. Actual population on tea gardens according to the 1941 census was 1,46,508. This is distributed as follows:—

Sadar Subdivision	..	Darjeeling thana	..	24,048
		Jorebungalow thana	..	21,594
		Sukhiapokri thana	..	14,358
		Pulbazar thana	..	3,321
		Rangli Rangliot thana	..	13,202
Kurseong Subdivision	..	Kurseong thana	..	20,596
		Mirik thana	..	14,710
Kalimpong Subdivision	..	Kalimpong thana	..	0
		Gorubathan thana	..	6,094
Siliguri Subdivision	..	Siliguri thana	..	13,867
		Kharibari thana	..	5,999
		Phansidewa thana	..	8,719

Further particulars of the tea garden population will be found in Chapter III.

The limits of tea cultivation in the District range from 300 feet or so above sea-level in the Terai to 6,000 feet and more around Darjeeling town. Important factors in the production of tea are altitude, soil, aspect and slope of the land. The District is mountainous and has many varieties of soil: they range from red clay to a sandy loam

and all seem suitable for growing tea. The rainfall of the District varies from place to place. The general range is from 70 inches to 240 inches but it is not uncommon for an estate having an annual rainfall of some 80 inches to adjoin a neighbour two miles away as the crow flies where the rainfall may be 120 inches. Local rainfall details will be found in Chapter I.

Darjeeling teas are famous for their flavour which is due in great measure to the low temperatures under which the better quality leaf is grown. Quality also improves in the cooler periods of the year when the lowering of temperature slows down leaf growth. The rate of growth of tea and to some extent its productivity depends on warmth and therefore on altitude and aspect.

District rainfall conditions suit tea bushes but considerable damage is caused by local hailstorms which are liable to occur in the spring, particularly in the months of April and May. Storms are less frequent in the Terai but hailstones there are sometimes very large. In the Darjeeling hills it is on the whole correct to say that the lower valleys are less affected by hail than the higher altitude slopes. There are however exceptions and storms are capricious; although some gardens are more regularly struck than others, a garden, which expects hail almost as a matter of course annually, sometimes escapes damage even in a year when hailstorms are frequent, while the garden which has had many years freedom may be fiercely battered.

Damage varies from a light bruising and tearing of leaves affecting only quality and appearance rather than quantity, to destruction of crop which can be as high as a quarter of the garden's normal annual harvest. Usually the damage is to the standing flush of leaf buds, particularly heavy in April when the first flush gives the most prolific harvest of the year. Damage may however also extend to the frame of the bush when stones strike off pieces of bark or break off tender growing branches.

Many gardens insure against hail damage, but whether there is insurance or not, it is customary to have the hail damage assessed by two independent planters invited by the owners of the damaged area. Assessment usually distinguishes between the "immediate loss" of standing leaf and the "consequential" loss due to the check of growth and the ensuing time lag before plucking can be resumed.

Tea in the south of the Terai sometimes suffers from the effect of a dry and very hot west wind—that blows for a few days at a time in the summer months of April and May and causes the leaves to wither and fall.

Tea is usually grown from seed. After germination, seedlings are reared for six months to three years in a nursery and are then planted out in the fields at intervals of about four feet. In the hills the tea bush reaches maturity in about seven years. All the original Darjeeling hill tea gardens were planted with China-hybrid bushes, many now nearing 100 years of age. Most gardens now follow a policy of replanting—not so much because the old tea is unproductive through age but because selection has shown that bushes can be substituted

producing a good quality leaf and yielding an average crop three times greater than that of the original bushes which gave approximately 4 maunds per acre of black tea.

The use of fertilisers is now common. Nitrogen in the form of sulphate of ammonia is the most useful fertiliser. The normal rate of application is that which will provide 40 pounds of nitrogen per acre. With the fertilisers usually obtainable this means the application of about 200 lbs. weight of sulphate of ammonia to each acre. Terracing had long been considered a necessary precaution against erosion. Emphasis on terracing has, however, recently decreased since it is now commonly held that constant digging of the soil is not a necessary element in cultivation. The soil now is disturbed as little as possible, cover crops are grown to prevent erosion and tufted grasses and other weeds which compete with the tea bush are eliminated.

In the hills it is customary to prune tea bushes once every three years. At lower elevations and in the Terai annual pruning is not uncommon. Heavy pruning, that is, cutting the thick branches of the bush close to ground level, is only necessary about once in 20 or 30 years. After heavy pruning several years are required to regain the optimum output of quantity and quality.

Blights are numerous but in the hills few of them do very serious damage. Blister blight, thought to have originated in wind-borne spores from forest tracts in Bhutan, made its appearance about 1910 and can be serious on pruned tea. Blister blight, alone among the commoner blights, is capable of destroying the young succulent shoots which sprout from pruned tea: most of the others affect only the leaves. Among these latter, mosquito blight is one of the more menacing but its serious depredations are for the most part limited to the Terai area. Mosquito blight, showing first as small black spots on the young leaves, may gradually cause all the tenderer leaves of the bush to dry and blacken; the crop may be severely affected. Red spider is at times prevalent enough to give whole areas of tea the appearance of rusted bushes but it usually disappears with the advent of heavy showers of rain in June. Sulphur in one form or another is frequently applied to the bushes to eradicate this pest. Thrips and green fly also attack tea bushes; the latter is believed to have a beneficial effect upon the flavour of the tea. This effect is largely due to the retarded rate of growth of the young shoot thus attacked but opinion is divided as to whether the green fly causes the stunted growth or whether the stunted growth occurs first and attracts the green fly.

For the manufacture of tea only the two top leaves and the bud are picked as standard practice. The four main processes of manufacture are withering, rolling, fermentation and drying. The leaves (known as "the leaf") are withered for 18 hours by which time they have become flaccid without being overdry. From the withering racks the leaf is fed into rollers most of which hold about 300 pounds of withered leaf which will make about a 100 pounds of finished tea. The object of rolling is to distort the cells of the leaf. The machines in this operation attempt to achieve, on a larger scale, the effect

originally obtained by rolling the leaf in the palms of the hand. As soon as the cells of the leaf have become sufficiently distorted, oxygen is absorbed from the air and complicated chemical changes take place. The chief of these is the transformation of white, bitter tea-tannin into a red pungent substance. From the commencement of rolling the leaf begins to change colour. From green it takes on a yellow tint and finally a bright burnished-copper colour. Leaf is rolled for about 90 minutes (with interruptions for sifting and cooling the leaf at discretion) and thereafter is left lying thinly spread upon clean fermenting beds until the process is complete. Fermentation is usually complete $3\frac{1}{2}$ hours after the commencement of rolling.

It should be noted that "tea-tannin" is an entirely different substance from the tannin of medicine and commerce.

The copper coloured fermented leaf, which by now has an agreeable aroma, is taken to drying machines where moisture is extracted by exposing it to a draft of hot air (at some 200°F.). After about 25 minutes, the tea is black and feels completely dry. Actually its moisture content at this stage is about 3 per cent.

With the drying process the manufacture of tea is for all practical purposes complete; the dry black leaves are, however, long, irregular and inconvenient for packing, handling and blending. They are therefore cut and sorted. Nine different sizes of tea are commonly made ranging from dust to pekoe which is about half an inch long. The sorted teas are kept in zinc lined bins until a sufficient quantity of each grade has been accumulated for packing. In the hills this quantity is usually about a ton. In present times tea is almost invariably packed in three-ply chests with a metal foil and inner paper lining. Vibrating machines are used to ensure that the tea is correctly packed. In the hills tea chests contain from 65 to 90 lbs. of tea. In the plains, where transport presents an easier problem, a larger chest is customary.

Many factories derive their motive power from a water-driven turbine. A few are supplied from the Darjeeling Municipal Electric Supply Station. Others use oil engines of the Diesel type. Most factories are lit electrically. A number are served by ropeways, others use pack ponies for transport.

Ninety-six per cent. of the labour employed on estates in the hills is Nepali and the language used on them is Nepali. In the Terai, population is mixed, with only 7 per cent. Nepalis and a high proportion of Scheduled Caste immigrants from Chota Nagpur. Particulars of the races of origin of tea garden labour will be found in Chapter III.

**Labour
Conditions and
Wages.**

Recruitment of labour from Nepal is not permitted but there is, in fact, normally no shortage of labour in the hills. Inter-garden movement of Nepali labour in hill gardens is however appreciable. In the Terai a few gardens recruit through the Tea District Labour Association but recruitment in the plains is mainly by sardars, by private agency or through families already employed. Sardars recruit locally and are

paid Rs. 3 to Rs. 5 for every recruit obtained by them who works for a year. Recruits, on being recruited, are given a settling allowance of Rs. 5 to Rs. 10.

Samples taken show that the working population was 47 per cent. of the total population on gardens and that the percentage declined slightly between the years 1939 and 1944. Many non-workers employ themselves more profitably elsewhere living as dependents of those who work and are housed on tea gardens. Of the working population 39 per cent. are males, 43 per cent. females and 18 per cent. children: sample figures for 1943 showed that males made up 34 per cent., females 49 per cent. and children 17 per cent. of total attendance.

February is a peak month for labour: cultivation work is then heavy and the attendance of males higher. The two flushing periods, March-April and September-November, evoke increased attendance particularly of female pluckers. There is a general decline in attendance from May to September due partly to decrease in work and partly to illness: it is the season for dysentery in the hills and for malaria in the plains.

The basis of wage payment is the *haziri* system for which the basic rates are:—

	Men.	Women.	Children.
	Annas.	Annas.	Annas.
Hills	5	4	3
Terai	4	3	1½

These basic rates have been prevalent for a long time and are really task rates. They are split in some hill gardens so that part is paid as bonus for attendance 5 days a week. In other gardens there is a sliding scale of bonus for upwards of 14 days attendance in the month.

Cultivation or winter operations are often paid for on a bigha or piece rate system, in which the task for sickling, pruning, hoeing or deep-forking is so arranged that the basic *haziri* can be earned by 5 or 6 hours' work. Since 1939 this daily task has been reduced. In the plucking season there are two methods of payment, the piece rate and the bigha or task rate. Piece rates are 6 pies per seer of leaf plucked: the task is so fixed that by doing it the worker gets the basic wage.

Labour other than garden labour is usually paid at monthly rates, but there are however estates where payment is made weekly on a daily wage rate. Tea makers and factory labour receive between Rs. 9 and Rs. 14 per month and daffadars, chaukidars and others from Rs. 12 to Rs. 16.

Dearness allowances are paid on almost every garden at rates which are usually Rs. 2 to Rs. 3-8 per month for factory labour, one anna per day for adult garden labourers and half an anna for children.

Average and maximum earnings of garden labour have increased appreciably between 1939 and 1944. Averages are lower in the hills than in the Terai and for the whole District they are approximately Rs. 12 for men, Rs. 10 for women and Rs. 5 for children.

Garden labour is usually paid weekly every Saturday: monthly workers are paid on the first Saturday of the month. Certain gardens still follow the old system of paying labour through sardars. While this method makes payment much simpler for the management, it is unsatisfactory as sardars levy a commission (up to 3 pies per rupee) on payments in addition to that allowed by the management. Sardars are nearly everywhere made responsible for discipline and attendance, getting one pice per diem for every worker turning up for work. In the hills there are a few labourers (*niz*) who are not under any sardar.

In addition to granting dearness allowances, all gardens during the war sold rice to their labour at concession prices. Many gardens gave similar concessions in respect of other commodities, for instance they sold cheap cloth or gave cash in lieu. Considerable expense was often incurred on these supply transactions.

Hours of factory working are nominally 8 per diem, i.e., from 8 a.m. to 5 p.m. with an hour's recess from noon to 1 p.m. Managements claim that 6 hours is the average of factory working hours but there are undoubtedly periods during heavy flush when factory hours exceed eight. In larger gardens two shifts are worked and the second continues until as late as midnight. Overtime payments vary: in one garden one anna is paid for every hour worked after 5 p.m. and in another one *haziri* is allowed for one to six hours beyond 5 p.m.

Hours for garden labour are not fixed but in summer labour goes out to work at 8 a.m. and in winter at 9 a.m. Work continues until noon when food is taken, often at home. Work is resumed about 2 p.m. and ends at 5 p.m. when leaf is collected for weighment. In winter cultivation work commences at about 8 or 9 a.m. and continues without a break until 1-30 or 2 p.m. when it is finished for the day. When work is heavy, various extra payments are offered for overtime.

Factory labour usually has Monday as a holiday during the manufacturing season and Sunday during the slack season. Sunday is the usual rest day for garden labour. At the Kali and Dol pujas, all labour is given from 2 to 4 days holiday for which the garden labour is not paid.

Housing for labour is provided rent-free and repaired at the expense of the management. Separate huts have to be provided for each family and they are scattered in groups over the estate so as to be convenient for access to work: the sardar has his quarters near those of the group for which he is responsible. In the hills, the roofing of huts was of corrugated iron and walls were of planks. But since 1939 huts have been built in the hills, as in the plains, with thatched roofs and mud and bamboo walls. This last type is more expensive to keep in repair but is preferred by labour. Floors are *kutchra* and roofing not more than 10 feet high. Ventilation is inadequate as labourers will not tolerate windows and there is no outlet for smoke. The size of each hut is usually about 20 feet by 10 feet: one half is used for cooking and the other for sleeping although occasionally there is a small verandah which is used for cooking. A small plot of land is usually provided

by the side of the hut and is used for cultivation, for keeping cattle or as a yard. Estates also give land to their labourers rent-free on which they grow food for themselves.

Water-supply for coolie lines is rarely inadequate and often managements provide piping to bring water to convenient places. Labour will not use latrines and it has been found useless to provide them: the result is rather unsatisfactory sanitary conditions and a prevalence of hookworm disease.

Most gardens have outdoor dispensaries staffed with doctors or compounders with varying qualifications. Equipment and medicines are simple and not always very adequate. Few gardens attempt to provide indoor hospital accommodation which is difficult to make popular because nurses and servants cannot usually be provided.

Few gardens run efficient schools of their own and some are without schools altogether. Attendances are unsatisfactory and would be far better if children below a certain age were not allowed to work on gardens.

Most gardens give donations for maternity and occasionally payments are made to labourers who fall sick. Free issues of blankets and umbrellas are not uncommon and many gardens pay the cost of entertainments on the occasion of religious festivals.

Funds are required to pay labour and most gardens obtain them by drafts on local banks drawn by managing agents in favour of the manager. About Rs. 100 per acre is required in the year for wages: this does not include funds required to provide foodstuffs in time of scarcity or shortage. Stores required on gardens are usually purchased by managing agents and sent up from Calcutta.

There are three associations of tea planters in the District, viz., The Darjeeling Planters' Association, The Terai Planters' Association and The Terai Indian Planters' Association. All gardens in the District are represented on one or more of these associations which concern themselves with the general local interest of the industry as well as that of their staff.

Planters' Associations.

CHAPTER VII.

FORESTS.

The majority of the forest areas of the District are administered as reserved forests by the Forest Department of the Government of Bengal and it is the forests so administered that are described in this chapter. The location of these forest areas is shown in the map in the folder.

Appreciable areas of land covered by forest are however included in many tea leases of which the produce is utilised by lease-holders. The timber is used for the manufacture of tea boxes and charcoal, for bridge and house building and as fuel both for domestic purposes and for the drying of tea, a half and half mixture of wood and coal being commonly used for this last purpose. It has not been possible to arrive at any estimate of the quantity of forest produce that is utilised by lease-holders, but some idea of the areas leased for tea which may be under forest can be gathered from the fact that out of 165,680 acres leased, only 63,227 acres are actually under tea cultivation. Some garden managements devote attention to re-afforestation and are able to maintain the potential value of their forests.

Certain areas under forest not included in reserved forests are under the Khas Mahal administration of the Deputy Commissioner. The area of these forests is probably diminishing—in 1907 it was estimated to be 20 square miles. It has proved difficult to maintain and administer these forest areas efficiently and their value measured in produce is small. They provide some forest produce for villagers but their main importance lies often in the protection they afford against erosion.

The area first taken over in 1835 from Sikkim, i.e., the hill tract between the Kyal and the Balasan on the east and the Rangnu and the Mahanadi on the west, was then entirely covered with forest and was practically uninhabited. So also were the hill areas between the Mechi and the Balasan and between the Tista and the Mahanadi which were taken over in 1850. Colonisation and conversion of this forest into cultivated land and tea gardens was rapid as population increased. The Kalimpong Subdivision was annexed in 1865 and had then a population estimated at 3,536. Here too, a rapid clearance of forest and a considerable extension of cultivation followed an influx of settlers.

Prior to 1863, Bengal and Assam, or the "Lower Provinces" as they were designated at the time, paid very little attention to the conservation of their forests. Calcutta had imported all its timber requirements from Burma and from Northern India. Other thickly populated areas had exploited local resources and imported produce from such forests as were accessible by river. Prices of both fuel and timber had greatly increased with gradual deforestation of the areas

nearer to towns. Government therefore decided to fall into line with other provinces in India, introduce measures of conservancy against over-exploitation and save the remaining forests from total destruction.

Under instructions from the Government of India, Mr. Brandis (afterwards Sir Dietrich Brandis, K.C.I.E.), when on his way from Burma to take up the post of Inspector-General of Forests, India, inspected some of the forests of Bengal. In December 1862, in consultation with Dr. Anderson, the Superintendent of the Botanical Gardens, Calcutta, he submitted his proposals for the conservation of the Bengal forests.

In 1864, Dr. Anderson was entrusted with the work of carrying out preliminary investigation and inquiries. These were confined to the northern part of the Province, i.e., the Eastern Himalayas including Sikkim and the belt of *sal* forest in the Terai and Duars at the foot of the hills. As the Bhutan War was in progress at the time, his work in the Duars was considerably interfered with.

As a result of his preliminary proposals, Dr. Anderson was appointed Conservator of Forests in addition to his duties in the Botanical Gardens, Calcutta, and forest conservancy was inaugurated in Bengal in August 1864. The first reserves were notified in 1865 in the present Darjeeling Division, where work had commenced in the previous year.

The forest of Ghoompahar had been "reserved" for the local wants of Darjeeling. It was first administered by the Municipality and was made Reserved Forest in 1879. The remaining forests in the ceded territory were placed entirely under the charge of the Forest Department. Dr. Anderson found that he could not cope with the work of both posts and resigned his conservatorship at the end of 1867 when Mr. Leeds, who had joined from Burma, was appointed the first whole-time Conservator of Forests.

Mr. Leeds was succeeded in December 1872 by Dr. Schlich (later Sir William Schlich, K.C.I.E.) as Conservator of Forests, Bengal. Up to 1874, the forests of Darjeeling District had been included in the Cooch Behar Forest Division. In 1875, the Darjeeling forests were taken out of the Cooch Behar Division and made into a separate Division: the hill portion of Kalimpong and Kurseong Divisions were included in the new Division. As a result of further reservations of forest in the Terai and Duars, Schlich reorganised the Divisions in 1878 and the Darjeeling, Tista (now Kalimpong) and Kurseong Divisions were formed.

At that time the Kurseong Division was treated as a Subdivision of the Darjeeling Division and did not include the Mahaldiram and Chattakpur blocks which were part of the Darjeeling Division. In 1890 the Kurseong Division was separated and in 1891 the Sivok Hill Forests which had been under the Tista Division since 1881 were restored to Kurseong. In 1910 and 1919 the Mahaldiram and Chattakpur blocks were transferred to Kurseong from Darjeeling.

In addition to these three territorial Divisions another major administrative charge was created in 1944 for the Directorship of the Bengal Forest School.

The Bengal Forest School which was opened at Dow Hill in the Kurseong Forest Division in 1907 is under the administrative control of the Conservator of Forests, Bengal. The school is primarily intended for the instruction in practical forest work of the Subordinate Executive Establishment below the rank of Forest Ranger. Forest Subordinates from Bihar and Orissa and men from zamindaris under the control of the Government of Bengal and from States were also trained here until 1929—when Bihar and Orissa and the Feudatory States of Orissa opened the Orissa States Forest School at Keenjharagarh to train their own men. In 1929 the Assam Government started sending men to the school.

The period of training was originally 6 months but was extended in 1929 to approximately 11 months. The course begins on the 1st November each year and from November to the end of April the students receive practical tuition in forests of interest in the Province. From May to the Durga Pujah holidays theoretical instruction is given in the school and excursions are made to the hill forests of the Kurseong and Darjeeling Divisions.

Until 1944 the Divisional Forest Officer, Kurseong, acted as Director of the School in addition to his own duties. He had the assistance of a Provincial Service Officer as instructor. The Directorship of the School was created a separate major charge in June 1944. The number of students was then increased from 16 to 20 and an Instructor of Forest Ranger rank appointed to assist the Director.

The three Divisions in the District are divided into the following ranges:—

Darjeeling:—Seven ranges: (1) Tista Valley, (2) Takdah, (3) Senchal, (4) Ghum-Simana, (5) Tanglu, (6) Singalila and (7) Darjeeling.

Kurseong:—Five ranges: (1) Sivok, (2) Sukna, (3) Pankhabari, (4) Bagdogra and (5) Kurseong.

Kalimpong:—Six ranges: (1) Kalimpong, (2) Pankhasari, (3) Chel, (4) Neora, (5) Jaldhaka and (6) Reclamation.

Forest villages in the District had a population of 10,014 according to the 1941 census. This population was composed of the following tribes and classes:—

Nepalis	..	...	..	..	8,695
Other hillmen	..	..	..	..	846
Plains Hindus	..	..	..	..	235
Scheduled castes	..	..	..	..	195
Muslims	..	..	..	..	38
Others	..	..	..	..	5

In addition to forest villagers the staff shown below was engaged in the work of administration of the forests of the District:—

Darjeeling Division:—1 gazetted officer, 7 forest rangers (3 hillmen), 5 deputy rangers (4 hillmen), 10 foresters (6 hillmen), 8 clerks and 70 forest guards (70 hillmen).

Kurseong Division:—4 gazetted officers, 6 forest rangers, 5 deputy rangers, 11 foresters (2 hillmen), 7 clerks (1 hillman) and 46 forest guards (40 hillmen).

Kalimpong Division:—6 forest rangers (1 hillman), 5 deputy rangers (3 hillmen), 10 foresters (1 hillman), 110 forest guards and others (90 hillmen).

The total revenue and expenditure in the three Divisions for certain years is shown in the table below:—

			Total revenue.	Total expenditure.
			Rs.	Rs.
1925-26	..	..	4,91,000	3,18,500
1930-31	..	..	4,54,000	3,97,500
1935-36	..	..	4,28,500	3,79,500
1940-41	..	..	4,21,500	3,22,500
1941-42	..	..	5,84,000	3,88,000

Receipts for 1942-43 totalled Rs. 9,49,500.

The forests of Darjeeling Division occupy generally the tops of the main ridges in the northern part of the district west of the Tista river and two strips along the banks of the Great Rangit and Tista rivers on the lower slopes of the steep hills rising from those rivers. The area is bounded by the Tista river to the east, the Nepal boundary to the west, the Sikkim boundary to the north and the Kurseong Forest Division to the south. The Division extends from an elevation of 600 feet in the Tista valley to about 12,000 feet at Sandakphu. The ground is usually steep and often precipitous and is seamed with deep gorges and rapid mountain torrents.

The forests form in whole, or in part, the watersheds of the following main rivers:—

- (a) The Rammam river, which joins the Great Rangit above Singla Bazar.
- (b) The Little Rangit which joins the Great Rangit below Singla Bazar.
- (c) The Balasan which joins the Mahanadi near Siliguri.

There are numerous streams forming tributaries to the above and to the Great Rangit and Tista rivers.

The only additions to the reserved forest during the last 20 years have been (i) the Simlijhora forest of 56 acres at the head waters of the Simlijhora stream in the Tista Valley, (ii) the Lopchu Extension forest of 53 acres at the source of Lopchu Khola, (iii) the Pumong Extension forest of 131 acres at the source of the Pumong Khola and (iv) the Rambhi Extension forest of 51 acres adjoining the Cinchona area. The total area of the forests included in the Darjeeling Division at present is 72,788 acres.

When this forest Division was created its total area was 67,633 acres. The present area is 71,951 acres including 58 acres added during the last 20 years. There has been no addition since 1926.

The Kurseong Division.

The forests lie in the plains and on the lower hills of the Darjeeling District between the rivers Mechi on the west and Tista on the east. They occupy parts of the three civil subdivisions of Kalimpong, Siliguri and Kurseong. The Birik block situated at the junction of the Riang Khola with the Tista forms the north-eastern boundary of the Division and is in the Kalimpong civil subdivision; other hill blocks that range along the Tista, the Lohargarh hill and the whole of the plains forests are within the Siliguri civil subdivision; the rest of the forests lie in the Kurseong civil subdivision.

The Kalimpong Forest Division lies wholly within the civil subdivision of Kalimpong and in the part of the Darjeeling District which is east of the Tista river.

Kalimpong Division.

The total area of the Kalimpong Subdivision is 412 square miles and Reserved Forests in it occupy an area of 210 square miles. The forests lie in a belt along the left bank of the Tista river and along the northern boundary of the Jalpaiguri District where they descend to 300 feet elevation and they also occupy the greater part of the higher ground of the subdivision, i.e., those parts which range from 5,000 to 10,300 feet in elevation.

The areas of Reserved Forest in the District are approximately:—

				Acres.
Darjeeling Division	..	..	..	73,000
Kurseong Division	..	..	..	72,000
Kalimpong Division	..	..	..	1,35,000
				<hr/>
			Total	2,80,000
				<hr/>

or about 437 square miles.

Climate and altitude have an important effect on the distribution of species of trees. There is a great variation in

The Forest Crop.

elevation from about 200 feet above sea-level in the Terai to about 12,000 feet at Sandakphu in the Darjeeling Division. This gives rise to a large number of botanical species.

In the Terai, the foothills and the Tista valley, almost tropical conditions prevail and temperatures range from 45°F. to 99°F. Frosts, fogs and hailstorms are frequent at higher elevations. Rainfall is heavy generally and ranges from about 130 inches in the Terai to over 200 inches at Kurseong and the lower foothills. Further back in the hills, rainfall is not so heavy and may be locally below 100 inches. It is heaviest from April to the middle of October. At the higher altitudes heavy moist fogs are common throughout the year and

high wind is rare: frost occurs in the hills during the cold weather particularly on northern slopes or in valleys sheltered from the sun's rays by surrounding hills. Snow occurs on the upper reaches of the Singalila ridge and rarely lies for more than a few hours at elevations below 8,000 feet.

Variations in rainfall are considerable even in comparatively small areas and cause noticeable effects on distribution of species. Thus in the Darjeeling Division at Badamtam in the Rangit valley the rainfall is low and pine (*Pinus longifolia*) occurs: and at Rammam where rainfall is less than further east hemlock (*Tsuga brunoniana*) finds its optimum conditions whereas it is absent at the same elevation in the Ghum Simana Range.

The forests of the District can be divided into five classes:—

- (1) the plains forests,
- (2) the lower hill forests up to 3,000 feet altitude,
- (3) the middle hill forests from 3,000 to 6,000 feet altitude,
- (4) the upper hill forests from 6,000 to 9,000 feet altitude and
- (5) the conifer and rhododendron forests.

The plains forests:—The soil near big rivers in the plains is sandy and gradually changes to deep loam. The main species which grow on the sandy soil are Khair (*Acacia Catechu*) and Sissoo (*Dalbergia sissoo*) while Sal (*Shorea robusta*) with miscellaneous associates occupies the loam. Intermediate to these are commonly found the Simul (*Bombax malabaricum*), Siris (*Albizzia species*), Toon (*Cedrela toona*) and Gamari (*Gmelina arborea*). Where the water table is high and the drainage bad, the wet-mixed type of forest is found of which the main species are Champ (*Michelia champaca*) and Malagiri (*Cinnamomum cecidodaphne*). On the high alluvium near the foothills where the soil is dry, a dry mixed type of forest occurs, the principal species of which are Sal, Paccasaj (*Terminalia crenulata*) and various deciduous associates.

The Lower Hill Forests:—In the Darjeeling Division, Sal occurs on ridges and slopes other than those with northerly aspects. In many parts it is gregarious but usually it is stunted and of poor growth with trees of all age classes present. Sal is found also in mixture elsewhere with a large number of miscellaneous species of which Paccasaj, Chilauni (*Schima wallichii*), Toon and Chikrassi (*Chukrasia tabularis*) are the more valuable. In pockets or in northerly aspects the forest crop is varied in character, the chief species being Champ, Panisaj (*Terminalia myrocarpa*), Gokul (*Ailanthus grandis*), Simul, Lampati (*Duabanga sonneratioides*), Mainakath (*Tetrameles nudiflora*), Gamari, Mandani (*Acrocarpus fraxinifolius*) and Kadam (*Anthocephalus kadamba*) as well as the species mentioned above as in mixture with Sal.

In Badamtam in the Rangit valley, Pine (*Pinus longifolia*) is found in fair quantity. This is the only locality in Bengal where pine occurs naturally.

The undergrowth consists of numerous herbaceous annuals and shrubs. Tama bamboo (*Dendrocalamus hamiltonii*) grows extensively except on the driest slopes and forms almost pure bamboo forest in the moister areas. The area abounds in climbers which do considerable damage to trees. The more common ones are Gurjo lahara (*Tinospora cordifolia*), Debre lahara (*Spatholobus roxburghii*), Bhorla (*Bauhinia vahlii*), Kurkus (*Millettia pachycarpa*) and Kaochu (*Mucuna pruriens*). Plantations of Sal, Toon, Panisaj, Chikrassi, Lampati and recently Teak (*Tectona grandis*) have been formed in this zone.

In the Kurseong Division Sal grows pure or mixed with other deciduous species on ridges and on southern and eastern slopes of moderate gradient. Steep slopes are occupied by its deciduous associates the chief of which are Paccasaj, Chilauni, Maina, Simul, Karam (*Adina cordiflora*), Gamari, Harra (*Terminalia chebula*), Barrah (*Terminalia balarica*), Kimbu (*Morus laevigata*) and Amla (*Phyllanthus emblica*). Sal is not found much over 2,500 feet altitude. Moist land is occupied mainly by Lampati, Mandani, Toon (*Cedrela microcarpa*), Champ, Panisaj, Malagiri, Gokul, Katus (*Castanopsis species*), Angare (*Phœbe hainesiana*) and Tejpat (*Cinnamomum tamala*).

In the Kalimpong Division Sal is generally gregarious and occurs on well drained slopes and ridges in the western and southern forests but owing to geological causes it does not occur east of the Chel river. Common and important species in this zone include Paccasaj (*Terminalia tomentosa*), Panisaj, Barrah, Dabdabe (*Garuga pinnata*), Gamari, Oodal (*Sterculia villosa*), Chilauni, Hatipaila (*Pterospermum acerifolium*), Kimbu, Toon, Lampati, Tanki (*Bauhinia purpurea*), Kadam, Lali (*Amoora wallichii*) and Amboke (*Eugenia kurzii*). Considerable areas are covered with the Tama bamboo. Common species in the undergrowth are *Phlogacanthus thyrsiflorus*, *Dædalacanthus nervosus*, *Holmskioldia sanguinea*, *Tabernaemontana coronaria*, *Jasminum* species and various kinds of thorny climbers. The weeds *Eupatorium odoratum* and *Croton caudatus* invade waste places and where there is a break in the canopy.

In the damper localities towards the eastern boundary of the District, Panisaj, Angare, Champ and Nageswar (*Mesua ferrea*) are common while in the riverain forests, i.e., in the sandy beds of the Lish, Chel and their tributaries, Siris (*Albizia procera* and *odoratissima*), Khair (*Acacia catechu*) and Sissoo (*Dalbergia sissoo*) grow among the Kushila grass (*Saccharum imperatum*).

The Middle Hill Forests:—Forests of this zone are limited in extent in the Darjeeling Division. The chief species which occur here are the Alder or Utis (*Alnus nepalensis*), Walnut (*Juglans regia*), Birch or Saur (*Betula alnoides*), Pipli (*Bucklandia populonea*), Angare (*Phœbe species*), Mahwa (*Engelhardtia species*), Lekh toon (*Cedrela febrifuga*), species of Oaks (*Quercus*) and of Spanish Chestnut (*Castanopsis*) and Chilauni (*Schima wallichii*). Undergrowth is not heavy in this

zone and consists of numerous herbs and shrubs. In certain areas the small Pheling bamboo (*Pseudostachyum polymorphum*) is found. Plantations consist mainly of Panisaj, Toon, Pipli and Walnut.

In the Kurseong Division the main species are Lekh toon, Panisaj, Chilauni, Lampati, Saur (*Betula species*), Kimbu, Angare (*Phæbe attenuata*), Sinkoli (*Cinnamomum species*), Malagiri, Mandani, Siris (*Albizzia species*), Mahwa (*Engelhardtia spicata*) and Champ (*Michelia species*).

In the Kalimpong Division the upper limit of Sal is at 3,000 to 3,500 feet altitude. The number of species is fewer than at the lower altitudes, the principal being Chilauni, Katus (*Castanopsis tribuloides* and *Hysterix*), Mahwa, Panisaj and often in gregarious patches Utis and Saur (*Betula cylindrostachys*).

Large climbers festooning the forests occur naturally in this and the zones below and above.

The Upper Hill Forests:—The greater part of the Darjeeling Division falls in this zone which here is characterised by a rather over-mature stand of oaks, magnolias and laurels. The species are numerous but the following occur in quantity:—The Oaks, Buk (*Quercus lamellosa*), Phalat (*Quercus lineata*) and Sungrekatus (*Quercus pachyphylla*), the chestnut, Katus (*Castanopsis hystrix*), Kawlas (*Machilus species*), Champs (*Michelia species*), Ghoge Champ (*Magnolia campbellii*), Sinkoli (*Cinnamomum species*) and Maple, Kapasi (*Acer species*). Of the lesser species, Khanakpa (*Evoidia species*), Jhingani (*Eurya japonica*) and Kharani (*Symplocos species*) are worth mention. The trees are stag-headed and covered with moss and lichens: the general appearance of the crop is poor. Undergrowth is dense and contains many nettles, raspberries, ferns and bamboos. Plantations in this zone are extensive and consist mainly of Dhupi (*Cryptomeria japonica*) introduced from Japan in the late 19th century, Utis, Pipli, Champ and the Oaks.

In the Kurseong Division, Saur (*Betula species*) is the only valuable indigenous species growing in the lower part of the zone. Toon (*Cedrela species*), Panisaj and Kimbu are found in small quantities. Certain parts of the zone suit Walnut and Pipli. In the upper part, the principal valuable species are Buk, Phalat, Champ (*Michelia excelsa*), Lalikawla (*Machilus odoratissima*), Pipli and Lekh toon. Undergrowth is mainly of Rubus, Strobilanthes, bamboos and ferns. Lichens cover the boles and branches of trees.

In the Kalimpong Division Katus (*Castanopsis species*) becomes more common as one rises through the zone. Other species such as Tite Champ (*Michelia Cathcartii*), Malata (*Macaranga pustulata*), Tarsing (*Beildschmiedia sikkimensis*) appear and gradually give place to Kaola (*Machilus gammieana*), Pahale (*Litsea elongata* and *latifolia*), the Oaks (*Quercus lamellosa*, *lineata* and *pachyphylla*), Champ (*Michelia excelsa*), Kapashi (*Acer campbellii*) and Kharani

(*Symplocos thaefolia*). A few walnut trees are found. The commonest undergrowths are the small bamboo (*Arundinaria racemosa*), wild raspberries and various species of *Strobilanthes*.

The Conifer and Rhododendron Forests:—This zone does not exist in the Kurseong Division. In the Darjeeling Division it contains bamboos, chiefly Maling (*Arundinaria racemosa*). They occur either as a pure crop or as an understory to the high forest. The greater part of this zone in the Darjeeling Division suffered badly from serious fires in 1876, 1879, 1882, 1903, 1909 and 1939. Charred and blackened stems of trees towering above pure bamboo areas still indicate how well stocked the tree species were in the past and how invasive is the growth of bamboos as the tree forest is destroyed. The present forests contain chiefly dwarf bamboos, rhododendrons or conifers with patches of high elevation Oak (*Quercus pachyphylla*), Maple (*Acer species*) and Ghoge Champ (*Magnolia campbellii*) mostly towards the lower limit. Of the conifers *Taxus*, Dhengre salla (*Taxus baccata*) occurs at the higher elevations in the Tanglu range; but further towards the Phalut-Rammam ridge, *Taxus* is replaced to a great extent by Hemlock, Tengre salla (*Tsuga brunoniana*) between 8,000 and 9,500 feet elevations and these merge into Silver fir, Gobre salla (*Abies densa*) higher up with rhododendrons and high elevation Birch, Saur (*Betula utilis*). Rhododendrons form pure forest at the upper limits. Pasture land is found on the Nepal-Bengal boundary which has been kept clear of forest.

There is a small area of the Kalimpong Division over 8,500 feet altitude. In it occur patches of conifers, the principal species being Tengre salla (*Tsuga brunoniana*) and Dhengre salla (*Taxus baccata*). Above 9,000 feet the ground is almost entirely covered with the Maling bamboo: but there are occasional patches of rhododendron forest (*R. arboreum*, *grande* and *Falconeri*).

From the beginning, the forests of the Darjeeling Division have been used mainly to meet the local demands. Tea estates consume large quantities of firewood as well as some timber for box-planking. The town of Darjeeling and the cantonments of Jalapahar and Lebong require large supplies of firewood and charcoal and a certain amount of timber for constructional purposes. Khas Mahal tenants take little timber and firewood from Reserved Forests as most of their demand can still be met from Khas Mahal Forests. Fodder however is in great demand throughout the Division. Professional graziers are allowed to pasture their cattle on the Singalila range and part of the Tanglu range. In other areas stall feeding in *bathans* is the rule. Large quantities of bamboos are used for making mats and baskets. The demand for firewood and charcoal increased by more than 400 per cent. above normal after the commencement of the war with Japan: this was due to the extra visitor populations and to increased output of tea gardens at a time when coal supply was short. A small export of sal timber from the Tista valley represents the only part of the produce of this Division

Utilisation.

not consumed locally. The yield of revenue from different kinds of forest produce from this Division is shown in the table below:—

	Sal timber.	Box-planking timber.	Other timber.	Firewood.	Fodder and minor produce.
	Rs.	Rs.	Rs.	Rs.	Rs.
1925-26 ..	30,994	55,775	80,800	10,07,115	11,592
1930-31 ..	23,600	10,281	1,86,313	17,01,130	16,274
1935-36 ..	22,896	6,670	73,240	10,68,047	17,573
1940-41 ..	25,840	60,358	80,059	13,68,767	17,218
1941-42 ..	16,290	43,043	99,363	14,14,250	15,995
1942-43 ..	9,531	25,145	1,29,488	22,16,665	13,948

In normal years Kurseong in the hills and Siliguri in the plains are the main markets for the produce of the forests of the Kurseong Division. Matigara and Naxalbari in the Terai also take some quantities of plough pieces, rice-pounders, sal poles and other timber scantlings. Export of sal poles takes place by cart to Kishanganj and of sal and other logs and scantlings by rail from Siliguri. During the war local consumption was reduced as the forests were worked departmentally for the supply of timber for war purposes. The yield of revenue from different kinds of forest produce from this Division is shown below:—

	Timber.	Firewood.	Minor produce.
	Rs.	Rs.	Rs.
1925-26 ..	2,39,220	15,616	7,653
1930-31 ..	1,62,575	34,495	18,505
1935-36 ..	2,07,211	18,134	13,771
1940-41 ..	2,60,548	28,787	15,345
1941-42 ..	3,37,028	25,240	13,817
1942-43 ..	5,11,152	31,257	9,565

For many years after the Kalimpong Division Forests were reserved, the produce available was far above local requirements. The tree wastes outside the reserves were then more than sufficient for local needs and as the reserved forests were almost inaccessible to outsiders, very little timber or firewood could be sold from them. But later the construction of the Tista Valley Cart Road supplied a means of extracting sal from the forests on the left bank of the Tista while the development of the tea industry in the Jalpaiguri District accompanying the destruction of the outside forests gave rise to a demand for forest produce from the southern part of the Division. Further improvements in communications have facilitated extraction: there are now 58 miles of cart road and 100 miles of bridle paths in the forests of the Division. Recent improvements are the construction of a cart road from Rissisum to Labha 8 miles in length and the bridging of the Tista near Riyang with a suspension bridge 459 feet long. The high level and intermediate forests are however still practically unworkable. Their reservation is justified by the need for preventing erosion on a large scale and for safeguarding supplies of water for

springs and the water-supply of Kalimpong town. Existing trees are being preserved to meet future demand when the country develops further and improved communications will make extraction profitable.

At present, local demand absorbs a very small part of the produce available. Firewood, charcoal and a little building timber for the town of Kalimpong, some timber for orange boxes, bamboos, thatch, houseposts for villagers' houses and some fodder for cattle sums up local consumption. In normal years export consisted mainly of firewood for tea gardens in the adjoining Jalpaiguri District, of timber for their buildings and tea packing and of sal timber for sleepers and house building in North Bengal. The war created a large demand for timber of all kinds while the difficulty of obtaining coal during the war caused the demand of tea gardens for firewood to rise steeply.

The yield of revenue from different kinds of forest produce from this Division is shown below:—

			Timber.	Firewood.	Minor produce.
			Rs.	Rs.	Rs.
1925-26	..	..	84,455	25,391	16,208
1930-31	..	..	66,510	22,697	22,412
1935-36	..	..	47,174	15,779	17,690
1940-41	..	..	59,848	19,135	20,110
1941-42	..	..	56,648	18,310	17,917
1942-43	..	..	1,82,141	43,604	18,052

Up to 1892 the forests of the Darjeeling Division were worked in a desultory fashion for timber and firewood. Permits were issued with a fixed price per tree and the permit-holder selected and removed the best trees in the forest. Hollow or defective trees, which should have been removed on silvicultural grounds, were allowed to accumulate in the forest. This is the main reason for the present poor condition of the crop.

**Silviculture
and Forest
Management.**

The first regular working plan was prepared by Manson and came into effect from 1892-93. It prescribed a rotation of 160 years in five periods of 32 years. The forest was also divided into five Periodic blocks; the first or regeneration Periodic block and the fifth were closed to grazing. Periodic block I was to be regenerated by taking out half the crop over one-sixteenth of the area annually. The remainder was to be left as a shelter wood over the young crop which, it was anticipated, would consist of natural seedlings supplemented by sowing and planting. The shelter-wood was to be removed later in a final felling.

Revision of this plan was undertaken by Osmaston 11 years later. The shelter-wood was removed in a final felling from the 10 original coupes and no new regeneration fellings were undertaken. The final fellings were followed by planting and dibbling to complete the regeneration. By 1912, 10 out of the 16 coupes of Periodic block I were fairly successfully regenerated and these plantations are still an outstanding feature of the hills. The chief defect in Manson's plan was that only about a third of the original crop was removed in the

regeneration felling and the removal of the remaining two-thirds caused a lot of damage to the young crop. Also the coupes were laid out in long strips straight down the hill-side which became, on that account, liable to landslips and inconvenient to inspect. In 1912 Grieve's plan was introduced with the main object of avoiding the second felling which had in many cases destroyed the regeneration established after the first felling. This plan excluded all areas open to grazing as unworkable and included all regeneration areas under a "Plantation Working Circle". The remainder was divided into High Forest and Coppice Working Circles, the latter to be worked on a 30 years' rotation for the supply of firewood to tea gardens. For the High Forest a modified selection system was adopted with a rotation of 150 years and a felling cycle of 25 years. During the felling cycle half the trees over 2 feet in diameter were to be removed in groups utilising advance growths as foci and supplementing them by planting where necessary. But the exploitable trees were by no means evenly distributed and natural reproduction did not extend as expected. The groups actually became clear felling in patches all of which had to be planted up. They have thus for the most part now become promising plantations.

The next working plan was prepared by Baker in 1921 and the clear felling followed by *taungya* planting recommended by him has been followed since 1921 in the three Divisions in this District in all areas below 7,500 feet where ground is not too precipitous. As it has produced most of the fine young plantations to be seen in the hills it is described in detail.

It is a technique of clear felling and artificial regeneration under which patches of forest are clear felled of all trees and regenerated by sowing and planting valuable forest trees in combination with the cultivation of field crops. Each year some blocks of forest are marked out for clearing. When the timber and firewood have been removed, cultivators are invited to come into these areas. These men clear the land, burning off the small wood, hoe the ground and cultivate it with crops, usually maize or millets. No rent is paid by them but in return for the crop which is usually abundant owing to the richness of the forest soil, they plant forest trees among the crop, the area being kept well weeded for the sake of their crops. This is done either free of cost or in return for a small reward. Next year the area is again cultivated with field crops and vacancies among the forest trees are filled up but by the third year the forest plants have usually grown so big that there is not enough space for cultivation between them. As new coupes are felled each year, the villagers can always move on to a fresh site and while they get a free use of land for cultivation, the forest is regenerated at a low cost. The new forest consists mainly of those species which are most valuable.

The latest practice in silviculture is to restrict clear felling to contour strips 3 chains wide and to keep shelter belts as wind brakes on ridges.

The history of forest management in the Kurseong and Kalimpong Divisions is much the same. Up to the end of 1942, the *taungya* system had resulted in the artificial regeneration of 8,463 acres of forest in Kalimpong. In the Kurseong Division early management was mainly directed to the exploitation of sal. Immediately after reservation, sal trees were sold for sleepers to purchasers on the monopoly system with the result that all big sal trees above 5 feet in girth disappeared from accessible areas. Thereafter felling was directly controlled by the Department. There was however no restriction on felling of *kukat* trees. The only attention given to silviculture was to try to fill up blanks by sowing or planting. Later fire protection and climber cutting in sal areas, as well as thinning out species interfering with sal, was practised. Gradually more effective working plans were adopted and in 1929-30 a plan was introduced based in the plains and hills on clear felling and subsequent planting and in the hill sal forests on selection felling. Appreciable areas in the Bamanpokri block have been planted up with teak.

Areas planted in the Kurseong Division amounted to 7,164 acres at the end of 1942. 1,991 acres had been planted up before 1923. From 1923 to 1931 the regular method of plantation was continued as well as the *taungya* method and the total areas planted up annually varied from 150 to 300 acres. After 1931 the *taungya* method only was followed and the annual areas planted varied from 200 to 375 acres.

One result of forest management during the last 60 years has been a change in the scenery of those parts of the forests which have been exploited and where regeneration has been carried on artificially. Large ancient trees and thick lianas climbing from tree to tree can no more be seen. Species which were common to a locality 20 years ago have, in some areas, all but completely disappeared and, in place of a mixed wood of various ages and sizes, one finds crops of even age and far fewer species some of which, such as teak and *cryptomeria japonica*, are exotic to the district while others, although indigenous, were comparatively little known before. In other places, as in some of the flats at the foot of the hills such as the Mal block, what used to be mainly a mass of creepers is now a thick forest growth which annually yields as much as 4,000 cubic feet of firewood per acre for tea estates. The capital value of forest property has thus immensely increased.

Extraction from the upper hill and much of the middle hill forests has proved impossible, but these forests serve a very important purpose in conserving the soil locally and preventing fertility deteriorating in the plains. On this subject the Divisional Forest Officer, Darjeeling, makes the following observations:—

Erosion.

“Apart from supplying local needs for forest produce, the forests in the Darjeeling hills have a very great indirect effect

on the people of lower Bengal. No year passes without landslips occurring to a greater or smaller extent in these hills. They would have been far more numerous and serious if the hills were completely laid bare of trees. The trees in the forest not only cover the soil and hold the force of the torrential rain but their roots bind the soil and keep it porous thus allowing the droppings from the crown slowly to percolate and feed the springs continuously. Where there are no trees, rain water strikes the ground directly and quickly rushes down the slope. The soil gets hardened, the springs cannot be fed due to lack of seepage and consequently dry up as soon the rains are over. The streams in the neighbourhood are flooded after rain and become altogether dry once the rainy season is over. The surface soil from the cultivated slopes and from the landslips is carried down by rain water and deposited as a fine paste choking all the pores in the bed of the river. In course of time seepage is practically stopped and as further detritus is deposited, the bed of the river begins to rise and the volume of water that used to flow down the channel then overflows the banks causing great damage to cultivation. Further, when the rains are over, the river becomes dry and unnavigable and the country unhealthy. Though the wood-cutter on the hill hardly realises the effect of felling trees and laying bare the hill slopes, people hundreds of miles below suffer hardship. It is a great pity that the indirect effect of the existence of forests was not appreciated in olden days and instead of creating reserves on the hill tops and laying bare the whole hill down below, a more even distribution of the forest was not aimed at to prevent soil erosion and its deleterious effect on the rivers of Bengal. The real measure of the importance of the hill forests should always be in terms of their effect on water-supply to the springs and on their prevention of soil erosion."

The Divisional Forest Officer, Kalimpong, states:

"The dangers of soil erosion are becoming more and more evident in those parts of the Kalimpong Khas Mahal which have been given over to cultivation. Partly owing to the steepness of the ground and partly owing to the geological nature of the underlying rock round about Kalimpong town and in the catchments of the Rilli, the Lish, the Chel and their tributaries, erosion is liable to occur here to a greater extent than in other parts of the District. Where the forest has been cleared away in the course of the last 80 years, the protective covering of the deep soil which was the legacy of the primeval forest has now all been washed away, sheet erosion is rapidly taking place and in many places, gullies and landslides have started so that the evils of erosion, at first insidious, are now forcing themselves upon men's attention. It is a more serious matter than is commonly recognised because the problem affects not only the few cultivators

of the actual site of the erosion but also thousands of people in well populated districts such as Dacca and Mymensingh which are served by the rivers of which these hills are the catchments.

No comprehensive scheme for taking protective measures against erosion in these areas has yet materialised but one or two small areas have been made over to the Forest Department for protection and afforestation. One such area is the Dalapchan slip. Landslides have been going on here for several years to such an extent that they were costing Government some thousands of rupees per year in repairs to an important road. In 1940 an area of 188 acres here was made over to the Forest Department for reafforestation. In 1942 some small areas of unstable land in the Kalimpong Development Area ranging from less than one acre to 40 acres each and totalling 173 acres were similarly made over to the Forest Department for protection by afforestation.

The presence of large trees does not necessarily provide protection against erosion. Indeed a forest consisting of large trees only with no undergrowth and little soil may actually help erosion by guiding the rainfall along definite channels.

The principal protection is found in the deep and spongy forest soil which results from the decomposition, through centuries, of the leaves, twigs, roots, dead branches and stems of the vegetation, both large and small, of the herbs and shrubs of the undergrowths no less than of the big trees. When rainwater falls on a forest, the force of the water is broken, first by the crowns of the trees and then by the litter on the ground. This prevents the raindrops from beating the soil particles into suspension and clogging the pores and reducing percolation. The water, therefore, instead of being washed away along the surface of the ground, largely enters the soil through infiltration. The spongy soil, again, holds back the greater part of the water only allowing it to pass through in small quantities at a time. This is the reason why the catchment areas of the water-supply in hill stations are kept well wooded. Had this not been done, the rain water would have run off soon after it fell and there would be no water available in the dry season. The presence of the forest ensures a perennial supply. On the other hand, where deforestation has taken place, the soil, perhaps loosened by cultivation, is gradually carried off by rain and sheet-erosion begins. The next layer of soil is less absorbent, the amount of run off increases and the rate of erosion is accelerated. Little by little, the top cover disappears and there being no soil to hold the rainfall, it is immediately carried down into streams and rivers, swelling the rivers into floods perhaps hundreds of miles from the site of the rainfall.

It is an unfortunate fact that although the destruction of a forest and of the resultant soilcovering can be brought about

comparatively easily and quickly, the re-establishment of a forest on such eroded land and the formation of a depth of soil sufficient to give adequate protection must take many years to accomplish."

Fire. Damage to forests by fire is negligible except in the high forest of the Darjeeling Division. As protection, a wide fire line is cleared and maintained on the Nepal frontier. Special grounds have been prepared for camping and picnicking with the same object.

Grazing. In regard to grazing in the reserved forests of the District, the policy of Government is to permit it as far as it does not damage the forests. The following summary of the grazing rules published in the *Calcutta Gazette* which are applicable to the Kalimpong Division will give an indication of how grazing is controlled.

In the Lower Forests grazing is only allowed on monthly permits issued by the Range Officer at rates fixed by the Conservator. The areas for which these monthly permits can be issued are fixed annually.

Grazing in the Upper Forests is reserved permanently for tenants of Government who are required to take out a pass quarterly paying four annas for every buffalo, two annas for every bullock, cow or pony and one anna for a sheep or goat. These rates can be modified by the Conservator and other rates can be fixed by him for those who are not Government tenants. Block Mandals are allowed permits for free grazing for their own cattle. At least one-half of the areas of the Upper Forest is always available for grazing. Grazing camps also (*bathans*) can be established with the permission of the Divisional Forest Officer. Occupiers of *bathans* are required to establish nurseries for the replanting of trees. Cattle in *bathans* are stall-fed but have an open fenced-in area in which they can exercise.

Game. An account of the animals, birds, fish and insects of the District (most of which are found in the forests) will be found in Chapter I. Rights of shooting and fishing in the Reserved Forests of the District are leased to the Darjeeling Shooting and Fishing Club which has about 120 members and employs guards to prevent poaching. It has not been very successful in this but probably the efforts of the Club have some effect in preventing poaching and breaches of the law protecting wild animals, birds and fish. Attempts by the Club to breed pheasants and introduce brown trout failed.

CHAPTER VIII.

CINCHONA.

The original home of cinchona was in the north-western part of South America, chiefly Bolivia and Peru. The antipyretic properties of its bark were probably known to the Jesuit missionaries in those countries but its introduction into Europe in 1639 is ascribed to the Countess of Chinchon, wife of the Spanish Viceroy of Peru. Quinine, the essential principle of cinchona, was isolated in France in 1820 and the indiscriminate exploitation of the South American forests which followed led to the fear, later justified, of an early exhaustion of the natural sources of supply. Attempts were accordingly made to organise the cultivation of cinchona as the only means of ensuring continuity of supplies. A Dutch expedition to South America in 1853 under Hass Karl resulted in the introduction of plants and seed into Java, while the fruits of a British expedition under Clements Markham in 1859 formed the basis of Indian plantations. For a long time the Dutch and Indian plantations have provided the only supplies of cinchona, but within the last two decades its cultivation has also been undertaken in a number of other countries the chief of which are East Africa, Central America, Malaya, Australia, New Zealand, French Indo-China and Korea. The Russian experiment with cinchona as an annual crop in the Caucasus region is an interesting development.

The bulk of the material from the Markham expedition was taken to Ootacamund in the Nilgiris, where McIvor with great zeal and energy set about the formation of a cinchona plantation. In Bengal the cultivation of this exotic species was entrusted to Dr. Anderson, then Superintendent of the Royal Botanic Garden, Calcutta, to whose labours, technical ability and judgment the success of the present plantations is largely due. In 1861 he was deputed to Java to study the methods adopted by the Dutch. He returned with a large number of healthy plants, some of which were retained for Bengal, the rest being sent to Ootacamund. In the meantime plants were raised in Calcutta from seed supplied by the Royal Botanic Gardens, Kew. The Bengal experiment started with plants from Java, from Ootacamund and a few from the Calcutta gardens. The first nurseries were tried at Senchal where, however, the climate proved too rigorous and the plants had to be transferred to a milder climate at Lebong. There they thrived and a suitable location for a permanent plantation was found at Rungbee on a spur projecting from Senchal in a southeasterly direction. Between 1861 and 1869 the main preoccupation was with scientific and technical problems connected with the propagation and after-care of the plants. The initial difficulties overcome, the plantation grew and small harvests of bark began to come in from the year 1869-70. The plantation started with five species of cinchona: *succirubra*, *officinalis*, *panudiana*, *micrantha* and *calisaya*.

At first *succirubra* established itself as the most suitable species and this was the variety officially encouraged in Bengal, while in Java the Dutch were rapidly developing as the best yielder of quinine the "*calisaya*" and more especially a variety of it called the *ledgeriana*. Subsequent experience established *ledgeriana* also as a very suitable species for Bengal but *succirubra* held the field until some time between 1880 and 1890 when more attention was given to quinine as the best of the alkaloid drugs and to *ledgeriana* as the best source of quinine, in preference to "cinchona febrifuge" a mixture of all the alkaloids of the cinchona bark for which *succirubra* was considered to be the more profitable source. At present the Bengal plantations concentrate mainly on *ledgeriana* together with a small proportion of a hybrid of *ledgeriana* and *succirubra* which was obtained by the crossing of the two species about the year 1900. In the Nilgiri Hills and other parts of Madras they have not been so successful with *ledgeriana*, the species mainly cultivated being *robusta*, *officinalis* and *succirubra*. *Robusta* is a good yielder specially adapted to higher elevations and its introduction into Bengal a few years ago has given results of good promise.

The plantation at Rungbee was gradually extended over the whole ridge lying between the Rungbee (or Rongjo) and the Riyang valleys. In 1887 an area at Sittong on an adjoining ridge to the south of the Riyang valley was taken in. These two ridges now constitute the Mangpu plantation with a total area of 12,000 acres and a standing crop of 4,000 acres. In 1883 a plantation of 300 acres was started in the Rungjong valley but the rainfall proved too heavy and the plantation was abandoned in 1896. A plantation of 500 acres at Nimbong in the same tract was purchased in 1893 from the Bhutia Cinchona Association and was given up by 1889 after complete extraction of the standing crop. About the same time another standing crop of about 170,000 lbs. just across the Rungbee valley and to its north was purchased from the Darjeeling Tea and Cinchona Association. Records also show purchases of bark from private planters in Sikkim about the same time. The cultivation of cinchona by private estates in the Darjeeling district was made possible through direct State encouragement by way of supply of seed and seedlings at nominal rates. Private enterprise did not however continue for long, having proved uneconomical owing to a temporary slump in bark prices. But Government pursued a policy of extended cultivation of cinchona as needed for the public welfare and in 1900 a new plantation was started at Munsong then under Reserved Forest. This plantation now occupies a total area of 8,000 acres with about 3,500 acres under cinchona. In 1938 a third plantation was opened in the Rongo block of the Kalimpong Forest Division where it is expected that a total area of 1,600 acres will be ultimately under cinchona, 400 acres having already been planted up by the end of 1943-44. A fourth plantation has just been started in the Latpanchor group of blocks in the Kurseong Forest Division. For the present Government are aiming to reach an annual production of 100,000 lbs. quinine

within the next few years. This would correspond to an annual harvest of 2,500,000 lbs. of bark. The average yearly harvests of bark in the past have been approximately as follows:—

		Average annual harvest.	
		lbs.	
1869-70	to 1878-79	.. ..	113,000
1879-80	to 1888-89	.. ..	321,000
1889-90	to 1898-99	.. ..	518,000
1899-1900	to 1908-09	.. ..	533,000
1909-10	to 1918-19	.. ..	565,000
1919-20	to 1928-29	.. ..	646,000
1929-30	to 1938-39	.. ..	1,200,000
Current		.. ..	1,700,000

The first product to be manufactured in Bengal was a mixture of all the alkaloids of cinchona to which was given the name of cinchona febrifuge. The first year's output of 48 lbs. was obtained in 1874-75 and, after successful clinical trials, Government authorised its issue to the public in 1876-77. The method of manufacture was simple, consisting of extraction of the active principles of the bark by means of an acid and their subsequent precipitation from the extract by means of an alkali. The factory equipment was not elaborate and production capacity was small. In the 14 years between 1874 and 1887 (the year quinine was first produced at the factory) the total output of cinchona febrifuge was only 82,023 lbs. giving a yearly average of 5,858 lbs. The credit of developing a process for the manufacture of quinine similar to that used in Europe, without information of the details of the European method, is due to Mr. Wood, former Quinologist, and to Mr. Gammie, Deputy Superintendent of the plantations. In the first year 1887, the production of quinine was 331 lbs., the next year it rose to 2,000 lbs. The 10,000 lbs. limit was reached by 1895-96 while in another 10 years the capacity rose to 16,000 lbs. Thereafter followed a sudden jump to 27,000 lbs. as a result of the installation, in 1907, of new plant and machinery. There have been no major alterations to the factory or changes in the method of manufacture since. But with the help, from time to time, of small additions to plant and machinery and minor adaptations in process, production capacity has now been raised to 70,000 lbs. per year, an increase which has proved invaluable during the war.

Up to the end of the last century a part of the bark was extracted to give cinchona febrifuge alone and a part to give both that product and quinine; but the entire available supplies of bark are now extracted by a standard alkali process in which quinine sulphate is obtained as the primary product and cinchona febrifuge as a by-product. Both in the variety of products and in their quality the factory at Mangpu has made rapid strides in the last decade, the number of different products issued being over 32.

In the early days cinchona was propagated mainly from cuttings but, both in the Bengal plantations and in Madras, it is now propagated from seed. In Java grafting is known to be the more common

method but has not been adopted in India with any degree of success. The seed is very small and light, 60,000 to 70,000 seeds going to the ounce, and is harvested towards the end of winter. It is sown about March in specially prepared beds suitably covered. The seed bed consists mainly of sifted leaf mould. The nursery lines usually face north and the seed is broadcast and covered up with a thin layer of fine leaf mould. Germination takes 3 to 4 weeks and when half an inch high the seedlings are replanted in other beds, prepared as before, at a spacing of 1" x 1". These are transplanted once again after a few weeks into final nurseries at a spacing of 4" x 4". In these nurseries the plants are allowed to grow and are hardened by gradually increasing exposure throughout the winter until they are ready to be planted in the field after the early rains. Preparation of the land for planting requires a great deal of labour. Where it is occupied by heavy jungle, the forest is felled a year or two ahead and allowed to rot through the rains. In the winter the logs are cut up and removed and the land cleared with the minimum possible burning. Adequate measures have to be taken to prevent soil erosion. The land is then staked out at 4 feet intervals. Tallies or plant holes are dug to a depth of 18" and these are recovered after some exposure of the soil. As soon as the land has absorbed sufficient moisture the young plants are put out into tallies, care being taken to select a slightly wet and cloudy day. The after-care of the plantation consists of keeping weeds down by sickling, aerating the soil by cultivation and removing dead and dying branches from the plants from time to time. From the third year, small harvests are obtained from the last process. At the end of the eighth year, all the plants are coppiced to give the first primary harvest. The coppiced plants throw out fresh shoots and have a fresh period of growth. Vacancies caused by death of plants during the first eight-year period are also now filled up by new seedlings. The block is taken care of for a further period of 8 years after which all the plants are harvested by uprooting. In the course of harvesting, the bark is removed from the root and stem by beating with a wooden mallet and from the branches by scraping with a knife: the green bark is dried in the sun and drying is completed, if necessary, in an artificial drier.

In the factory the dry cinchona bark is first ground to a fine powder in a series of mechanical disintegrators. It is then mixed with slaked lime and a quantity of water just enough to make the powder moist. The mixture is kept for 24 hours during which the lime has a preliminary physical and chemical action. It is then tipped into extraction vats containing enough water to provide adequate mixing and enough mineral oil to dissolve the alkaloids liberated by the caustic soda subsequently added. The contents of the extraction vats are heated by passing steam through coils fitted to them and stirred continuously by mechanical stirrers. The mixture is now allowed to settle and the layer of oil floating on the top and containing most of the alkaloids in solution is drawn off. Extraction is completed by heating with fresh quantities of oil, after

which the bark residue is discarded. The entire oil extract is again treated with a dilute solution of sulphuric acid to remove the alkaloids. The oil so treated is returned for use with fresh batches of bark and the acid extract of alkaloids is neutralised with caustic soda while still hot. The neutral solution, on cooling, deposits crude quinine sulphate which after further cooling for 48 hours is filtered off through a centrifugal machine. The mother liquor from the mixture is treated with excess of alkali to yield the by-product cinchona febrifuge; this comes down as a buff precipitate, is filtered on canvas, washed, dried and powdered before being packed in tins. The crude quinine sulphate removed by filtration is first washed with cold water and then dissolved in hot water. The solution is clarified by boiling with activated carbon and filtered through cloth to give a clear solution. The solution is run into long shallow cooling troughs by night and by next morning the quinine sulphate is obtained in the form of fine white crystals. These are removed by filtering through a centrifugal machine, put on trays into a drying room and, when dry, removed and packed. A part of the quinine is packed as powder, a part is converted into tablets: small quantities are converted into quinine hydrochloride, quinine bihydrochloride or other salts.

The distribution of cinchona products by the Government of Bengal has passed through various phases. In the earlier stages of production issues were restricted to Government hospitals and dispensaries and to those maintained by public bodies. But in 1892 quinine was also made available to the public in the form of cheap packets sold through post offices. The introduction of quinine tablets gradually increased these public sales until about 1938 they constituted nearly a third of the total yearly issues. The work of distribution was transferred entirely from the Cinchona Department to the Jail Department to provide useful work for convict labour. During the period 1936-42 a commercial agency was also employed to sell quinine in the open market. But now the department has its own sales organisation in Calcutta both for supplies direct to the public and for supply to Government and other institutions.

The average quantities of quinine sulphate and of other alkaloids put on the market and the average prices obtained are:—

Period.	Quinine sulphate.		Cinchona febrifuge and other alkaloids.	
	Annual average in lbs.	Average price per lb.	Annual average in lbs.	Average price per lb.
		Rs. a.		Rs. a.
1909—1914	14,000	No record	2,400	No record
1914—1919	29,700	21 0	5,900	5 8
1919—1924	21,600	34 0	7,900	8 8
1924—1929	27,600	21 8	12,600	10 0
1929—1934	42,200	19 0	20,300	10 0
1934—1939	47,700	19 0	23,300	10 0
1939—1944	59,913	27 0	31,927	12 0

The directing and clerical staff employed in the District consists of 13 gazetted officers, 5 non-gazetted officers and 24 clerks. In 1944, one hillman was officiating in a gazetted post. Four of the non-gazetted officers and 22 of the clerks were hillmen.

There are 13,507 persons resident on the cinchona plantations of the District who are mainly Nepalis (12,494 Nepalis, 890 other hillmen). This population provides the labour required for the operation of the plantations.

CHAPTER IX.

OCCUPATIONS, MANUFACTURES AND INDUSTRIES.

Although the District has not been the scene of military operations, it was used as the starting point of one or two small expeditions into Sikkim and as a base from which transport was recruited and supplies obtained or forwarded for operations against the Tibetan forces in 1880 and 1903. It has had close connection with the army not only because it contained four cantonments used mainly in the hot weather for British troops but also because it occupies a strategic position in relation to Nepal and Tibet and lies astride the important line of communication between India and detachments of the Army on the trade route to Lhasa. The District has a number of military camping grounds and at Ghum there is a recruiting depot for Gurkhas. Darjeeling town contains the headquarters of the Northern Bengal Mounted Rifles. Its members and many of the residents of the District have served in combatant ranks of the armed forces of His Majesty in various campaigns and wars: and in the war against Japan have also performed noteworthy service in other capacities.

In the year 1844 Senchal, 6 miles south-east of Darjeeling, was chosen as a site for a cantonment and it was occupied by troops for over 20 years. It is over 8,000 feet above sea-level and its depressing climate and excessive rainfall caused it to be abandoned in 1867 in favour of Jalapahar which is 1,000 feet lower and is closer to Darjeeling. Nothing is now left of the Senchal barracks but a few solitary chimneys and ruins on the golf course and a few graves in a little cemetery near the road along the eastern side of the Jalapahar ridge where there is a cross erected in memory of the officers, non-commissioned officers and men who died at Senchal during the years 1844-1866.

Jalapahar cantonment is bounded on the east by the Calcutta Road, on the west by the Auckland Road and on the south by the Cart Road leading up to Jalapahar from Jorebungalow. It was established some time between 1842 and 1848 when barracks had been completed for 150 convalescent soldiers from regiments in the plains. It was then described as a Hill Depot. When the Senchal cantonment was abandoned in 1867, the barracks at Jalapahar were enlarged to accommodate 550 men. Katapahar is included in the Jalapahar cantonment and was occupied by mountain batteries until the year 1900. In 1848 the permanent staff of the Jalapahar Depot was one commandant, one station staff officer, one assistant surgeon, one sergeant major, one quartermaster sergeant, seven duty officers and 150 men. Attached to the depot were mountain battery guns, howitzers and mortars with 25 artillerymen under the command of a subaltern of artillery. In more recent times Jalapahar has been the summer headquarters of the Commander of the Presidency and Assam District from Fort William.

Lebong cantonment is below Darjeeling and at an altitude of just under 6,000 feet above sea-level. In 1882 when it was first created, it was part of the Jalapahar cantonment and was 82 acres in extent. The barracks and parade ground were laid out between 1882 and 1890 and in September 1895 it was opened as a separate cantonment. Its present size is 198 acres and in peace time a battalion of British Infantry was usually stationed in it.

Land was acquired in 1910 for a cantonment for two Gurkha battalions at Takdah or Hum below the 6th mile on the Pashok Road. Eight hundred and ten acres were acquired and buildings and parade grounds were laid out. Climatic conditions and proximity to Nepal made it unsuitable for a cantonment and it was closed in 1926. Some of the land was leased to tea companies and the rest returned to the Government of Bengal.

In 1922 there were ten camping grounds in the District but relinquishments have reduced the number to four which are now managed by the Central Public Works Department. At Siliguri the ground is over 12 acres and at Kalimpong nearly 6. The other two are at Tista Bridge and Kurseong.

Darjeeling is the headquarters of the Northern Bengal Mounted Rifles, a volunteer force with a peace time strength of 16 officers and about 500 men. There is one squadron of residents of the Darjeeling District. Most of the corps is mounted but some part uses motor vehicles in place of horses.

**The Northern
Bengal Mounted
Rifles.**

The corps was reorganised under its present designation in 1889, being then formed from the Northern Bengal Volunteer Rifle Corps, created in 1873, which in 1881 had absorbed the Darjeeling Volunteer Rifle Corps. The majority of members of the corps are planters of the districts of Jalpaiguri and Darjeeling: His Excellency the Governor is Honorary Colonel.

The main function of the corps is local defence but in war time a very large proportion of its younger members serve in combat areas with the regular forces and at such times the strength of the corps is seriously depleted.

The first Gurkha Recruiting Office appears to have been opened in Darjeeling in 1890 although no definite records of such an office exist previous to 1893. The office was situated in the Darjeeling Bazar but in 1902 certain buildings near Ghum previously occupied by a British Mountain Battery were taken over and the Eastern Nepal Recruiting Depot and Record Office was established. In addition to the main work of recruiting performed here, records of all non-effective soldiers and pension check registers are maintained, pension claims are investigated and estates of deceased soldiers and pensioners are adjusted. During the Japanese war, records work and work in connection with family allotments increased considerably and formed the major part of the work of the Recruiting Staff.

**Gurkha
Recruiting
Depot.**

The Depot functions as District Soldiers' Board in the Darjeeling District and deals with all work connected with the welfare of families of serving soldiers and pensioners; it has come to be looked upon by all who have any connection with the Army as the office where their difficulties and requests are always sympathetically considered.

In peace time the majority of recruits are obtained from Eastern Nepal and not more than 15 per cent. of the total intake is obtained from the Darjeeling District and the Sikkim State. During the 1939 war up to the end of 1943, 7,615 domiciled British India Gurkhas from the Darjeeling District and Sikkim had come forward and represent 38 per cent. of wartime enlistments at Ghum. Of this total 1,536 came from Sikkim, every facility for recruiting having been afforded by the Ruler of that State. Bhutan has also made a small contribution of 124 men. Normally Limbus and Rais are the main tribes of Gurkhas enlisted for the two Eastern Nepal Regiments of the Gurkha Brigade, the 7th and 10th Gurkha Rifles: Sunwars, Tamangs, Mangars and Gurungs are also accepted. The Assam Rifles, the Burma Frontier Force and the Burma Military Police also receive recruits from Ghum. During the war, representatives of all the fighting castes of Gurkhas have been enlisted in the ten regiments of the Gurkha Brigade as well as in the Assam and Burma Regiments. Complete mess staffs for the majority of Gurkha units have been enlisted entirely from British India domiciled Gurkhas. The Assam Civil Porter Corps has been assisted in the recruitment of some 2,000 porters for work on a road into Burma and a considerable number of men have been sent as chowkidars for R.A.F. aerodrome protection. Re-employment has been found in both military and civil capacities for many hundreds of pensioners and discharged men.

Apart from recruiting through the Gurkha Recruiting Office, the District has supplied numbers of recruits for technical and ancillary war services through other agencies. A number of Recruiting Offices were opened in the District through which candidates were recruited for training as fitters, turners and artisans in munitions factories. Other Technical Recruiting Offices were opened for personnel with technical skill and numbers of motor drivers, artificers and tradesmen were recruited for service with the fighting forces or in factories.

Nepali labourers were found most useful on important road projects on the Burma frontier and many went from the Darjeeling District. The first call to Darjeeling to provide labour for the Indian Tea Association's Eastern Frontier Projects Organisation came at the end of July 1942, when 1,200 volunteer porters were asked for to work on the Aijal Road under the guidance of two Darjeeling Planters. From this comparatively small beginning the Darjeeling Planters' Association went on to provide larger and larger drafts of volunteer labourers from Darjeeling and Kalimpong for vital work on the Manipur and Ledo roads. In October 1942 a contingent went to the Manipur Road and in May 1943 began the Darjeeling connection with the famous Ledo Road: several thousand labourers went forward for as

long as five months and on their return home were replaced by others. These contingents were all arranged by the Darjeeling Planters' Association and went forward as complete units under charge of Darjeeling planters. They were manned by volunteers drawn from all classes and creeds in the District.

The response of the District to calls for personal service in connection with the 1939 and previous wars has been noteworthy and is in accord with the fighting traditions of the great majority of the inhabitants of the District. Many Nepalis after service in the Army have retired and settled in the District. Many more will undoubtedly follow their example and it seems likely that, after the war, there will be a large population in the District who will have established a strong claim for special individual consideration in post-war reconstruction plans. Apart from personal service, the District has subscribed well to war funds and this gives additional force to a claim that in post-war planning the District itself deserves special treatment.

The main industry of the District is undoubtedly ordinary agriculture and the number of persons living in rural areas outside plantations of tea and cinchona or forest villages is 1,32,364. These are to be considered engaged in or dependent on the occupation of agriculture and its various processes. Land leased for tea provides subsistence for a total population of 1,46,508. Many of these persons are engaged part-time in ordinary agriculture on land leased for tea. It has been roughly estimated that one adult per acre of tea is required to keep it properly cultivated and as there are about 63,000 acres under tea, the effective labour employed on tea cultivation would be the same number of persons. In the actual manufacture of tea apart from its cultivation, little labour is needed.

Industries & Manufactures.

The field cultivation of cinchona previous to manufacture of the final alkaloid products engages a population of 13,507 persons. Actual manufacture employs very few persons.

Government forests engage a population of 10,014 persons of which most of the adults are employed in the conservation and regeneration of trees. Connected with Government forests are the industries of extraction (including sawing and transportation) and of charcoal burning.

Charcoal burning is quite an important industry. In normal times more than 150,000 bags of charcoal are consumed per annum in the District: it is mainly needed for domestic purposes but certain quantities are used in the small industry of *kukri* making. In war time the demand rose rapidly partly because of the great increase in visitor population and partly for the use of motor vehicles adapted to work on producer gas made from charcoal. It has been estimated that consumption rose to over 350,000 bags per annum during the war.

Charcoal Manufacture.

The process of manufacture is to burn wood in a restricted supply of air. The heavy cost of transportation makes primitive methods of

burning in the forest profitable and this has probably prevented the adoption of more efficient mechanical methods. The local method provides a large number of people with a means of subsistence at a time when they have no work in their fields.

Kilns or *bhattis* are made at convenient flat sites in the forest near the trees to be felled. Sometimes the hill-side is cut to make a large enough level site or else some level place is selected in the dry bed of a stream. If necessary props are used to hold up the kiln on steep hill-sides in which sufficiently large level areas cannot be cut. The largest logs are placed at the bottom and smaller logs above them until finally, at the top, branches and brush wood are stacked, the object being to reduce air spaces to a minimum. Big logs have to be levered into position and the manufacturer is helped by neighbours without remuneration, himself helping them in return.

The volume of an average kiln is 1,500 cubic feet and the whole stack is covered with earth 6 to 9 inches thick with a small opening 3' x 3' at the bottom running right through to the middle. Some small openings are made in the earth at the top and sides so as to give a draught when the kiln is first fired. After two days when the fire is well alight, all holes and the opening below are completely closed and the wood inside burns without air. As it burns it contracts, and cracks form in the earth cover. These have to be carefully watched and plugged with green wood and more earth. A skilful charcoal burner has to be very vigilant particularly at night when the flame through the cracks can be easily seen and enables him to decide when the kiln has been completely burnt and should be opened. This stage is reached when the flame shows blue. The kiln is then broken from the side, wet earth is thrown on the charcoal and samples taken out to see if it has been completely and properly burnt. If shiny, black and in lumps it has been well burnt: underburnt charcoal is brownish and overburnt is in small fragments mixed with ash and giving a very low outturn. When the burning is considered to be finished, the kiln is gradually broken at the side and the hot charcoal cooled with wet earth, seived, bagged and carried to a cart road.

The burning of a normal kiln takes about three weeks and longer in the rains during which season mats are used to protect it from rain. The yield is about 10 to 12 cartloads, higher in the dry weather than in the rains when more of the wood is burnt to ash.

The entire process from the commencement of felling to the extraction of charcoal from the kiln takes one man about two months. During this time he is financed by the person who has contracted with the Forest Department to produce charcoal. After firing one kiln, the manufacturer begins to fell more trees in preparation for a fresh kiln.

In the Terai what is known as the Chinese method of charcoal manufacture has been adopted. A pit is dug in which wood is stacked. The stack is covered with iron sheets and it is fired through a hole in the centre. The iron sheets are effective in keeping out air and

causing combustion to take place at a high temperature. Thereby a higher yield and more rapid manufacture are obtained.

As stated above, the high cost of transportation makes it profitable to manufacture charcoal in the forest at the place where trees are felled. Four carts are required to move 130 to 150 cubic feet of wood: but from this quantity of wood 13 bags of charcoal or one cartload are manufactured: a man can carry two bags for distances up to 5 miles, but the equivalent amount of wood (20 cubic feet) would be a load for 10 men.

Charcoal costing is based on the cartload. Previous to the war the rates were:—

Manufacture per cartload	..	Rs. 3-8 to Rs. 4
Carriage to cart road per cartload	..	Re. 0-13
Carriage by cart road per cartload per mile	..	Re. 0-4

Rates during the war increased to double the above although Government royalty was not increased. The result was that the sale price in Darjeeling per bag increased from Re. 1-8 to Rs. 2-10.

There is a small timber sawing industry at Siliguri. Three saw mills operate, the most important of which is that **Timber sawing.** owned and worked by the Forest Department of Government. This was started in 1927 to break a ring of purchasers who were keeping down prices against Government and for the conversion of second grade sal logs for which there was no market. The mill ran at a loss until it was remodelled in 1940. This resulted in an increase in daily output from 180 cubic feet in 1939 to 1,000 cubic feet in 1944. Wastage was reduced from 35 per cent. to 20 per cent. and since 1940 the mill has been working at a profit. It is a registered factory under the Indian Factories Act and employs about 250 labourers of whom not more than 2 per cent. are hillmen.

Logs are brought to the mill from forest sidings by the Darjeeling Himalayan Railway and are handled by the following plant in the mill:—Four steam engines for general operation, two steam winding engines, one Sentinel steam tractor, two 220 volt D. C. Generators, one steam log cross cut saw, two electric log hoists, one 7" vertical log bandsaw, two 3" vertical band resaws and 10 circular saws.

The two private mills both have a circular saw for breakdown of round logs and 2 circular resaws. About 20 men are employed in each mill, neither being a registered factory.

In addition to the three mills, there are about a dozen sawyards at Siliguri, Naxalbari, Baghdogra and Sivok: these yards employed sawyers from Gorakhpur or Nepal in the winter.

War conditions brought a demand for sawn timber of species other than sal: formerly there was only a market for sawn sal. Since 1940 the Government saw mill was taking the whole of the output of the Kurseong Forest Division. In consequence handsawing practically ceased and private mills only worked part-time on logs coming from Nepal and private forests.

Plywood was made during the war of 1939-45 in small private factories at Siliguri.

Although the production of electric power is only on a small scale engaging very few persons except in the supply systems **Electric Power.** for the towns of Darjeeling, Kurseong and Kalimpong, Darjeeling District is remarkable for its possession of abundant easily developable water-power. Despite that fact and although it claims to have the first hydro-electric undertaking in India (the original plant at Sidrapong was set to work on 10th November 1897) these resources have remained practically undeveloped up to the time of writing.

Hydro-electric Development to date is summarised as follows:—

	Operating agency.	
	Darjeeling Municipality.	Kurseong Hydro-electric Company (Managing Agents Messrs. Goenka and Co., Kurseong).
Installed capacity (kilowatts) ..	1,960	400
Minimum continuous power, April (kilowatts) ..	680	30
Peak loads so far handled (kilowatts)	1,506	140
Total units sold, 1943-44 ..	3,246,000	202,764
Ditto 1944-45 ..	5,191,000	..
Non-industrial units sold, 1943-44	2,148,000	163,524
Ditto 1944-45	3,431,000	..
Population, 1943-44 ..	50,000	15,000
Net rates charged, annas per unit :—		
Lighting (including tax) ..	4	6
Heating (1st 100 units per month)	.75	.75
Heating (over 100 units) ..	.50	.50
Power average .. ..	.875	..

(The Darjeeling Municipality grant a monsoon rebate of .25 annas per unit on all heating consumption.)

In addition to the hydro-electric plant at Darjeeling, the Municipality has a peak load and standby diesel electric generating station of 200 kilowatts near Lebong.

The receipts and expenditure of the Darjeeling municipal installation are mentioned in Chapter XIV dealing with Local Self-Government. The cost of the Kurseong installation was Rs. 3½ lakhs.

Water-power, after careful investigation, was rejected as a means of generating electric power at Kalimpong and oil driven generating machinery was installed in 1938 by the Kalimpong Electric Supply Co., Ltd. (Managing Agents Messrs. H. K. Banerjea & Sons, Narayanganj) with an issued and subscribed capital of Rs. 3 lakhs. Originally the power unit consisted of two 40 kilowatt sets but these were found insufficient and in 1943 a third generator of 140 kilowatt capacity was installed. The installation is expected to cope with normal expansion of the town for the next few years. War conditions

have prevented a development of earning capacity and thus have delayed a reduction of charges. Particulars of output are appended:—

Peak loads so far handled (kilowatts)	..	120
Total units sold, 1943-44	..	87,648
Units sold, 1943-44, non-industrial	..	83,376
Population served, 1943	..	15,000
Nett rates charged, annas per unit:—		
Lighting (including tax)	..	5 to 8
Heating	..	2.5 to 3.5
Power	..	2 to 3

The number of employees of each of the above supply systems is:—

Darjeeling	..	114 (108 hillmen)
Kurseong	..	33 (26 ")
Kalimpong	..	18 (7 ")

In addition to the three public supplies mentioned above, many tea gardens have electric generating plants powered either by water or oil engines. These are used both for lighting and for driving factory machinery.

Transportation employs a considerable number of individuals. It is difficult to estimate how many persons are employed as coolies or in attendance on pack animals. Carting is a very important means of transport in the Tista valley, the Terai and on the Darjeeling-Siliguri Cart road and for forest extraction on forest roads. The number of carts in use in the District is estimated to be about 17,000 but only 700 are used for public transportation employing perhaps 500 persons and 1,000 animals. In the Terai most of the carters work independently but there are a few persons owning up to one dozen carts each who employ carters on monthly wages.

Railways in the District employ at least 600 persons and there are the following repair and maintenance installations in the District qualifying as industrial establishments:—

(1) The workshop of the Darjeeling Himalayan Railway Company at Tindharia where locomotives (39 in use in 1945) and rolling stock are repaired and maintained and carriages and wagons designed and built. The machine shop is equipped with 17 lathes and drilling, planing, milling, shaping, slotting, grinding, shearing and punching machines. There is a carpenter's shop with the usual power driven equipment.

Three hundred and eighty-one persons are employed as follows (number of hillmen shown in brackets):—

Fitters	..	115 (78)
Turners and drillers	..	26 (22)
Blacksmiths and strikers	..	37 (33)
Boilermakers and rivetters	..	91 (88)
Moulders	..	14 (14)
Carpenters	..	29 (20)
Tailors	..	6 (6)
Painters	..	21 (19)
Khalasis	..	42 (37)

During the war 100 additional hands were engaged to cope with extra work.

(2) At Siliguri and Darjeeling only running shed work is carried out.

There are two public Ropeways in the District which employ only a small number of persons. The motor transport industry does not employ any appreciable amount of labour even if garages and repair establishments are included.

There are 5 rice mills in Siliguri town, one rice mill at Naxalbari and one at Matigara. A small engineering workshop with a foundry at Siliguri employs about 40 persons and repairs machinery and vehicles.

The building industry and road maintenance give casual employment to a certain number of persons mostly unskilled.

Important bridging has been undertaken in the District from time to time but the construction work can hardly be considered a local industry or manufacture as materials and skilled personnel are usually entirely imported.

Coal occurs in the band of Gondwana rocks running from near Pankhabari to Dalingkot. The beds usually dip at high angles to the north-northwest and are much contorted and faulted.

Mining.

The coal is badly crushed and is of a friable nature, probably only fit for coking, making into briquettes or burning in brick kilns. An attempt to work coal on a commercial basis was made from 1896 to 1900 during which period 7,231 tons were raised before the attempt was abandoned.

The above extraction was made from exposures about 4 miles north of Bagrakot railway station where the Lish and Churanti rivers approach one another in the forest just south of khas mahal land. In 1943 prospecting was undertaken in the same neighbourhood where seams of some thickness are exposed. The coal suffers from the defects mentioned above and ash content is as much as 25 per cent. to 30 per cent. It is hoped that coal with a lower ash content can be found in workable quantities and that transport and labour will make it possible to mine profitably. Transportation down the Lish valley is extremely arduous even in the winter and mining cannot be profitable unless a road is built usable at all times of year. In 1944 coal was extracted and sold locally: the result has induced the prospector to attempt more permanent operations. A labour force of not more than 50 persons was then employed on extraction of this coal.

No other mining or quarrying takes place in the District on any appreciable scale but the Baikantapur Estate realises about Rs. 10,000 per annum royalty for the removal of sand and stone from the bed of the river Mahanadi near Siliguri town. The Khas Mahal realises

about Rs. 4,300 for sand and stone from other rivers at a rate of Rs. 2 per 100 cubic feet. This rate was increased during the war to Rs. 4.

In making a survey of cottage industries, the Kalimpong Industrial School deserves prominent mention. The origin of this School dates back to 1897 when Mrs. Graham, wife of the Very Rev. J. A. Graham, D.D., C.I.E., started teaching local hill-women lace-making to supplement their income from agriculture. Later carpentry, embroidery, tailoring and carpet-making were added to the school curriculum until now there are twelve separate departments including weaving, dyeing, leathercraft, knitting, painting, fabric-printing and building. In 1924 the School was registered under the Companies Act as the Kalimpong Mission Industries Association and capital to the extent of Rs. 75,000 was raised. Practically the whole of the capital was subsequently given back to the School by the Debenture Holders. Administration and financial responsibility rest with a Board of Directors, the Scotch Mission nominating two members to the Board. The workshops all stand on Mission land and in the final issue all assets revert to the Mission. Any profits that are made are not distributed but used for the expansion of the work. General superintendence is given honorarily and since 1925 has been in the hands of Mr. and Mrs. A. N. Odling. The School is essentially a technical one established for the purpose of developing cottage industries and of inculcating the habit of industry amongst the local peoples. No distinction is made between Christian and non-Christian and no fees are charged for instruction. Apprentices receive a scholarship until they are in a position to earn a living wage, the payment of which is the first aim of the school. The numbers under instruction have varied but at the time of writing there were some 350 in training. Most of the carpenters and many tailors and others trained here joined Military Technical Services for the duration of the War. Large numbers of the carpenters and durzies working in the Darjeeling District and Western Duars have passed through this Industrial School and generation after generation of hillmen and women have now been engaged upon the same craft so that specialised skill is becoming hereditary. Many residential buildings (including furniture and furnishings) in Kalimpong stand as examples of the craftsmanship taught in the School. Agents in the principal centres of India distribute other goods made in the course of training students, on the sale of which (assisted by a small Government grant) the School exists and thrives.

The principal products of cottage industry in the District are blankets, woollen knitted articles, woven cotton and wool fabrics, *kukris*, various tools, pottery, bamboo products (baskets, mats, *ghooms*, etc.) and ropes.

The manufacture of blankets and knitted goods has continued for a long time as a cottage industry. Both Tibetan wool and imported yarns are used. Cotton weaving on handlooms is very limited but weavers in the Terai make coarse fabrics for local consumption. In

the hills, about 50 families (100 persons) are engaged in the production of Bhutia *chadars*. About 100 bundles of yarn each of 5 seers are consumed monthly, the price of a bundle being Rs. 3-4. Workers are reported to buy their material on a cash basis and to be independent of *mahajans*. The yarn is bought undyed and is dyed by the weavers who do not use fast dyes. Each *chadar* is composed of three pieces which are woven separately and sewn together making a length of 7½ yards by 4 yards which is sold at Rs. 2-6. The weaving takes place on a bamboo frame and a bamboo comb is used to force the threads of the weft close together.

In normal times *kukris* (Nepali knives) in small quantities are made at Ghum. About 15 families are employed. Second hand steel is used and it takes two persons about a day and a half to manufacture a complete *kukri*. Methods of manufacture are very primitive and the annual output is about 2,700 *kurkis* valued at Rs. 7,000.

The economic condition of the great majority of the inhabitants of the District has been outlined in Chapter VI (for tea garden labour) and in Chapter XII (for owners and tenant cultivators of land). There remain industrial labourers (including factory and railway workers), workers in towns (including municipal scavengers, *khalasis* and menials) and such agricultural labour as does not have rights in land. Living conditions of these labourers have not been the subject of any systematic or extensive study and the following remarks are based on a recent sampling survey limited to only 200 families.

This survey grouped family incomes into 8 groups with monthly war time incomes of:—

						Rs.
I	..	..	..	..	..	1—40
II	..	..	..	..	..	40—50
III	..	..	..	..	..	50—60
IV	..	..	..	..	..	60—70
V	..	..	..	..	..	70—80
VI	..	..	..	..	..	80—90
VII	..	..	..	..	..	90—100
VIII	..	..	..	..	..	100 and over.

More than half the samples had balanced budgets: 43 had surplus and 38 deficit budgets. The industrial group had a higher proportion of surplus budgets.

One-quarter of the total income of industrial and municipal workers was found to be supplementary to the main source of income. The proportion was nearly one-half for agricultural labourers. With a rise in the family income, the proportion supplementary decreased.

The average income earned per family as wages was Rs. 48 per month and as supplement Rs. 18 per month. Male adults earned on the average Rs. 35 per month, female adults Rs. 26-8, boys Rs. 15 and girls Rs. 15-8. The average per earner was Rs. 30-8. Earnings were appreciably higher in Darjeeling town than in Kurseong town.

The average size of the families investigated was $4\frac{1}{2}$ with the following averages for each group:—

				Average size of family.	Average number of earners.
Industrial	..	..	..	4.44	1.65
Municipal	..	..	..	3.54	1.79
Agricultural	..	..	..	5.13	1.98

In agricultural families over 80 per cent. of earnings were contributed by adults: in the municipal group the percentage was nearly 100.

The average size of the family varied with the 8 income groups as follows:—

I	..	..	..	..	..	3.04
II	..	..	..	..	..	4.12
III	..	..	..	..	..	4.24
IV	..	..	..	..	..	4.84
V	..	..	..	..	..	4.83
VI	..	..	..	..	..	6.75
VII	..	..	..	..	..	5.55
VIII	..	..	..	..	..	6.43

Working hours for municipal and industrial groups averaged just over 60 per week with a maximum of 70 hours.

Housing conditions correspond to those noted for tea garden labour in Chapter VI and are no doubt closely related to what hill people are used to. Many of the sample families lived in an urban environment where the defects of customary village housing lead to more obvious insanitary conditions.

Corrugated iron for walls and roofing is common. Fifty per cent. of the houses had wooden floors and 38 per cent. earth floors, both being preferred to stone or cement as more comfortable to sleep on. Plinths are low and rooms small, low, badly lit and badly ventilated. The average dimensions of a room or hut was found to be 12 feet in length, 11 feet in breadth and 6 feet in height.

Overcrowding is serious and the average number of persons occupying a room was 3.5. Nine persons were found to be occupying one room 12' x 12' x 8'. Usually huts have only one room which is used both for living and cooking.

Rents in Darjeeling were 50 per cent. higher than in Kurseong and since 1939 they had increased 33 per cent.; Kurseong showing a higher rate of increase. Most of the sampled persons however lived in rent-free quarters.

Expenditures were in slight excess over income in the lowest income group. On the average for all groups, percentages on total expenditure were:—

					Per cent.
Food ..	..	..	..	..	56
Fuel and light	..	..	..	..	12
Rent ..	..	..	..	..	11
Clothing	..	..	..	..	9
Miscellaneous	..	..	..	..	7
Remittance	..	..	..	..	5
					<hr/>
			Total	..	100
					<hr/>

The percentage of expenditure on food was slightly higher in the upper income groups. On fuel and light expenditure was at 13 per cent. in the lower groups and 11 per cent. in the higher: similarly the percentage of expenditure on rent declined from 16 in the lowest income group to 8 in the higher groups. The percentage on clothing was about the same throughout the groups.

Actual expenditure in rupees per month per person on food rose from about 6 in the lowest group to 9 in the highest.

The results quoted are based on very limited sampling and ought perhaps only to be quoted to emphasise the need for an adequate study of social and economic conditions on which to base sound conclusions.

CHAPTER X.

TRADE AND PRICES.

The course of trade and its volume depends so much on the cost of transport that some estimate of the actual costs of **Cost of Transportation.** transportation, more especially in the hills, will be appropriate as an introduction to an account of the trade of the District.

Costs of other means of transport will be more readily understood if consideration is first given to those of road haulage by bullock cart. There is a steady carting business in the Tista valley on the level roads between Rangpo in Sikkim and Giellekhola rail head and between Rangpo and Siliguri. From Rangpo to Giellekhola, a distance of 17 or 18 miles, to give a profit in peace time the rate charged was about 3 annas a maund and occasionally as low as 2½ annas. From Rangpo to Siliguri (46 miles), 7 annas per maund was needed to give a profit although rates occasionally went down to 6 or 5 annas. The 7 annas rate is equivalent to a cost of 1·8 pies per maund mile while 3 annas from Rangpo to Gielle is equivalent to 2·0 pies.

War-time carting rates in the Terai were as much as 12 pies per maund mile for a long haul but peace-time rates were about 4 pies per maund mile. This was also the rate allowed for carting charcoal on all main roads in the District. Carting in forests where ground is often rough and ungraded was from four pies to eight pies per maund mile. Uphill carting however seems to be considerably more expensive as charges per maund from Giellekhola to Kalimpong (12 miles, 10 of which are uphill with a rise of 3,000 feet) was 8 annas to Re. 1·4 according to the season, which give rates of from 8 pies to 20 pies per maund mile. All the rates quoted are for longish hauls in peace time. Shorter hauls cost much more and war-time rates are double or treble those given.

Coolie and pack transport is much more expensive than carting but it is difficult to give any universal rates. In forests, for moving timber and firewood, coolie transport costs from 3 to 12 times as much as carting. Pack transport (by mules) is highly organised on the Tibet trade routes. From Phari Dzong in Tibet to Kalimpong *via* the Jalap La, a distance of 90 to 95 miles, Rs. 6 per maund was the peace-time rate. From Phari to Gangtok *via* the Nathu La, 65 to 70 miles, the rate was Rs. 4 per maund. These rates are equivalent to about 12 pies per maund mile. The routes are severe and probably rates were cut to a competitive minimum. Rates in war time soared and at one time for the Kalimpong Phari trip touched Rs. 35 per maund.

For transport by rail, it should be noted that freights on the Bengal and Assam Railway system varied from ·38 to 1·87 pies per maund mile according to the class of goods. In war-time on the Darjeeling Himalayan railway from Siliguri to Darjeeling charges were from Re. 0·15-8 to Re. 1·10-6 per maund. The distance is 51 miles and rates are thus from 3·7 to 6·2 pies per maund mile. Peace-time rates, about 20 per cent. less, would therefore be from 3 pies to 5 pies

per maund mile according to the class of goods. Downhill from Darjeeling to Siliguri rates were from Re. 0-9-6 per maund according to the class of goods or 2-25 pies per maund mile. The peace-time rate would be 1-8 pies.

For movement on level ground the Darjeeling Himalayan Railway charged as follows:—

- (1) On the Kishanganj extension for a distance of 70 miles, according to the class of goods, 9 annas 8 pies to Re. 1-1-9 per maund in war time. This gives peace-time rates of 1-5 to 2-6 pies per maund mile.
- (2) On the Tista valley section Siliguri to Giellekholā (30 miles) 4 annas 3 pies to 8 annas per maund, that is, peace-time rates of 1-5 to 2-6 pies per maund mile.

Lorry transport competes with rail traffic on the important route from Siliguri to Darjeeling, although restrictions on the number and loading of goods road vehicles prevents competition having its full effect. It has not been possible to obtain precise details of lorry freight charges but it may be assumed that they are at least 25 per cent. less than rail charges, i.e., not more than 2-25 to 3-75 pies for uphill haulage. Public service vehicles are not the only ones moving goods by road: traders and producers find it profitable to own and operate vehicles to transport the produce they handle.

Ropeways.—The Bijanbari-Darjeeling ropeway competes with a bridle path route *via* Pul Bazar of an estimated length of 8 miles. The rate charged by the ropeway is 5 annas per maund from Bijanbari to Darjeeling. The rate charged thus gives advantage to the ropeway against any bridle path transport costing more than 7-5 pies per maund mile.

The Kalimpong ropeway competes with traffic moving over about 18 miles of macadam surfaced road usable by wheeled vehicles. The maximum charge by ropeway from Kalimpong to the Rilli railhead is 6 annas per maund which makes transport by ropeway preferable to any road traffic costing more than 4 pies per maund per mile.

The table below summarises the estimates given above and gives some idea of the importance of cheapening costs of transportation.

Approximate cost (peace-time) of transportation in pies per maund per mile.

	Level.	Hills.
Rail—		
Broad gauge ..	·3 to 1·5	
2' gauge ..	1·5 to 2·6	3·0 to 5·0 up : 1·8 down.
Road, Wheeled traffic—		
Lorry ..	1·2 to 2·0	2·2 to 3·7 up : 1·5 down.
Cart ..	1·8 to 4·0	8·0 to 20·0
Road, Bridle traffic—		
Pack animal ..	..	12·0 and higher.
Footpath—		
Cooli ..	..	24·0 and higher.
Ropeway versus wheeled traffic ..	..	4·0
Ropeway versus pack traffic ..	..	7·5

For comparison may be mentioned the rate charged in 1945 for haulage 63 miles up 4,500 feet from Pandu to Shillong. This was a flat rate of Re. 1-8 per maund for all classes of goods, i.e., of 4-57 pies per maund per mile. This covered not only profit and costs of operation but also a charge made by Government for the contract which might be considered one to meet the cost of keeping the road in repair.

Estimates of the number of vehicles or animals used or available for transportation are given below—

(1) *Carts—*

Sadar Subdivision—			
Urban area .. .. .	..	..	57
Rural area .. .. .	..	..	20
Kurseong Subdivision .. .. .	..	..	44
Kalimpong Subdivision .. .. .	..	..	83
Siliguri Subdivision—			
Urban area .. .. .	..	..	300
Rural area .. .. .	..	..	200

(Note.— The number of carts enumerated in 1940 in the Siliguri Subdivision was 17,000 but very few of these are available for public transportation purposes.)

(2) *Pack Ponies and Horses—*

Sadar Subdivision .. .. .	..	..	1,280
Kurseong Subdivision .. .. .	..	..	203
Kalimpong Subdivision .. .. .	..	..	950
Siliguri Subdivision .. .. .	..	..	414

(3) *Road Motor Vehicles—*

Public Service —

	Licensed 1944 for Hill Cart Road.	Licensed 1944 for other routes in the District.	Total.
Taxis	60	142	202
Trucks	25	76	101
Buses	15	27	42
Total			<u>345</u>

Private Vehicles (licensed 1944)—

Cars .. .. .	..	..	287
Motor cycles .. .. .	..	..	34
Total .. .. .	..	..	<u>321</u>

In addition about 60 privately owned lorries ply on private service.

(4) *Locomotives on the Darjeeling Himalayan Railway*

(of various types)	39
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The various restrictions on laden weights for motor road vehicles have been shown in Chapter XI. In war-time on the Hill Cart Road these restrictions were relaxed. While all such restrictions check trade they were imposed solely for road safety. But the number of public service vehicles allowed to use the Hill Cart Road has been limited to the extent shown above. There is no limitation on numbers

elsewhere in the District and the limit on the traffic on the Hill Cart Road (which had no application to military vehicles in war-time) was imposed to check road competition with the Darjeeling-Himalayan Railway.

In studying the trade of the District it will be found convenient first to consider the trade moving to and from the plains; then the trade moving over the frontiers of Bhutan, Sikkim and Nepal and finally local trade within the District.

Trade.

(1) Trade with the Plains.

The road system of the District as well as the Darjeeling-Himalayan Railway system both converge on Siliguri and practically the whole of the import and export trade from the plains passes through the Bengal and Assam Railway at Siliguri. A very much smaller volume of imports and exports takes place *via* the Darjeeling-Himalayan Branch Railway to Kishanganj. In neither direction have roads been in a condition to carry an appreciable volume of trade, incoming or outgoing, and so practically all import or export has taken place by rail. The trade passing Siliguri will first be considered and then the traffic into and out of the District *via* the Kishanganj branch will be discussed.

Trade passing through Siliguri.—Little trade comes down the valleys east of the Tista into the plains but tea gardens at the foot of the hills in the Kalimpong Subdivision are now able to export tea and import stores, coal, etc., *via* Siliguri by the Bagrakot-Sivok-Siliguri Road and it seems likely that this outlet will be used by a wider area of tea gardens in the Jalpaiguri District. All the trade through the Tista Valley with Sikkim and Tibet and with Kalimpong passes through Siliguri. Much of this is road traffic (carting) and no doubt, with improvement of the Tista Valley road and widening and strengthening of bridges (particularly the suspension bridge over the Rambikhola which cannot carry any but the lightest and smallest motor vehicles), a part of the traffic now carried by the railway and carts would be carried by lorries. The main commodities passing down the Tista Valley trade route are wool, oranges and cardamoms.

The Hill Cart Road from Darjeeling and the main line of the Darjeeling-Himalayan Railway carry the greater part of the produce of the Sadar and Kurseong Subdivisions, the supplies needed for the towns of Darjeeling and Kurseong and for the tea gardens and industries of these Subdivisions as well as the traffic from Nepal crossing the frontier at Simana Basti and northward (potatoes and chiratta). The Kishanganj branch of the Darjeeling-Himalayan Railway and the Terai road system serve the Terai tea gardens *via* Siliguri and there is a certain amount of traffic with Nepal through Naxalbari Station some of which passes through Siliguri.

The traffic booked to and from the Siliguri Station of the Bengal and Assam Railway reaching or leaving the District was in the year ending March 1942 as follows:—81,505 tons to and 37,946 tons from the Siliguri Station.

The traffic booked over the Darjeeling-Himalayan Railway reaching the District from the Bengal and Assam Railway *via* Siliguri or leaving the District for the Bengal and Assam Railway *via* Siliguri in the year ending March 1942 was as follows:—

Tons.		Tons.	
9,311	to and	2,247	from Darjeeling Station.
2,953	to and	3,625	from Ghum Station.
1,347	to and	1,098	from Sonada Station.
3,829	to and	592	from Kurseong Station.
282	to and	225	from Tindharia Station.
500	to and	700	from Other Main Line Stations.
1,204	to and	1,489	from Riyang Station.
5,077	to and	1,635	from Gielle Khola Station.
69	to and	882	from Other Tista Valley Stations.
251	to and	81	from Matigara Station.
465	to and	894	from Baghdogra Station.
240	to and	4,533	from Naxalbari Station.
1,416	to and	4,529	from Other Kishanganj Extension Stations.
7,522	to and	3,637	from Kalimpong Ropeway.
101	to and	252	from Darjeeling Ropeway.
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34,567		26,419	
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The internal District traffic booked on the Darjeeling-Himalayan Railway to and from Siliguri and Siliguri Road Stations in the year ending March 1942 was as follows:—

Tons.		Tons.	
4,236	to and	71	from Darjeeling Station.
983	to and	48	from Ghum Station.
1,522	to and	19	from Sonada Station.
1,744	to and	175	from Kurseong Station.
600	to and	78	from Other Main Line Stations.
1,792	to and	372	from Riyang Station.
4,083	to and	142	from Gielle Khola Station.
2	to and	103	from Other Tista Valley Stations.
58	to and	38	from Matigara Station.
36	to and	193	from Baghdogra Station.
37	to and	178	from Naxalbari Station.
967	to and	1,422	from Other Kishanganj Extension Stations.
3,597	to and	175	from Kalimpong Ropeway.
46	to and	1	from Darjeeling Ropeway.
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19,703		3,015	
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The main commodities making up the six totals above were:—

	District Imports to		District Exports from		D. H. Ry. Bookings	
	Siliguri.	D. H. Ry.	Siliguri.	D. H. Ry.	to Siliguri.	from Siliguri.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Paddy ..	6,068	24	0	38	313	8
Rice ..	5,404	5,676	1,158	1,830	346	7,375
Gram and pulses ..	2,586	394	0	2	8	517
Wheat flour ..	2,947	1,358	0	1	0	412
Wheat ..	142	0	0	0	0	0
Oil Seeds ..	408	2	0	39	0	0
Other grains ..	0	642	0	54	2	190
Salt ..	2,844	3,209	0	0	0	439
Gur, Molasses ..	444	50	0	0	0	53
Sugar ..	2,843	216	0	8	0	766
Wood, unwrought ..	0	93	5,326	5,737	882	74
Cotton, raw ..	0	40	0	0	0	1
Cotton, processed ..	271	1,356	0	57	1	15
Fodder ..	160	457	0	41	123	109
Fruit, Vegetables ..	1,471	12	885	0	13	29
Oranges ..	0	0	0	739	152	56
Jute, raw ..	0	0	4,452	1,641	588	0
Jute, processed ..	126	131	126	16	40	27
Iron and Steel ..	496	1,360	0	192	50	73
Manures ..	837	0	0	0	0	0
Oilcake ..	385	0	0	0	0	0
Kerosene ..	1,989	164	0	0	6	728
Petrol ..	951	0	96	0	0	0
Oil fuel ..	1,135	0	0	0	0	0
Vegetable oils ..	1,722	84	0	4	0	378
Tobacco ..	0	686	0	51	1	20
Provisions ..	0	1,181	0	19	32	821
Potatoes ..	756	32	905	3,824	48	115
Coal ..	40,437	2,900	0	0	3	5,812
Tea ..	46	1,247	7,030	6,450	15	27
Cardamoms ..	0	1	0	1,027	5	2
Wool ..	0	0	0	3,058	2	0
Revenue stores ..	687	0	13,109	0	0	0
Miscellaneous ..	6,350	7,732	4,859	1,591	230	1,107
Cement ..	0	5,516	0	0	23	549
Marble, Stone ..	0	4	0	0	132	0
Total ..	81,505	34,567	37,946	26,419	3,015	19,703

The figures given above show that total imports into the District through the Bengal and Assam Railway system at Siliguri were $34,567 + 81,505 = 116,072$ tons. From this total can be deducted 12,638 tons of coal imported by the Bengal and Assam Railway for its own use. Total import thus comes to 103,434 tons including 16,439 tons of coal for the Darjeeling-Himalayan Railway. Exports from the District through the Bengal and Assam Railway system at Siliguri are $37,946 + 26,419$ tons = 64,365 tons.

As explained elsewhere, only a negligible quantity of goods is imported from or exported to the plains by road so that the totals given above represent with fair accuracy the goods moving to and from the plains through Siliguri. The destinations or origins of these goods are Darjeeling District, Sikkim, Nepal and Tibet.

Trade through the Kishanganj branch of the Darjeeling-Himalayan Railway. This trade is summarised below:—

Export bookings to			D.-H. Ry. Stations.	Import bookings from		
A	B	C		A	B	C
Tons.	Tons.	Tons.		Tons.	Tons.	Tons.
121	15	21	Darjeeling ..	150	347	1,253
25	8	17	Ghum ..	24	579	2,033
0	4	14	Sonada ..	0	582	1,369
0	3	15	Kurseong ..	47	278	1,479
0	0	0	Tindharia ..	0	12	89
0	361	366	Siliguri ..	0	567	855
19	0	0	Other Main stations	3	15	202
2	2	3	Riyang ..	7	127	639
1,014	4	5	Giellekhola ..	228	2	747
22	82	12	Matigara ..	0	636	371
86	29	24	Baghdogra ..	0	102	155
358	243	159	Naxalbari ..	23	791	2,124
0	143	564	B. and A. <i>via</i> Siliguri	0	2,019	2,511
192	0	3	Kalimpong R ..	305	13	644
2	0	0	Darjeeling R ..	0	0	1
<u>1,841</u>	<u>894</u>	<u>1,203</u>	Total ..	<u>787</u>	<u>6,070</u>	<u>14,472</u>

Note:—

A=Bengal and Assam Railway *via* Kishanganj. Kalimpong R=Kalimpong Ropeway.
 B=Kishanganj and stations up to Galgalia. Darjeeling R=Darjeeling Ropeway.
 C=Galgalia.

Total imports and exports from and to the plains are thus:—

	Exports.	Imports.
	Tons.	Tons.
Through Siliguri	64,365	103,434
Through Kishanganj branch ..	3,938	21,329
Total ..	<u>68,303</u>	<u>124,763</u>

If the Railway coal imported into Siliguri for the Bengal and Assam Railway be added total imports come to 137,401 tons.

The main commodities moving from Galgalia are:—

	Tons.
Paddy	568
Rice	13,268
Fodder	747
Raw jute	983
Vegetable oils	154

Most of the above rice is imported into the Darjeeling District.

The above are also the main commodities moving from the other stations on this branch beyond Galgalia. The only exports of interest in this direction are potatoes and cardamoms from Giellekhola and oranges (45 tons).

Siliguri is important as a distribution centre as well as a centre for the transfer of through traffic from one transportation system to another.

The most important commodities distributed in Siliguri are rice, coal, timber, petrol and kerosene oil. The figures of import and export of rice and paddy to and from Siliguri have been given above. There are five rice mills and these make Siliguri an important rice distribution centre. Depots of coal are maintained in Siliguri by various merchants for distribution and onward despatch apart from coal stores maintained by both railways.

The monthly consumption of petrol in the District has been estimated at 20,000 to 25,000 gallons per month in war-time with rationing in force. In peace-time public service vehicles were estimated to consume annually: passenger vehicles 110,500 gallons; goods vehicles 140,000 gallons. Private vehicles consumed 102,000 gallons. At Siliguri railhead, storage capacity of over 50,000 gallons has been installed for dangerous (petrol), non-dangerous (kerosene) and heavy petroleum both in bulk and packed. There are in addition throughout the District a number of minor storage centres licensed for public retail supply. There are 6 petrol pumps at Siliguri in addition to pumps at Darjeeling (2), Kalimpong (2), Ghum (1), Kurseong (1) and Baghdogra (1). Retail sale of petrol packed in tins also takes place at Tista Bridge.

Retail kerosene distribution in the District in peace-time was roughly as follows:—

From Siliguri	..	1,584 tins or	6,336 gallons monthly.
From Kurseong	..	1,292 " "	5,168 " "
From Kalimpong	..	1,500 " "	6,000 " "
From Darjeeling	..	2,912 " "	11,648 " "

The above information gives some idea of the importance of Siliguri as a distributing centre. It also plays an important part in the trade with Tibet, Sikkim and Nepal as will be seen from the following paragraphs on the transfrontier trade of the District.

(2) Transfrontier Trade.

Bhutan.—The Bhutan frontier marches with the Kalimpong Subdivision but very little trade crosses it or proceeds down the Jaldhaka valley to the plains. Only 2 or 3 per cent. of Kalimpong's trans-frontier trade is with Bhutan. Imports from Bhutan to Kalimpong are small quantities of wax, musk, bristles and lac. The smallness of the trade is due to the physical obstacles: more traversable trade routes exist further east between Bhutan and Assam.

Tibet.—Trade from Tibet to the plains of India *via* Darjeeling District follows two routes, both of which pass through Sikkim State.

One route leaves Tibet for Sikkim *via* the Jalap La, enters the District north of Pedong and passes through Kalimpong. The other route enters Sikkim by the Nathu La and passes through Gangtok, the capital of Sikkim. Up to Kalimpong and Gangtok goods are carried on pack mules. From Gangtok the traffic is moved by bullock cart down the Tista Valley crossing the frontier of the District at Rangpo. Wool coming down from Gangtok is carted to Kalimpong where it is processed and baled before onward despatch to the plains. Other commodities being moved to and from Tibet *via* Gangtok pass along the Tista Valley by road or rail to Siliguri. These two routes compete and the Gangtok route has obtained some advantage over that through Kalimpong by reason of improvements in the Gangtok-Nathu La bridle road and in the cart road from Gangtok along the Tista Valley (Lachen Road). The differential costs between pack transport and carting have favoured the Gangtok route which is 20 miles shorter for pack transport. The Nathu La route is in some respects less severe on mules and muleteers. If there be further improvement in the Gangtok-Siliguri road so that road transport can be worked at still lower rates the advantages of the Gangtok route can be expected to increase. During the war a shortage of mules also operated in its favour.

Wool is the most valuable commodity imported from Tibet and it is the wool trade which has been mainly responsible for the importance of Kalimpong as a business centre. Over one lakh of maunds of wool (3,846 tons) arrive annually in Kalimpong on caravans of mules conducted by Tibetans and in addition about 19,000 maunds are carted from Gangtok to Kalimpong. Practically none of the wool is consumed locally; it is all sorted and baled in warehouses in Kalimpong bazar and then exported to the plains. Formerly Kalimpong was only a receiving centre and all the wool received was despatched in its original state to Calcutta where sorting and baling was carried out for export to Liverpool. Sorting and baling in Kalimpong ready for shipment was encouraged by the entry of American merchants into the market. Since 1930 Kalimpong balers have shipped direct to America.

Hillmen supply all the labour for sorting and baling in Kalimpong but the trade is in the hands of Marwari and Tibetan merchants who provide a working capital for an annual turnover of Rs. 50,00,000. Three thousand persons are normally employed in sorting and baling at a wage of Re. 1 per day per person. In peak periods up to 6,000 persons are employed. The work is done in ten warehouses.

* Prices and quantities of wool handled at Kalimpong have varied erratically. In 1928 the price was Rs. 11 per maund and it rose in 1938 to Rs. 65. In 1944 it had fallen to Rs. 40. Trading has been difficult since war-time shipping difficulties arose and attempts have been made to increase the local consumption of wool by the manufacture of blankets and knitted goods.

Next in value to wool as an import is musk which mainly comes from the Tibetan province of Kham. Ninety per cent. of the trade is in the hands of Nepalis who buy in Tibet and distribute in Kalimpong.

Before 1942, Calcutta was the centre through which it was distributed. The Punjab is the largest consumer but quantities are exported to Arabia *via* Bombay. Working capital is employed for a turnover of Rs. 30,00,000.

The trade in furs has a turnover of Rs. 3,00,000 and engages a number of Tibetans, Nepalis, Chinese and Kashmir Mussalmans. The trade is for export to America and England.

Yaks' tails are imported to an annual value of Rs. 2,00,000. These goods are handled by Chinese and Behari merchants who find Madras providing the largest market. Ponies and mules are also imported.

Some import of slaughter animals from Tibet takes place and during the war, a trade in bristles from Tibet (and Bhutan) arose. The turnover of the bristle trade is about Rs. 50,000 annually and the business is conducted by Tibetans and Chinese. Gold dust in small quantities from Milu in Tibet and silver from China are imported into Kalimpong by Tibetan and Chinese Muslims.

In normal times exports to Tibet from India through Kalimpong were of the following commodities:—Woollen and cotton piecegoods; iron; steel; copper and brass ware and sheets; stationery; foodgrains; sugar and gur; dried fruits; almonds and pistachios; dyes and chemicals; kerosene; candles; lanterns; electric torches and batteries; brick tea; aluminium ware; porcelain ware; pearls; coral beads; precious stones; cement; leather goods; cigarettes; leaf tobacco and pharmaceutical goods.

The balance of trade was much upset by the war and the exchange rate, normally one rupee to 7 Tibetan sangs, moved against the rupee so that one rupee became only equivalent to 2·4 sangs.

Sikkim:—The commodities imported from Sikkim through the Kalimpong Subdivision and the Tista Valley are chiefly oranges and cardamoms. Apples, vegetables, sheep and goats and a small quantity of musk are also imported. Two-thirds of the "Darjeeling oranges" on the Calcutta market come from Sikkim and the greater part of the oranges from Sikkim pass through the Tista Valley. Carts, coolies and pack ponies are used to get the crop to the Gielle Khola, Riyang or Kalimpong Ropeway stations. These methods are expensive and during the war military lorries have been used on the Gangtok-Siliguri road for transporting to rail stations oranges from Sikkim required for the Army.

In 1943-44 the Sikkim Darbar, controlling all the oranges produced in the State, exported Sikkim oranges required for the army to the value of Rs. 10 lakhs and for civilian consumption to the value of Rs. 5 lakhs. Sikkim cardamoms are generally of better quality than those of the Darjeeling District and Sikkim output passing through the Kalimpong Subdivision is estimated to be 25,000 maunds annually.

The Sikkim bazars at Rangpo, Rhenok, Rangli, Namchi and Soren used to get their supplies from Kalimpong. An area of Sikkim near Tista Bazar depended entirely on that bazar for its supplies of food and other commodities. Since 1942, supplies have been interrupted

and these parts of Sikkim have been importing by arrangement with suppliers at Calcutta and elsewhere. Only about 2 to 3 per cent. of Kalimpong's transfrontier trade is with Sikkim.

Trade with Sikkim across the frontier where the Sadar Subdivision meets Sikkim is not important. This trade passes through two bazars:—

- (1) Bijanbari-Pulbazar through which goods reach Sikkim *via* Namchi;
- (2) Singla, proceeding to Sikkim *via* Nayanbazar.

Bijanbari-Pulbazar serves also the transfrontier trade with Nepal and handles exports of rice, mustard oil, cloth, salt, pulses, kerosene oil, copper and brass sheets, cotton yarn, bar iron, wheat products and sugar: and imports of potatoes, cardamoms, chirata, majinth, ghee and butter, vegetables, poultry and eggs, slaughter animals, maize, millet, bristles and black dal. Annual value of exports has been estimated at Rs. 3,15,000.

The trade passing through the Singla Bazar was mainly trans-frontier with Sikkim, local trade being small. Exports were rice, mustard oil, cloth, salt, pulses, kerosene oil, copper and brass sheets, cotton yarn, bar iron, wheat products and sugar of a total annual value of Rs. 75,000. Imports from Sikkim are fruit, potatoes, cardamoms, chirata, ghee, maize, millet and black dal. This bazar has lost its former importance in recent times as most of its trade has moved over to Nayanbazar in Sikkim.

Nepal:—The main trade routes with Nepal are:—

- (1) *Via* Srikhola, Lodhama, Rimbick to Bijanbari and Pulbazar. Transportation up to Bijanbari is by cooli and thence to Darjeeling by ropeway or *via* Pulbazar by bridle path. Although Bijanbari and Pulbazar are at the 2,000 feet level, the pass over which this trade reaches them is over 10,000 feet.
- (2) *Via* Gorakhia and Pashpatinagar in Nepal to Sukhiapokri, Simana, Manibhanjan or Mirik in the Darjeeling District. Sukhiapokri and Simana are connected with Ghum and Darjeeling by a metalled road which can carry fast heavy traffic. Manibhanjan also has a light traffic road which can only be used as a bridle path for goods. This group of bazars is situated at fairly high altitudes (5,000 to 7,000 feet) and access is over passes about this altitude.
- (3) In the Terai *via* Sanicharia in Nepal to Naxalbari, *via* Bhadrapur in Nepal to Adhikari and *via* Galgalia (just outside the District in Bihar). Galgalia is served by rail and Naxalbari both by road and rail.

The nature and volume of the trade through Bijanbari and Pulbazar have been outlined above. The commodities passing through the Sukhiapokri group of bazars are similar in description and exports through them amount to Rs. 7,00,000 annually. The annual import of potatoes (65,000 maunds) is also higher than that estimated (30,000 maunds) for the potato import on the Bijanbari route.

The Terai routes through Naxalbari and Adhikari do not carry any exports of rice or mustard oil. The main export commodities are cotton cloth, salt, copper and brass sheets, cotton yarn, bar iron, kerosene oil and sugar with an estimated annual value of Rs. 2,35,000. Annual imports are about 100,000 maunds of rice (3,663 tons), mustard oil to the value of Rs. 25,000 and small quantities of maize and potatoes.

Trade through Galgalia is practically all import from Nepal of rice and paddy which is railed to Siliguri and other stations on the main Darjeeling-Himalayan Railway. Milling takes place both at Galgalia and Siliguri.

The movement of rice and paddy in and out of Nepal is partly due to the superiority of the transportation system of Darjeeling over that in Nepal.

Exports of Darjeeling Produce.—Tea is the main commodity produced in the District. Its production has been described in the chapter dealing with the tea industry. Practically the whole output is exported to the plains for consumption either in India or abroad and leaves the District through the Siliguri Station of the Bengal and Assam Railway, except for small quantities moved from the gardens of the Kalimpong foothills by the branch of the Bengal and Assam Railway East of the Tista river.

The orange trade is next in importance. Apart from transit traffic of oranges grown in Sikkim, there is a considerable export of oranges grown in the Darjeeling District. A survey conducted in 1938 showed that 1,070 acres in the Kalimpong Subdivision and 230 acres in the Sadar Subdivision were under oranges. The orange season lasts for 3 or 4 months from the middle of November and yield varies from year to year: hail in the flowering season can destroy the whole of the year's crop. Orchards are practically all owned by hillmen and most of the crop is sold on the trees in September to upcountry Mussalman fruiterers from College Street, Calcutta, who do not depend on local finance. They employ hillmen to pick the fruit. The balance of the crop is sold when ripe in the open market at Kalimpong, Tista, Sombaria, Matelli and Matigara bazars. The annual value of the orange crop of the District is estimated to be from Rs. 5 lakhs to Rs. 10 lakhs. It is estimated that well over 50,000 maunds of oranges go down the Tista valley in a good year (including the Sikkim crop) and perhaps less in a bad year. Oranges are bought wholesale in counts of 1,000 and packed in boxes of a standard size holding about 350 to 400. About 1925 the wholesale price in Kalimpong varied from Rs. 8 to Rs. 12 per 1,000 and in Calcutta was about Rs. 16 per box. These prices fell in 1931 to Rs. 6 per 1,000 in Kalimpong and Rs. 6 or 7 per box in Calcutta. From 1936 onwards local prices ranged from Rs. 12 to Rs. 20 per 1,000 and the Calcutta price was about Rs. 15 per box. In 1944 war conditions raised local prices to Rs. 20 to Rs. 30 per 1,000 while the Calcutta price varied from Rs. 14 to Rs. 20 per box.

Cardamoms are also an important export crop. From the Kalimpong Subdivision alone the annual value of the crop is estimated at 4 or 5 lakhs of rupees and the District output is probably double this. The

entire crop is grown for export mainly to the Punjab. The average annual outturn from the Kalimpong Subdivision is 10,000 maunds. The financing of the purchase and despatch of the crop is entirely in the hands of Marwaris and it was the cardamom trade that first attracted Marwaris to Kalimpong soon after its annexation from Bhutan.

The crop is purchased in advance from the cultivator. Formerly rice and other goods were advanced against an arbitrary valuation of the cardamom crop at Rs. 11 per maund: thereafter when bazars came to be established cash advances at interest of 37½ per cent. per annum replaced advances in kind.

Imports of cardamoms take place from Sikkim and Nepal through the Tista Valley, the Sadar Subdivision and Kurseong (Bijanbari, Pulbazar, Singla and the Nepal frontier bazars). In the Kalimpong Subdivision the principal markets for cardamoms are Kalimpong, Algarah, Gitbeong, Tista and Sombaria.

The price of cardamoms has varied erratically. At the end of the 1914-18 war the price soared to Rs. 110 per maund. Thereafter it fell until in 1927 it was as low as Rs. 9 per maund. It moved to Rs. 20 before the present war during which it rose steeply to Rs. 65 in 1942-43 and then slowly fell to Rs. 42.

The District produces a considerable quantity of vegetables for export to Calcutta from April to November. Output during the war has been increased by the opening of special farms for supply to the forces. It is difficult to estimate the normal export of vegetables but this might be 50,000 maunds annually. In addition there is an important export of seed potatoes estimated at from 80,000 to 100,000 maunds annually. Many of these are imported from Nepal and they are despatched to Districts in West Bengal (Sheoraphuli is a principal centre), Bhagalpur, South Bihar Districts and Orissa. There is also an export trade in chirata and majinth practically all of which is first imported from Nepal. Before the war much timber was extracted from the forests of the District and exported. Private contractors were engaged in this business but during the war exploitation greatly increased and the output was handled solely by departmental agency.

To sum up, the main exports of the District are tea, fruit and vegetables, seed potatoes, cardamoms, chirata, majinth, raw hides, skins and timber. Imports are rice, wheat products, sugar, petrol and kerosene, gur and molasses, provisions, electrical goods, building materials, paper, agricultural implements (*kodalis* and sickles), aluminium ware, wrought and bar iron, woollen goods, cotton cloth, yarn and piecegoods, coal, matches, mustard and other vegetable oils, mustard seeds, leather goods, shoes, brass and copper ware and sheets, salt, fodder, chemicals (soda ash and manure), poultry, eggs, slaughter animals, soap, pottery, umbrellas, hurricane lanterns and motor cars and parts.

(3) Local Trade.

Local trade is considerable in a number of bazars in the District many of which are controlled by the Darjeeling Improvement Fund.

The more important bazars in the District are shown below. Those marked A have a turnover of over 20 lakhs of rupees annually; B a turnover of between 15 and 20 lakhs; C between 4 and 15 lakhs and D less than 4 lakhs.

Sadar Subdivision.

Darjeeling ..	.. A	Rangli Rangliot ..	.. D
Sukhiapokri ..	.. B	Sonada ..	.. D
Ghum-Jorebungalow ..	.. C	Rangbul ..	.. D
Pulbazar & Bijanbari ..	.. C	Lodhama ..	.. D
Simana ..	.. D	Rimbick ..	.. D
Manibhanjan ..	.. D	Singla ..	.. D
Pokhriabong ..	.. D	Ging ..	.. D
Lopchu ..	.. D	Pattiabash ..	.. D
Takdah ..	.. D	Lebong and Bhutia Basti ..	.. D

Kurseong Subdivision.

Kurseong ..	.. B	Mahanadi ..	.. D
Mirik ..	.. C	Soureni ..	.. D
Toong ..	.. D	Tindharia ..	.. D
Gayabari ..	.. D		

Kalimpong Subdivision.

Kalimpong ..	.. A	Algarah ..	.. D
Tista Bridge ..	.. C	Labha ..	.. D
Sombaria ..	.. C	Gitbeong ..	.. D
Pedong ..	.. D	Rambi ..	.. D

Siliguri Subdivision.

Siliguri ..	.. A	Kharibari ..	.. D
Naxalbari ..	.. C	Panighata ..	.. D
Matigara ..	.. C	Sivok ..	.. D
Baghdogra ..	.. C		

Various small businesses such as contracting for road repairs and for extraction of timber from forests, purchase and running of motor cars and lorries for hire and charcoal burning are partly trading and partly industry. Hillmen are quite efficient in carrying out these operations but they rarely can undertake them without borrowing capital.

Minor Trading.

The finance of trade and agriculture in the District is mainly in the hands of those who control trading, i.e., Marwaris and to a much smaller extent Biharis. There are in addition a few upcountry men engaged in the seed potato, the orange and the chirata and majinth trades who take a share in financing them. Certain special trades mentioned earlier are, as stated, controlled and financed by those who are not Marwaris or Beharis. The tea industry is financed and controlled from Calcutta but the local movement of funds required for the working of the industry is handled by the various commercial banks as well as by tea garden kayahs whose main ostensible function is the retail supply of commodities. The commercial banks include the Imperial Bank of India, Lloyds Bank, Ltd., the Dass Bank, the Central Bank of India, the Kuver Bank,

Finance.

and the Aryan Bank, Ltd. Although they have branches in many trade centres, these banks are more concerned with the movement of funds in a general way than with the detailed financing of trade and agriculture. Some, however, lend money on stocks of commodities in godowns. Large Marwari private banking firms, registered under the Money-Lenders Act are more closely concerned with actual trade financing and indeed often engage directly in trading.

While commodity markets and trade generally are financed by Marwari, Bengali and Behari bankers, branches of the Imperial Bank of India and Lloyds Bank provide general banking facilities in Darjeeling. The Imperial Bank opened its Darjeeling branch in September 1922 which, in addition to conducting Government business and providing funds for tea gardens in the District, also supplies general banking facilities for residents of the District and for visitors. A branch of Lloyds Bank was opened in 1935 which also provides funds for tea gardens and general banking facilities.

The basis of the finance of trade and agriculture is unfortunately the improvidence of the small producer and consumer, his lack of capital and his readiness to borrow or receive on credit. Crops are sold in advance by growers and goods are sold on credit to labourers on tea gardens and to cultivators outside them. Owing to his careless and improvident disposition, the hillman always places himself at a disadvantage in these transactions. He practically never accumulates capital, usually gets hopelessly into debt and becomes something like a slave of his creditor. On tea gardens the "Kayah" recovers his debts from coolies on pay day. He does not charge interest on outstanding dues but his prices on goods for sale are always fixed so as to provide a margin for interest. Tea garden Babus and Sardars often take part in lending money to coolies. This borrowing or indebtedness is in no way productive and it is probably correct to say that the indebtedness of coolies interferes with their efficiency and loyalty. It is the same with hillmen in the Khas Mahals outside tea gardens. Their crops are bought in advance and goods are supplied on credit at prices which are unfavourable to them. Here again these operations do not benefit or assist agriculture but merely stimulate improvidence, gambling and showy display. Even when hillmen make a life's business out of building, road or timber contracting or in driving motor cars or lorries for hire, they rarely save capital and always seem to remain dependent on Marwari financiers for the means of carrying on their business.

Money-lending conditions in the Terai are slightly different. Kayahs are found in tea gardens and they are usually financed by the management. The managements freely lend money without interest to coolies for the purchase of carts or buffaloes: these are available for garden use. Small shopkeepers outside tea gardens have recourse for capital to *jotedars* who charge a high rate of interest (up to 25 per cent.) for this. *Adhiars* cultivating under *jotedars* take advances of paddy from them for subsistence and are charged up to 50 per cent. interest.

The Money-Lenders Act has had some effect in checking abuses: more attempts at amicable settlement of debts and less recourse to the law courts have followed the passing of the Act. In 1942 the number of suits filed for debt in the Terai was 15 against the previous average of 55.

The Marwari dominates most of the exporting trades, viz., cardamom, oranges and potatoes and practically all the import trade of consumption goods. In addition he has an almost complete control of the retail sale of consumption goods to, and of the purchase of produce from, the small consumer and producer. It cannot be denied that the Marwari has played an important part in the development of the District. In Darjeeling town itself the firm of Jetmull Bhojraj was established in 1845 and Marwari firms were established in Kalimpong soon after its annexation from Bhutan. The part they played in the development of the District can be understood from the following comment on their early activities in Kalimpong:—

“With the advent of the Marwari traders who started large scale buying of cardamoms and the impetus derived from the larger demand for agricultural products, with increased pressure on land caused by an influx of Nepali cultivators after the tract became ceded to British India and with the introduction by the Nepalese of new methods of intensive cultivation by means of the plough, the need arose for agricultural capital and the Marwari was ready to provide it. In the beginning this was more in kind than in cash, the loan in kind being invariably computed in money value to the advantage of the lender. Gradually the system developed into regular money-lending in cash at definite rates of interest.”

The Marwari in the hills played a very useful and important part in the pioneer work of developing the District. He still plays a most important part in the economic life of the District and his dominating position is due to his efficiency, hardiness and assiduity. The fact that his position is due to his good qualities should not imply that it is not dangerous. Apart from the irritation produced in the hillmen's minds by the Marwari's superior business astuteness, the relations between the hillman and the Marwari perpetuate the irresponsibility of the former and thus prevent him becoming fit to take the part he should in the economic life of the District.

The problem as far as the hillman agriculturist is concerned is to induce a very thriftless small holder (average holding of less than 10 acres) to save enough to pay off debts averaging slightly more than Rs. 100 per holding and then himself to accumulate capital. Government's efforts to do this have not been successful. Co-operative credit was supplied without due care, with the result that thriftlessness was encouraged and a new burden on the cultivator added to that of the private creditor. Co-operative credit loans were granted in a boom period and when the slump came recovery was attempted ineptly whereas private lenders were far more successful. The private lender is more accommodating than the Co-operative Bank, he is a better

judge of paying capacity, meets the needs of the creditor better by supplying goods in his shop and loans at the time they are urgently needed although at exorbitant interest and not to the extent demanded. In fact the borrower finds the private lender a real help in need. At the same time the combination of money-lending and shop-keeping in the same establishment has been disastrous to the hillman: his capacity to bargain disappears when he buys goods on credit.

The Money-Lenders Act is another instrument designed to check the unsound domination of money-lenders. This Act has done much to check excessive interest and the abuse of credit sales but it has been by no means entirely successful partly because the hillman does not want to break away from his *mahajan*, partly because neither party wishes to take recourse to the law and partly because methods of evasion by means of a kind of barter are practised.

Other methods of protecting the hillman cultivator are the restrictions imposed in the hills on transfers of holdings and on their size. The Khas Mahal authorities refuse permission for hillmen to transfer to plainsmen or to transfer holdings in such a way that a cultivator has less than 5 acres or more than 20. In Kalimpong the authorities resist transfers by Lepchas or Bhutias to Nepalis. It is probably difficult to make these restrictions entirely effective as evasion by subletting is possible. The policy of limiting holdings to a maximum of 20 acres may discourage enterprise among hillmen and in any case the whole policy of restricting transfers is merely a negative one of preventing deterioration. It does not offer any positive cure for the economic dependence of the hillman on the foreign money-lender.

While it is probably correct to say that Marwari and Behari control of the commodity trade of the District is practically complete and that Marwari and Behari control over retail supply of consumption goods and the lending of money to hillmen is dominating, the situation in the professions and in certain lines of business is more in favour of the hillman or the Bengali. For instance it has been estimated that in Kalimpong:—

- (1) Ten per cent. of the wholesale trade in foodgrains and groceries is in the hands of hillmen and 15 per cent. of the retail trade.
- (2) The only three pharmacies are controlled by Bengalis.
- (3) The shoemaking and saddlery business is 60 per cent. in the hands of Chinese and 10 per cent. hillmen; hillmen have some share in the building material businesses (cement, lime, paints, sanitary and electrical fittings, etc.); hillmen dominate the brass work and restaurant businesses, motor driving, pack pony and bullock cart operation business and the execution of building and road construction work.
- (4) Transfrontier transportation operation is in the hands of Tibetans and Nepalis.

In the professions and Government service in Kalimpong, gazetted services are manned 60 per cent. by Bengalis and 40 per cent. by Europeans or Anglo-Indians: non-gazetted services 40 per cent. by Bengalis and Beharis and 60 per cent. by hillmen: the legal profession 40 per cent. by Bengalis, 40 per cent. by hillmen and 20 per cent. by Beharis: the medical profession 40 per cent. by Bengalis, 40 per cent. by Europeans and 20 per cent. by hillmen: the teaching profession 50 per cent. by hillmen, 20 per cent. by Bengalis and Beharis and 30 per cent. by Europeans and Anglo-Indians.

Prices in the District have followed those of the rest of the Province fairly closely. The reason, no doubt, is that the District depends on imports of rice and salt from Bengal and Behar. Prices of these commodities give a fair indication of the general level of prices. The trend of these can be judged from the table below which gives prices of coarse rice and common salt in rupees and annas per maund in the Darjeeling Sadar Subdivision—

Year.	Rice.	Salt.	Year.	Rice.	Salt.
	Rs. a.	Rs. a.		Rs. a.	Rs. a.
1871	2 4	....	1927	9 8	4 8
1903	3 6	4 8	1928	9 0	5 0
1907	6 0	3 0	1929	8 0	5 0
1910	3 12	2 14	1930	6 11	3 12
1912	5 0	3 0	1931	4 8	3 12
1913	6 11	3 0	1932	5 0	3 12
1914	5 11	....	1933	5 0	3 12
1915	7 8	4 0	1934	5 0	3 12
1916	7 0	5 0	1935	5 0	3 12
1918	5 0	6 0	1936	5 0	3 12
1919	8 0	5 0	1937	5 0	3 12
1921	7 12	4 8	1938	5 0	3 0
1924	5 11	5 11	1939	5 0	3 10
1926	9 0	4 4	1940	5 8	4 0

The price of rice in Kurseong has hardly differed from the Darjeeling price during the last 20 years. In Kalimpong the price has been as a rule slightly lower. At Siliguri the price has from time to time exceeded that at Darjeeling but in more recent times (for instance in 1938-40) it was 25 per cent. lower.

From 1942 began a violent upward movement of prices corresponding to the famine prices which developed in the rest of Bengal in 1943. Tea gardens succeeded in procuring rice for their labour forces often at very inflated prices: locally grown supplies of maize and other grains with the rice that could be imported were sufficient to prevent the appearance of famine or scarcity conditions. Prices however soared and at times it was extremely difficult to buy rice or salt in the open market at any price.

The price of rice reached its peak of Rs. 40 per maund in 1943; it gradually declined and under Government control it was steadied and came down to Rs. 13-12 in 1945. These are very different prices from

those reported in 1871 when cheap rice was Re. 1-4 per maund in the Terai and Rs. 2-4 in the hills and maize sold at Re. 1-8 per maund.

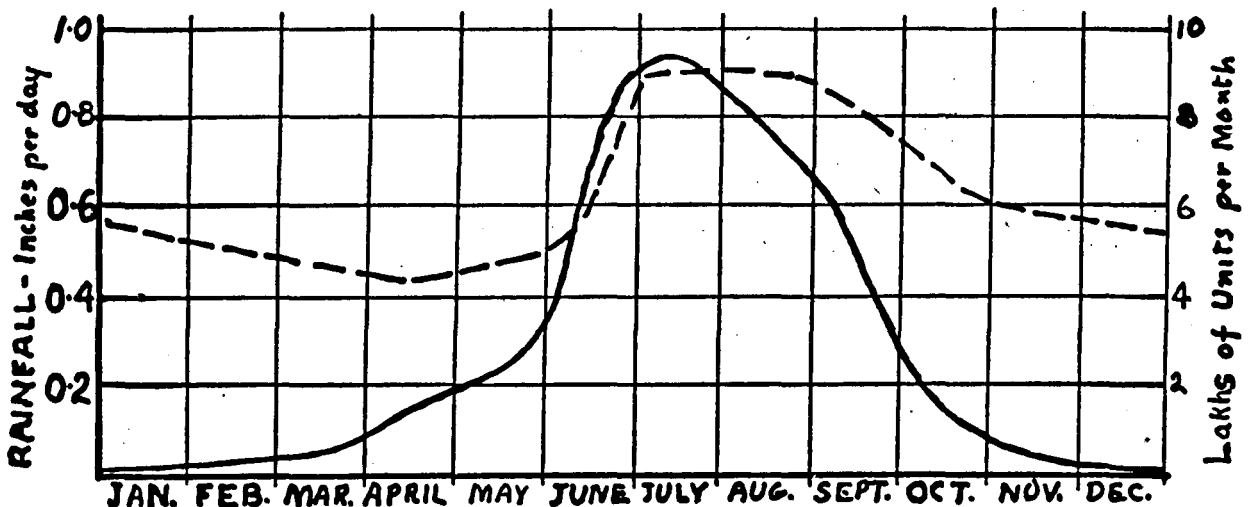
The future economic development of the District will depend much on what hydro-electric power production can be undertaken. Surveys of power available have been made for many of the more attractive locations and based on these, the minimum continuous power available in the District is estimated as follows:—

	Rain fed streams. K. W.	Glacial fed rivers. K. W.
Entirely in Darjeeling District	11,530	71,000
On border of Sikkim ..	20,780	40,000
Total ..	<u>32,310</u>	<u>111,000</u>

The finance of the development of the glacial fed river (the Tista) has not as yet been fully investigated but experience has shown that rain fed streams can be used advantageously.

The estimates of available power above are based on minimum water conditions. The geography of the District is such that it is not practicable to provide season to season or month to month storage. It is, however, practicable to provide storage reservoir capacity such that a cold weather load factor of 50 per cent. can be effectively handled and this condition obtains on the Darjeeling municipal system. The cold weather peaks which can be handled on a 50 per cent. load factor may therefore be taken as double those shown in the above table.

Darjeeling's average daily rainfall for the 24 years ending 1943 is shown graphically in the diagram below. Much of the heavy monsoon rain is absorbed by the soil and is slowly released until a minimum water condition is reached in March-April.



[The full line curve shows rainfall. The broken curve shows the estimated maximum energy available month by month from the existing Darjeeling Hydro-electric system. Energy generated in July and August is limited by plant capacity—not water. The curves demonstrate the manner in which the fall in energy available lags behind the falling away of the monsoon.]

For the most effective utilisation of water power, the ideal is for electric demand to correspond to or slightly lag behind the rainfall. This is in general impracticable but the Darjeeling Municipality tries to encourage an ideal demand by the adoption of a low monsoon rate of $\frac{1}{4}$ anna per unit for consumption for heating, cooking and tea drying. Tea is now being successfully dried electrically at Takvar Tea Factory and it is expected that electric drying will shortly be installed in other factories to the limit of monsoon power at present available.

The combined cold weather peak demands of Darjeeling, Kurseong and Kalimpong to date may be taken as 1,216 K.W. The District demand for the next 10 years has been estimated as follows:—

	K. W.
For towns and villages	3,000
For power in replacement of oil and steam engines on tea factories	1,400
For electric firing in tea factories	16,000
Total	20,400

Industries may also be attracted by cheap power rates, but if so, they are most likely to be economic if situated on the main railway system at or below Siliguri and supplied there by high pressure transmission from the main sources of power.

The power needed for electrification of the Darjeeling-Himalayan Railway has not been ascertained but it is probable that the likely traffic, if electrification be found to be economic, could be handled effectively with 3,000/5,000 K.W.

At present, prospects of load development in the District may not justify full development of available power. Experience with tea drying however might give rise to a demand from the Dooars which is estimated at some 7,000 K.W. for motive power and some 70,000 K.W. for tea drying. But there can be no doubt that a forward policy of hydro-electric development would benefit the whole District and raise the standard of living of most of its inhabitants.

CHAPTER XI.

MEANS OF COMMUNICATION.

Before any part of what is now the Darjeeling District had been made over by the Raja of Sikkim to the government of the East India Company, means of communication were very rudimentary. A few narrow rough tracks through forests and occasional cane bridges over torrents were all that existed. It is quite possible that the Sikkim authorities considered that southward communications were of less importance than those going northward, for the Ruling Family was of Tibetan origin and showed a fondness for summering in the Chumbi valley, finding even Sikkim too damp for its taste.

The area, at the time it was taken over from Sikkim, was almost entirely covered by forest and indeed it was reported in 1830 to be totally uninhabited. Grant's memorandum of 1830 mentioned only two routes then existing northward from the plains into Sikkim. One was by the "Nagree" pass and the other by the "Sabbook Golah". A third route by the Mahananda was mentioned as having been deserted and overgrown with jungle.

The pioneers who came to open up Darjeeling after it had been ceded in 1835 were confronted with an arduous journey from Calcutta before they reached the hills. A guide to Darjeeling published in 1838 mentioned 98 hours as the time the journey took from Calcutta by *dawk* as follows:—

- 54 hours Calcutta to Malda.
- 16 hours Malda to Dinajpur.
- 20 hours Dinajpur to Titaliya.
- 8 hours Titaliya to the foot of the hills.

The whole journey to Darjeeling lasted five or six days and the discomfort and expense were graphically described by Sir Joseph Hooker who in 1848 at a cost of Rs. 240 had occasion to perform the journey from Karagola Ghat on the Ganges to the foothills.

The first measure taken to improve communications was the deputation of Lieutenant Napier (subsequently Lord Napier of Magdala) to construct a road from Siliguri to Darjeeling. This was carried out from 1839 to 1842 and the road, now known as the Old Military Road, can still be seen winding its way by sharp ascents from Pankhabari to Kurseong and thence on to Dow Hill and Ghum. The section of this road from Pankhabari to Kurseong is part of what is now known as the Matigara-Kurseong Road.

This road was not practicable for wheeled traffic and the development of Darjeeling and the cost of transporting military stores (Rs. 2 per maund from Pankhabari to Darjeeling) was very heavy for

those times) led to the construction of a cart road to Darjeeling. Work was begun in 1860: the section from Kurseong to Darjeeling was opened to traffic in 1864 and the whole road completed in 1869. The specification was a road 24 feet in breadth with a general gradient of 3 in 100 and maximum gradient of 1 in 18. Meanwhile, communications in the plains had been improved by the construction, at a cost of Rs. 14,68,000, of a road 126 miles long from Karagola Ghat on the Ganges opposite Sahebganj to Siliguri whence a road had been driven connecting with the Hill Cart Road. The road from Karagola to Siliguri is now known as the Ganges Darjeeling Road.

In 1860 the East Indian Railway had been extended up to Sahebganj and thereafter it was only necessary to travel by road north of this point in order to get to Darjeeling. The journey to the foot of the hills could be performed from Karagola either by *palki* (palanquin) or bullock cart and by *tonga* from Siliguri to Darjeeling. This route from Karagola passed through Purnea, Kishanganj and Titaliya to Siliguri. In 1878 the Northern Bengal State Railway was opened for traffic up to Jalpaiguri and by the end of that year it had been extended to Siliguri. In 1881 the Darjeeling Himalayan Railway Company had opened its steam tramway for traffic up to Darjeeling. Up to 1915, the rail journey to Siliguri was broken at the Ganges where the broad gauge line ended and the river crossing was performed in a ferry steamer to the metre gauge system north of the river. The Ganges was bridged in 1915 and the broad gauge system gradually extended northward so that now the traveller can reach Siliguri with a night journey of 9 hours and be in Darjeeling within 13 or 14 hours of leaving Calcutta.

In spite of the expense of construction, maintenance and bridging, the importance of road communications in this District had always been recognised locally and by the Provincial Government. Road development received a fresh impetus after 1918 with the coming into general use of the petrol-driven vehicle. Since then the carrying capacity of the Darjeeling District communication system has been vastly increased as well as the comfort and convenience of the travelling public. A considerable improvement in the comfort of travel on steep and narrow hill roads has followed from the appearance on the market of the very light motor car of which the pioneer was the Austin 7 with a specially low gear box for use in the hills.

The road system in the District is not only of local utility but also of importance to the Province and to Sikkim and Tibet. These facts explain the number of authorities controlling the roads of the District. The Central Public Works Department controls parts of certain major roads leading to Sikkim and Tibet. Other parts of these roads and the other more important roads in the District are directly maintained by the Communications and Works Department of the Provincial Government which is interested in the main lines of

communications with the neighbouring provinces of Behar and Assam and in an adequate road system for the summer capital of the Province. The District Board is responsible for subsidiary lines of road communication and in addition there are roads of varying importance to the public maintained by the Forest Department and the villagers of Government Estates in the District.

The various controlling authorities have been shown in the list of District Roads given below. It has not been thought necessary to give many details of the engineering of the roads listed: it should be understood that construction and maintenance of roads is troublesome and expensive: in the hills because of the mountainous nature of the land, the heavy rainfall and the liability to landslips: in the Terai because of heavy rainfall and flooding.

In the hills, blasting may be necessary in construction and repairs and streams crossing road alignments often have to be treated with expensive revetting or walling to lessen risk of their harming the road. Roads are usually built with an inward slope and a drain along the hillside to lessen the risk from heavy rain. Bridging technique has changed considerably since the time of Hooker when suspension bridges consisted of a few bamboos slung from two parallel canes. Such bridges exist today but the more common suspension bridges use steel wire ropes and no bamboos. The log bridge built on the cantilever principle is also still made but steel girders and reinforced concrete are used for the more important modern bridges where traffic is heavy and durable structures are needed.

1. Roads maintained by the Public Works Department of the Central Government.

Tista Bridge to Rangpo. 15 miles. This road follows the Tista Valley up to the Rangpo Bridge from which it continues in Sikkim State to Gangtok the capital. It is metalled and fit for wheeled traffic. Parts of it are narrow and traffic is occasionally interrupted by landslips. Maintenance is costly and difficult but considerable improvements have been undertaken since 1940.

2. Roads and bridges maintained by the Communications and Works Department of the Government of Bengal.

These roads are of a total length of 311 miles of which 216 miles are metalled. Annual maintenance costs approximately Rs. 4½ lakhs. The following are the more important roads and bridges:—

The Darjeeling Cart Road (also called the Hill Cart Road): The section from Kurseong to Darjeeling was completed in 1865 at a cost of Rs. 5¼ lakhs. This section is 19½ miles long and contained 300 bridges. The section from Kurseong to Pankhabari and thence to Siliguri was not completed until some years later owing to labour and engineering difficulties. The section from Pankhabari to Kurseong was only 6 miles long but required 300 bridges and cost Rs. 2½ lakhs. The road was finally open for traffic in 1869. It now carries little

traffic as later a more direct road to Siliguri was opened out which was used for the railway alignment in 1880. Since then the direct road has been constantly improved and with the advent of motor traffic this improvement received considerable impetus. Most of the road has now a tarred surface and has been sloped, drained and cambered so as to be suitable for the most modern traffic. High speeds are not possible owing to steepness and sharp curves but two way traffic is quite convenient as all corners have been widened to allow two vehicles to pass one another. The total length of this road is 48 miles.

The Tista Valley Road: This road connects Sivok to Tista Bridge and is continued therefrom to Sikkim and Tibet *via* Rangpo (*see* above) and to Kalimpong and Tibet by the Rishi Road. The length of this road is 18½ miles. The former road along this section of the Tista Valley was for the great part destroyed in the flood of 1899: the road on the present alignment was completed in the year 1909-10 at a much higher level up the hillside and at a cost of Rs. 4,32,888. What was left of the abandoned road was taken over by the Darjeeling Himalayan Railway for their Tista Valley branch. The road passes through very picturesque scenery but its maintenance is troublesome and expensive. The road is macadam surfaced from the Coronation Bridge to the Tista Bridge and is designed for the use of motor-transport. Vehicles are limited to 35 cwt. laden weight on the section from the Coronation Bridge to Gielle Khola and there is a suspension bridge over the Rambi Khola which can only carry vehicles of limited weight and size. The rest of the road is usable by vehicles of laden weight of 40 cwt. The road is open for wheeled traffic throughout the year but landslips are frequent and traffic is sometimes interrupted for a day or two on this account. The Siliguri Sivok Road connects Siliguri with the above road and is twelve miles long: the section Siliguri to Sivok was greatly improved during the war and is fit to carry heavy traffic.

The continuation of the Tista Valley Road to Rangpo, known as the Lachen Road, has been transferred to the Public Works Department of the Central Government and has been considerably improved so as to carry wheeled traffic at all times of the year. It was formerly maintained by the Sikkim State and then by the Provincial Government.

The continuation of the Tista Valley Road to Kalimpong and beyond is called the Rishi Road. It is 26 miles long and reaches up to the Sikkim frontier, continuing through that territory up past the Tibet frontier at the Jalap La pass to Phari Dzong and Lhasa. It is an important trade route and the section up to the Sikkim frontier is maintained by the Provincial Government. The portion from Tista Bridge to Kalimpong consisted of many sharp curves and high ruling gradients. In the year 1929-30 it was improved considerably to make it usable by heavy motor traffic. The section from Kalimpong to Algarah was improved in 1940-41 at a cost of Rs. 24,294

and made fit for 18 cwt. wheeled traffic. The section beyond Algarah is fit only for pack and pedestrian traffic and not for wheeled traffic.

The Sivok Bagrakot Road $9\frac{1}{2}$ miles long starts from the 14th mile of the Tista Valley Road and ends at Bagrakot Railway Station on the Bengal and Assam Railway. It connects the Ganges Darjeeling Road with North Assam and is a link in a very important highway system. It was constructed by the Provincial Government at a cost of about Rs. 18 lakhs, including bridging, and was completed in 1941. The road carries all types of heavy traffic up to 5 tons laden weight. The width of the metalled portion varies from 12 feet to 20 feet. The whole length of the road is surfaced either with cement concrete pavement or with bitumenous material. The culverts are all of the reinforced concrete box type. The principal bridges on this road are the Coronation Bridge over the Tista and the Lish River Bridge. These are described in the paragraph on bridging below.

The Siliguri Naxalbari Road: This road passes through Matigara after leaving the Darjeeling Hill Cart Road, just over a mile from Siliguri. It is $13\frac{3}{4}$ miles long and is fit for heavy traffic (5 tons laden) at all seasons of the year.

Three roads northward of the above road are maintained by the Provincial Government—The Matigara Kurseong Road, the Tirhana Naxalbari Road and the Tirhana Baghdogra Road, $22\frac{1}{4}$, $8\frac{1}{2}$ and $5\frac{3}{4}$ miles long, respectively. The last two carry traffic up to 5 tons laden weight throughout the year and are metalled throughout. The Matigara Kurseong Road takes 5 ton traffic for the first 9 miles and is usable for lighter traffic up to Pankhabari. A mile or so at the upper end of this road (from Kurseong Railway Station to Constantia) is also fit for 40-cwt. traffic; 5 miles of the road is an unmetalled bridle road.

An account of the group of plains roads controlled and maintained by the Provincial Government is completed by mention of the Sukna Adalpur Road, 3 miles long and fit for 30 cwt. traffic and the Panighata Kadma Road, 3 miles long and fit for 5 ton traffic.

The Provincial Government has also made itself responsible for the road system in the Siliguri town and for that part of the Ganges Darjeeling Road that lies within the District (2 miles approx.). This last carries vehicles laden to 40 cwt. and is metalled. During the 1939-45 war this road was greatly improved southward up to Karagola Ghat on the Ganges and if maintained may develop into an important line of communication connecting Darjeeling District by road with Calcutta and the north of India.

The Ghum Simana Road just over ten miles long, formerly called the Nepal Frontier Road, is maintained by the Provincial Government. It is fit for heavy traffic up to 40 cwt. laden weight and is metalled. It is an important road connection with Nepal and carries much trade from that country.

In the Darjeeling area an important road is the Pashok Road, 17 miles long, connecting Tista with the Cart Road at Jorebungalow. This road takes 40 cwt. traffic to the 6th mile from Jorebungalow and 18 cwt. traffic for the rest. Connecting again with this road is the Hum Road $3\frac{1}{2}$ miles long carrying 40 cwt. traffic. It takes off from the 6th mile of the Pashok Road to what was formerly the Takdah Cantonment. It was constructed in 1911 at a cost of Rs. 1.31 lakhs.

The Rangit Road connects Darjeeling with the Rangit River and thence with the Tista. The total length of this road is over $17\frac{1}{2}$ miles of which 8 is unmetalled bridle road. The metalled portions from Lebong to Manjitar Bridge over the Rangit and from Champa Bridge to Pashok Jhora (*via* Tista) carry 18 cwt. wheeled traffic.

The Simanabasti Dudhiahjhora Road, $22\frac{3}{4}$ miles in length, is metalled for over $19\frac{1}{4}$ miles. The metalled portion carries 18 cwt. wheeled traffic.

Other metalled roads of less importance are maintained by the Provincial Government in the neighbourhood of Darjeeling and Kalimpong towns. Considerable sums were spent on roads in the Kalimpong Development Area for the purpose of opening up this valuable building estate.

In addition to metalled roads suitable for wheeled traffic the Provincial Government also maintains bridle paths of which the most important are the following:—

- (1) The Simanabasti Phalut Road over 35 miles in length along the Nepal frontier—a favourite route for tourists.
- (2) The Jangi Guard Road from Kalimpong to Gorubathan over 24 miles long of which $4\frac{1}{2}$ miles is metalled. This road connects Kalimpong with the Dooars.

The following are important bridges constructed by or under the direction of the Provincial Government:—

- (1) The Anderson Bridge over the Tista is a reinforced concrete bridge constructed at a cost of Rs. 3,69,000 in 1933-34. It connects the Tista Valley Road with the Rishi Road and replaced an old suspension bridge called the Tista Bridge. It carries a roadway 18 feet wide.
- (2) The Coronation Bridge over the Tista crossing near the 14th mile of the Siliguri Sivok Tista Valley Road. This bridge has a total length of 563 feet with a span of 276 feet and a rise of 132 feet. The height of the roadway at the centre above water-level is about 173 feet. The piers and arch are all hollow and this is the first bridge of such magnitude in India in which hollow box construction has been adopted. The bridge was designed by Mr. John Chambers now Chief Engineer and was opened by His Excellency Sir John A. Herbert, Governor of Bengal, on the 12th March 1941.
- (3) The Maharaja Nandi Bridge over the Sivok River at the 12th mile of the Siliguri Sivok Road. It was completed in 1940 at a cost of Rs. 1,03,000. It is a reinforced concrete rigid box culvert with 33 spans of 100 feet each (including 3 land spans on sloped abutments).
- (4) The Lish River Bridge on the Sivok Bagrakot Road is a reinforced concrete bridge, having a main arch of 68 feet and four approach spans of 10 feet each, costing Rs. 35,868.
- (5) Ferro-concrete bridges over the Kolaigomti and Rongdong rivers on the Sivok Bagrakot Road.
- (6) A suspension bridge over the Balasan river at Pankhabari.

- (7) A suspension bridge over the Great Rangit River at Manjitar connecting the District with Sikkim State.
- (8) A suspension bridge over the Great Rangit River at Champa connecting the District with Sikkim State.
- (9) A suspension Bridge over the Rambi River on the Tista Valley Road. This bridge has long been a bottle neck for traffic on this road as it cannot take vehicles over 35 cwt. in weight, gives very low overhead clearance and because of its awkward approaches cannot be used by vehicles of appreciable length.

Lists later in this chapter give further particulars of the roads in the District maintained by the Imperial and Provincial Governments and the map in the folder indicates their location.

3. Roads maintained by the District Board, Darjeeling.

The District Board maintains 68 roads with a total length of 355 miles (21.14 metalled and 333.6 unmetalled). The cost of maintenance is about Rs. 70,000 annually (Rs. 506 per mile for metalled and Rs. 96 per mile for unmetalled roads). The Board employs a District Engineer and 5 subordinates posted in different parts of the District. Many of the roads are feeders but the Board has, since its creation in 1922, done a great deal to improve the road system then handed over to it. None of the roads were at that time metalled or bridged: now there are numerous suspension and girder bridges, wooden bridges, culverts and protective walls and revetments. The most important bridges of the District Board are the following:—

- (1) Gok suspension bridge 236 feet span (Road 1).
- (2) Suspension bridge 130 feet span (Road 2).
- (3) Baluabash suspension bridge span 206 feet (Road 3).
- (4) Rammam suspension bridge span 174 feet (Road 5).
- (5) Rummuck suspension bridge span 130 feet (Road 10).
- (6) Balasan suspension bridge span 264 feet (Road 10).
- (7) Lower Rongbong suspension bridge span 130 feet (Road 10).
- (8) Rongbong bridge (girder) span 68 feet (Road 15).
- (9) Jhepikhola suspension bridge span 175 feet (Road 16).
- (10) Balasan suspension bridge 93 feet span (Road 18B).
- (11) Mahanadi bridge (girder) span 65 feet (Road 19).
- (12) Mahanadi bridge span 62 feet (Road 19A).
- (13) Babookhola bridge span 56 feet (Road 19A).
- (14) Mahanadi suspension bridge span 190 feet (Road 19A).
- (15) Sibakhola suspension bridge span 118 feet (Road 19A).
- (16) Namsu suspension bridge span 328 feet (Road 21).
- (17) Namsu suspension bridge approach span 68 feet (Road 21).
- (18) Namsu suspension bridge span 268 feet (Road 22).
- (19) Singballi suspension bridge span 154 feet (Road 25).
- (20) Girder bridge span 52 feet (Road 26A).
- (21) Log bridge span 70 feet (Road 29).
- (22) Wooden bridge span 72 feet (Road 29).
- (23) Girder bridge span 78 feet (Road 30A).
- (24) Girder bridge span 75 feet (Road 32).
- (25) Wooden bridge span 90 feet (Road 32A).
- (26) Wooden bridge span 60 feet (Road 32A).
- (27) Wooden bridges span 79 feet and 70 feet (Road 32C).
- (28) Steel girder bridge span 72 feet (Road 39).
- (29) Wooden bridge span 60 feet (Road 40).
- (30) R. C. bridge span 75 feet (Road 41).

The roads from Baghdogra to Ghughujhora (8·31 miles) and from Naxalbari to Kharibari (10·93 miles) have been metalled and bridged throughout. Four and half miles of the road from Kharibari to Phansidewa (of total length of 12·5 miles) have been metalled and at the second mile from Kharibari on this road the Dumuria river has been spanned by a girder bridge 120 feet long. The roads from Matigara to Phansidewa (8½ miles) and from Naxalbari to Ambari, both unmetalled, have been bridged throughout. The Board has also bridged many bridle roads in the hills and made them usable for pack traffic throughout the year by bridging and improving the surface and gradients. It is intended to complete the bridging and metalling of the Kharibari-Phansidewa Road and the metalling of the Matigara-Phansidewa Road.

Under the District Board are 3 Local Boards which play an important part in the administration of roads. The Sadar Kurseong Local Board has its office at Kurseong and controls 220 miles of hill roads; the Siliguri Local Board controls 116 miles of Terai roads and the Kalimpong Local Board 18·56 miles of hill roads. These Boards receive allotments for road maintenance from the District Board and sanction work estimates prepared by the District Engineer. Construction and maintenance of the more important roads are carried out by the District Engineer on the contract system but for less important roads in which tea gardens are directly interested the honorary contract system makes for efficiency and economy. Under it contracts are given to local planters for the upkeep of such roads.

The lists later in this Chapter give further particulars of the roads in the District maintained by the District Board and the map in the folder indicates their location.

4. *Roads maintained by the Darjeeling Improvement Fund.*

Rs. 13,000 annually is spent by this fund on the construction and maintenance of roads (mainly within the various *hats* controlled by the Fund): Work is carried out by the Engineering staff of the District Board. An account of this fund will be found on pages 226 to 228 of Chapter XII.

5. *Roads maintained by the Forest Department.*

There are certain roads maintained by the Forest Department which are used appreciably by the public, lists of which will be found later in this chapter. The most important of these are the Cart Road from Sukhiapokri to Manibhanjan and Batasi and the Cart Road from Simkona to Lalkuti in the Darjeeling Forest Division; the Old Military Cart road from Ghum to Kurseong in the Darjeeling and Kurseong Forest Divisions; in the Kurseong Division, various roads from Bagora and the Sukna Sivok Road and in the Kalimpong Division cart roads from Rissisum to Labhā in the Neora range and down the Jaldhaka valley. There is a suspension bridge over the Tista at Nazeok recently constructed by the Forest Department which is much used by the public.

6. Roads maintained by the Khas Mahal Department.

A certain number of paths are maintained by Khas Mahal villagers who are required by the terms of their tenancy to give 2 days' free labour per year on maintenance. Few of these paths can be described as bridle roads and none have more than very local utility.

LIST SHOWING TRAFFIC CAPACITY OF ROADS IN THE DARJEELING DISTRICT.

NOTE.—All roads listed are reported to be kept open throughout the year for the traffic indicated unless otherwise stated.

COMMUNICATIONS AND WORKS DEPARTMENT ROADS.	Traffic limited to laden weight of—	Remarks.
<i>A. Fit for wheeled traffic.</i>		
1. Station Feeder Road, Siliguri	40 cwt.	
2. Matigara Hill Cart Road	5 tons.	
3. Matigara Naxalbari Road	5 "	
4. Station Yard Road, Siliguri	40 cwt.	
5. New Kutchery Road, Siliguri	40 "	
6. Tirhana Baghdogra Road	5 tons.	
7. Siliguri Bazar Road	40 cwt.	
8. Sukna Adalpur Road	30 "	
9. Panighata Kadma Road	5 tons.	
10. Tirhana Naxalbari Road	5 "	
11. Matigara Kurseong Road	5 "	(Up to 9th mile.)
	30 cwt.	(From 9th mile to Pankhabari.)
	40 "	(From Kurseong Rly. Stn. to Constantia.)
12. Darjeeling Hill Cart Road	40 "	(From Sukna to Darjeeling.)
	5 tons.	(From Siliguri to Sukna.)
13. Ghum Simanabusti Road	40 cwt.	
14. Leborg Road	40 "	
15. Pashok Road	40 "	(From Jorebungalow to the 6th mile.)
	18 "	(From the 6th mile to Tista Bridge.)
16. Hum Road	40 "	
17. Tista Valley Road	35 "	(From Coronation Bridge to Giellekhola.)
	40 "	(From Sivok to Coronation Bridge and from Giellekhola to Tista Bridge.)
18. West Rickshaw Road	40 "	Kalimpong.
19. Upper Cart Road	40 "	"
20. Lower Bridle Road	40 "	"
21. Ringkingpong Road	40 "	"
22. Approach Road to Riyang	40 "	
23. Rishi Road	40 "	(From Tista Bridge to Kalimpong.)
	18 "	(From Kalimpong to Algarah.)
24. Siliguri Sivok Road	40 "	
25. Sivok Bagrakot Road	5 tons.	

COMMUNICATIONS AND WORKS DEPARTMENT ROADS.		Traffic limited to laden weight of—	Remarks.
26.	Ganges Darjeeling Road ..	.. 40 cwt.	
27.	Senchal Road from Jorebungalow to Senchal.	.. 18 ..	
28.	Simanabusti Dudhiajhora Road	.. 18 ..	(From Simanabusti to 19th mile.)
29.	Rangit Road ..	.. 18 ..	(From Lebong to junction of the approach road to Manjitar Bridge and from Pashok Jhora to Champa Bridge.)
30.	Approach road to Manjitar Bridge	.. 18 ..	
<i>B. Bridle Roads.</i>			
31.	Approach road to Dow Hill School.		
32.	Road connecting two schools at Dow Hill.		
33.	Old Rangit Road.		
34.	Panighata Dudhiajhora Road.		
35.	Shortcut Road on Hill Cart Road.		
36.	Calcutta Road.		
37.	Simanabusti Phalut Road.		
38.	Jangiguard Road.		
39.	Link Road connecting Rishi Road and Jangiguard Road.		
DISTRICT BOARD ROADS.			
<i>A. Fit for wheeled traffic.</i>			
2.	Takvar to Singla Bazar ..	.. 18 cwt.	(Fair weather only.)
3.	Darjeeling to Pulbazar ..	.. 18 ..	(Fair weather only.)
5.	Singla Bazar to Rammam ..	.. 18 ..	(Fair weather only.)
7.	Takdah Club to Riyang ..	.. 18 ..	
7A.	P. W. D. Boundary Pillars to junction with Road 7.	.. 5 tons.	
13.	Nagri to Sukhiapokhri ..	.. 20 cwt.	
22A.	Lepcha Khati Lepcha Tar Road	.. 18 ..	
27.	Matigara to Phansidewa ..	.. 20 ..	(1½ miles only metalled.)
28.	Baghdogra to Atal ..	.. 20 ..	
29.	Kharibari to Phansidewa ..	.. 20 ..	(Fair weather only—4 miles only metalled.)
30A.	Panighata to Mechi ..	.. 20 ..	
31.	Naxalbari to Ambari ..	.. 20 ..	
32.	Naxalbari to Kharibari ..	.. 5 tons.	
32A.	Kharibari to Galgalia ..	.. 5 ..	(Fair weather only.)
32B.	Road No. 32 to Rly. Station Adhikari	.. 20 cwt.	
32C.	Thanjhora Road ..	.. 20 ..	
33.	Chanta Bungalow to Hill Cart Road	.. 20 ..	
34A.	Garidhura to junction of Baghdogra Tirhana Road.	.. 20 ..	(Fair weather only.)
39.	Hill Cart Road to Sapur Tea Estate	.. 20 ..	
40.	Dumri I. B. to Phansidewa ..	.. 20 ..	(Fair weather only.)
41.	Matigara Naxalbari Road (C.&W.D.) to Ghughujhora.	.. 5 tons.	
43.	Manjha to Toribari ..	.. 20 cwt.	(Fair weather only.)
44.	Khaprail to Tirhana ..	.. 20 ..	(Fair weather only.)
44A.	Patanbari to Kurseong Siliguri Road	.. 20 ..	(Fair weather only.)

DISTRICT BOARD ROADS.		Traffic limited to laden weight of—	Remarks.
47.	Atal to Road No. 31 ..	20 cwt.	(Fair weather only.)
47A.	Road No. 31 to Kharibari up to Road No. 29.	20 „	(Fair weather only.)
49.	Atal to Cambrian	20 „	(Fair weather only.)
51.	Tirhana to Panighata ..	18 „	(Fair weather only.)
52.	Road No. 41 to Road No. 47 ..	18 „	(Fair weather only.)
V2.	Village Road Saptiguri to Garidhuri	20 „	(Fair weather only.)
V3.	Old Siliguri to Matigara Hat ..	20 „	(Fair weather only.)
<i>B. Bridle Roads.</i>			
1.	Darjeeling to Little Rangit ..	Upper part fit for 18 cwt. wheeled traffic.	(Fair weather only.)
3A.	Pulbazar to Kolbong.		
3B.	Gok Bridge to 3A.		
6.	Takdah Glenburn to Rangit ..	Upper part fit for 18 cwt. wheeled traffic.	(Fair weather only.)
8A.	Bridle Path between Senchal Dairy and Dak Bungalow.		
9.	Bloomfield to Rishihat ..	Upper part fit for 18 cwt. wheeled traffic.	(Fair weather only.)
9A.	Sir Bijoy Chand Road.		
10.	Rangbul to Namsu Bridge ..	First 4 miles fit for 18 cwt. wheeled traffic.	
11.	Balasan to Rongbong Bridge ..	Middle part fit for 18 cwt. wheeled traffic.	
12.	Sonada to Balasan	Upper half fit for 18 cwt. wheeled traffic.	
14.	Lepcha to Pulbazar.		
15.	Nagri Spur to Rongbong.		
16.	Badamtam to Barnesbeg ..	Half fit for 18 cwt. wheeled traffic.	
18.	Singla Bazar to Barnesbeg.		
18A.	Pulbazar to Suberkum.		
18B.	Passimbong Toongsoong to Road No. 13.	Upper 4 miles fit for 18 cwt. wheeled traffic.	
18C.	Short-cut Road from 6th mile on Pashok Road to Cantonment.	Lower part fit for 18 cwt. wheeled traffic.	
19.	Ghunti to Mahanadi.		
19A.	Lower Sepoydhura to Road No. 19.		
20.	Ghunti to Namring.		
21.	Sonada Brewery to Namsu ..	Upper part fit for 18 cwt. wheeled traffic.	
22.	Namsu to Dudhiajhora.		
23.	Panighata bridge to Longview.		
24.	Namsu to Road No. 26D.		
25.	Kurseong to Singballi Bridge.		
25A.	Manjha bridge to P. W. D. Frontier Road.		
26A.	Upper Sepoydhura Bazar to Road No. 21.		
26B.	Margaret's Hope bridge to Toong.		
26C.	Monteviet T. E. to Coffeebari T. E.		(Fair weather only.)
26D.	Rongbong to Frontier Road ..	Fit for 18 cwt. wheeled traffic up to Thurbo.	
30.	Garidhura to Panighata.		
53.	Tarkhola Road.		
54.	Kalimpong Town to Bong Bustee.		
55.	Melli Road.		
56.	Dungra Road.		

FOREST DEPARTMENT ROADS.

A. Fit for wheeled traffic.

1. Old Military Cart Road.
2. Simkona Lalkuti Cart Road.
3. Sukhiapokri Manibhanjan Cart Road.
4. Manibhanjan Batasi Cart Road.
5. Dilaram Road from Bagora to Darjeeling Hill Cart Road.
6. Sukna Sivok Road.
7. Rissisum Labha Cart Road.
8. Central Cart Road.
9. South Boundary Cart Road.
10. Dalgaon Tar Cart Road.

Note.—No. 1 lies in the Darjeeling and Kurseong Forest Divisions, Nos. 2-4 in the Darjeeling Division, Nos. 5 and 6 in the Kurseong Division and the remainder in the Kalimpong Division.

B. Bridle Roads.

- | | | |
|----------------------------|----|---------------------|
| 1. Toong Station to Bagora | .. | Kurseong Division. |
| 2. Bagora to Mana | .. | Kalimpong Division. |
| 3. Kamesi Bridle path | .. | Ditto. |
| 4. Noam Bridle path | .. | Ditto. |
| 5. Fagu Bridle path | .. | Ditto |

Between 1878 and 1881 the boundaries of the District were adjusted to include in it the Siliguri terminus of what is now the Bengal and Assam Railway. The line to Siliguri had been opened in 1878. At present the Bengal and Assam Railway has at Siliguri about two miles of track lying within the District of which only about one mile is the main line track.

With the exception of these two miles of the Bengal and Assam Railway, the only railways in the District are those of the Darjeeling Himalayan Railway, a 2 feet gauge steam tramway system, consisting of the main line from Siliguri to Darjeeling, one branch line from Siliguri to Kishanganj in the Purnea District and a second branch line from Siliguri to Gielle Khola on the Tista Valley Road.

The main line starts from Siliguri, 398 feet above sea-level, and runs along the Hill Cart Road for about $7\frac{1}{2}$ miles on the level to Sukna. After this station the railway begins to climb the Himalayan foothills at an average gradient of 1 in 29 reaching its highest point, 7,407 feet above sea-level, at Ghum station, 47 miles from Siliguri. It then descends for about four miles to the terminus at Darjeeling Station, 51 miles from Siliguri and 6,812 feet above sea-level.

For most of its length the railway runs along the Hill Cart Road, though diversions of the rail line from the road, in search of easier alignments, are frequent enough. At places on either side of Ghum, the road negotiates gradients much steeper than the average, and those difficulties of ascent are overcome by ingenious devices. One is the loop, where the line passes through a tunnel, runs in a complete circle and over the roof of the tunnel again, so that the alignment

follows a large spiral. Another is the reversing station where the train is shunted backwards on an ascending gradient for some distance, so that the alignment climbs the hillside in a zig-zag like a hill footpath. The contour of the hill-sides provides many special problems in alignment for a railway which, at many places, has to negotiate curves as sharp as 60 feet in radius.

When the line was first opened engines weighing about eight tons were used, capable of hauling ten tons up the then maximum gradient of 1 in 19 and round the sharpest curves. At present, there are 34 engines of a more powerful design which weigh 14 tons each and are capable of hauling about 50 tons up gradients of 1 in 25.

The rolling stock is necessarily small. In the early days of the railway, passengers were carried in open trollies, fitted with hoods and curtains for protection against bad weather, but now they are carried in bogie rolling stock measuring 24 by 6 feet. The new first class carriages are fitted with large plate glass observation windows, enabling passengers to obtain an uninterrupted view of the scenery.

The hooded four-wheeler goods wagons of old have also been replaced by all steel wagons and bogie wagons measuring 24 to 32 feet in length.

The Siliguri-Kishanganj extension leaves the main line at Panchanai Junction three miles from Siliguri, where it turns westwards and passes through Matigara, one of the biggest *hats* in the District. The line then runs due west between tea gardens of the Terai up to Naxalbari (14 miles from Siliguri) which is near the border of Nepal and is an outlet for rice and timber from that State. Up to this station a first-class road runs parallel to the rail line and now carries quite a large quantity of traffic by motor vehicles and bullock carts. From Naxalbari the line runs south-west. The tea gardens are left behind and the line enters an area of rice fields. The next large station is Galgalia which is 29 miles from Siliguri, just inside the Bihar border and only a mile from the border of Nepal. This place is a depot for paddy from Nepal and supplies rice to the whole District of Darjeeling. Two rice mills are in operation at Galgalia and the annual export of rice and paddy from this station is about 14 thousand tons. Raw jute is also exported from here, the yearly traffic being in the neighbourhood of a thousand tons.

From Galgalia the line is outside the District and runs due south passing through Thakurganj, which is again a rice centre, up to Aluabari, a fairly large centre for jute and rice traffic, whence the line turns south-west again and joins a terminus of the Bengal and Assam metre gauge section at Kishanganj, 70 miles from Siliguri.

The Tista Valley extension of the railway takes off at Siliguri itself and runs north-east along the Bagrakot road for a distance of about 13 miles to Sivok Station, which is at the junction of the Tista and Sivok rivers. From Sivok the Railway follows the course of the

Tista river up to the terminus at Gielle Khola, 29 miles from Siliguri. Traffic to and from Kalimpong is dealt with by an aerial ropeway which starts from Rilli, a siding 23 miles from Siliguri and 7 miles from Kalimpong. The terminus, Gielle Khola, is 4½ miles further up on the bank of the Tista river and is the principal station on this section.

When the main line from Calcutta to Siliguri was opened in 1878, travellers to Darjeeling performed the journey from Siliguri by tonga. The disadvantages of this means of communication led to proposals for the laying of a steam tramway which were accepted. The heavy cost (Rs. 1½ lakhs per annum) of keeping the Cart Road in repair was no doubt one reason for Government agreeing to the proposal which offered to defray these costs out of the profit expected from the tramway. It is understood that for a number of years maintenance costs have in fact been met from profits on the tramway.

Construction was commenced in 1879 and by March 1880 the line had been opened to Tindharia. Lord Lytton, the first Viceroy to visit Darjeeling, was conveyed by this line in that year. By the end of 1880 it was completed to Kurseong and in July 1881 it was open for traffic to Darjeeling. In 1914 workshops were opened at Tindharia and all rolling stock except wheels and axles is constructed there.

The original cost of the main line to Darjeeling was Rs. 17,50,000 but subsequent improvements had brought the cost up to Rs. 43,00,000 by 1920.

In September 1899 a great flood in the Tista Valley destroyed long sections of the Tista Valley Public Works Department road. In 1907 and 1908 a new road was built by Government in the Tista Valley at a higher level and the Railway Company took over what was left of the old road and constructed the Tista Valley Extension which was opened for traffic in 1915.

Maintenance of both these lines proves a troublesome and expensive task. The main railway line is situated on the Hill Cart Road and while the cost of repairing the actual line is met by the railway, the arrangement with Government provides that Government pays the entire cost of the upkeep and maintenance of the Cart Road, the execution of which is performed by the Railway as contractors and on rates mutually agreed upon. Repair costs vary from year to year and were probably heavier in the earlier period. But costs are still high and for the Siliguri-Darjeeling Cart Road have recently been—

					Rs.
1939-40	..	..	..	..	1,57,788
1940-41	..	..	..	..	1,38,250
1941-42	..	..	..	..	1,35,222
1942-43	..	..	..	..	50,965
1943-44	..	..	..	..	1,14,366

The tramway system is owned by the Darjeeling-Himalayan Railway Company for which the Managing Agents are Messrs. Gillanders Arbuthnot & Co.

The Railway's engineers have considerable experience and skill in dealing with the damage and interruption from which the line suffers on account of landslips and washouts and, when through running happens to be interfered with, are able to restore it with remarkably little delay. They have usually been able to prevent the occurrence of serious accidents. It is often necessary, for the purpose of ensuring safety, to build training works far up the *jhoras* crossed by the road and, in order to prevent subsidences, revetment or toe walls above or below the road. When these measures prove insufficient, it may be necessary to construct a new road on a fresh alignment. The cyclone of 1899 destroyed long stretches of the Cart Road but usually it is only on a few limited sections of the road that seriously persistent trouble is experienced. At the time of writing (1945) the most troublesome section seems to be near mile 14. Formerly it was the Paglajhora between mile 23 and 24 that claimed attention in this way.

The Kishanganj Section of the Railway was opened for traffic shortly before the war of 1914-1918. Its construction presented few of the peculiar engineering problems which had to be solved in constructing the main line. It lies wholly in the plains and did not use any road alignment.

The Kalimpong Ropeway may be considered a branch line of the Railway system mentioned above as it is managed also by Messrs. Gillanders Arbuthnot & Co. and its operation works in closely with that of the Tista Valley branch of the system owned by the Darjeeling-Himalayan Railway Company.

Passenger fares charged by the Railway were as follows:—
 Siliguri to Darjeeling (51 miles) 1st class Rs. 10, 2nd class Rs. 7 and 3rd class Rs. 2-4 (Rs. 4 for mail trains): Siliguri to Gielle (29½ miles) 1st class Rs. 5-10, 2nd class Rs. 2-13 and 3rd class Re. 1-6-6: Siliguri to Kishanganj (69½ miles) 1st class Rs. 13-2, 2nd class Rs. 6-9 and 3rd class Rs. 2-3. Third class fares were thus ½ anna per mile for the Kishanganj branch and ¾ anna per mile for the hill sections. Rates were enhanced by 25 per cent. or more during the 1939-45 war. Freight rates vary according to the class of goods carried. On the Tista Valley and Kishanganj branches war-time rates vary from 1-7 to 3-2 pies per maund mile according to the class of goods. From Siliguri to Darjeeling rates vary from 3-7 to 6-2 pies per maund mile and downhill from Darjeeling to Siliguri upwards of 2-25 pies per maund mile according to the class of goods. Rates before the war were about 20 per cent. less than those quoted. It should be explained that freight rates on the hill sections have necessarily to be high. The fact however remains that for many years the railway had practically a monopoly of the handling of the import and export trade of Darjeeling town and the hill areas of the District and the only competition they had to face was bullock cart traffic which was only appreciable in the Tista Valley and in the Terai.

The advent of modern motor vehicles from about 1930, coupled with improvements effected in the road itself, has introduced a form of direct competition with the Railway that, but for the limit placed by Government on the numbers of lorries and buses plying for hire, would probably have been too severe for the survival of the Railway after 50 years of prosperity.

The actual effects of this controlled competition are shown in the following traffic statistics for the last 30 years:—

Year.	Traffic by Rail.		Traffic by Road.	
	Number of passengers.	Tonnage of goods.	Number of passengers.	Tonnage of goods.
	(000's).	(000's).	(000's).	(000's).
1909-10	174	47	..	..
1919-20	263	62	..	..
1929-30	258	80	48	.88*
1934-35	240	76	56	7.6
1939-40	213	65	73	15.5
1940-41	206	57	81	16.5
1941-42	240	63	63	16.8
1942-43	309	63	27	5.9
1943-44	311	76	34	9.6

*These figures relate to the year 1931-32.

The problem of rail road competition in this District has by no means yet been solved. War conditions have severely tested the transportation system in the hills and have temporarily confused the issue. For instance the Railway system proved unable to handle the traffic needed to supply the greatly increased temporary war-time population of the Darjeeling town and had to be supplemented by extra mechanical road transport (some of it military) which did not operate on a strictly commercial and competitive basis.

For a long time consumers of goods have complained without effect of the cost of transportation. The construction of ropeways to cheapen costs has been under consideration but has only resulted in the construction of two minor public ropeways which operate as feeders to the railway system and do not appreciably reduce transportation costs from Siliguri to the hill areas of the District.

The solution of the road-rail problem is complicated by the interest Government have in maintaining the traffic receipts and profits of the Railway and Government exercise their powers of limiting road transport on the Hill Cart Road with this interest in view. An account of the limitation on the number of public service vehicles allowed on the Hill Cart Road will be found in Chapter X on pages 161 and 162.

The principal commodities moved by the Railway on the main line are rice and other food-grains, cement, iron, salt and building materials, coal, provisions and miscellaneous merchandise in the upward direction and potatoes, tea, cardamoms, oranges and timber in the downward direction. In 1942-43 for instance there was an import of 7,104 tons of rice to Darjeeling, 1,007 tons of salt, 540 tons of sugar, 417 tons of grains and pulses other than rice, 773 tons of provisions and 2,769 tons of coal. Downwards from Darjeeling in the above year were moved 1,080 tons of potatoes and 1,298 tons of tea. Imports from below to Ghum included 3,505 tons of rice, 513 tons of salt, 434 tons of provisions and 1,167 tons of coal. Downward export from Ghum included 1,529 tons of potatoes, 2,190 tons of tea and 515 tons of timber. The Siliguri-Kishanganj line handles timber, rice and jute, while the Tista Valley branch carries imports of food-grains, salt, piece-goods, provisions and building materials and exports oranges, cardamoms, potatoes, timber and wool. Further details of goods moved will be found in Chapter X.

The total number of passengers travelling during 1942-43 over the different sections of the Darjeeling-Himalayan Railway was:—

Main Line	..	..	..	308,872
Siliguri Kishanganj Extension	..	..	..	459,204
Tista Valley Extension	..	..	..	35,988

Out of the above, the numbers of passengers travelling to and from foreign railways *via* Siliguri and Kishanganj were:—

<i>Via</i> Kishanganj	..	..	..	1,551
To foreign railways <i>via</i> Siliguri	..	..	..	38,687
From foreign railways <i>via</i> Siliguri	..	..	..	37,942

The numbers of passengers to and from the following principal stations during the year were:—

Stations.	To	From	Total.
Darjeeling	63,147	101,984	165,131
Ghum	41,436	50,061	91,497
Sonada	11,062	16,703	27,765
Kurseong	44,910	54,069	98,979
Gielle Khola	12,635	14,860	27,495
Riyang	2,321	3,539	5,860
Matigara	28,351	36,295	64,646
Baghdogra	24,003	27,613	51,616
Naxalbari	53,656	55,725	109,381
Siliguri Road and Siliguri	101,207	95,693	196,900

The progress in handling passenger and goods traffic since 1909 is shown in the table below:—

Year.	Main line.		S. K. Extension.		T. V. Extension.		Kalimpong Ropeway Goods Tons. (000's).
	No. of passengers (000's).	Goods. Tons (000's).	No. of passengers (000's).	Goods. Tons (000's).	No. of passengers (000's).	Goods. Tons (000's).	
1909-10	1,74	47	..	..	..	..	..
1919-20	2,63	62	3,27	46	34	29	..
1929-30	2,58	80	6,53	44	23	28	..
1934-35	2,40	76	3,81	45	12	30	..
1939-40	2,14	66	3,79	64	16	50	17
1940-41	2,06	57	3,51	56	15	43	15
1941-42	2,40	63	4,01	49	19	40	18
1942-43	3,09	63	4,59	50	36	38	14
1943-44	3,11	76	4,02	45	56	29	11

These figures show what an important part the Railway has played in the economy of the District and indeed of areas beyond the District to the north, much of whose vital supplies are moved over this railway system. But because of enterprise displayed many years ago and because of a long period of usefulness in the past, it is not necessary to claim that the railway should always play the same part in future development, particularly if more efficient methods of transportation can be applied to the further development of the District.

The Kalimpong Ropeway Co. Ltd. was formed in 1928 for the purpose of transporting commodities between the town of Kalimpong and the Darjeeling-Himalayan Railway in the Tista Valley.

Previously Kalimpong had had to rely on bullock carts and coolies for the transport of all goods and rates varied from annas 8 to Re. 1-4 per maund from Gielle Khola railway station according to the season of the year. On the ropeway a classification of goods prevails but in no case is more than 6 annas per maund charged and this rate is between Kalimpong and Rilli for a movement which cuts out 4 miles of rail transport.

The Ropeway, designed by the British Ropeway Engineering Co., Ltd., London, and erected by their engineers, was opened in September 1930 by Lady Stephenson, wife of the acting Governor of Bengal. The Company originally had an authorised capital of Rs. 5 lakhs, the whole of which was issued and subscribed. The authorised capital was subsequently increased to Rs. 20 lakhs to provide finance for any extensions that might be undertaken in the future.

The managing agents of the Company are Messrs. Gillanders Arbuthnot & Co., Calcutta, and the Darjeeling-Himalayan Railway act as working agents.

The ropeway connects with the railway at Rilli (near Riyang Station) and, after crossing the Tista and Rilli rivers, passes through an angle station at Nazeok and thence, crossing the Rilli river again, rises to Kamesi (2,500 feet) where is situated a 72 H.P. engine which drives the lower section of $4\frac{1}{2}$ miles. From Kamesi the ropeway travels in one straight line of $2\frac{1}{2}$ miles to Kalimpong (4,100 feet) where another 72 H.P. oil engine is installed to drive the upper section. Loads are carried on trays which are suspended from and clipped to the moving rope. On arrival at the station the carriers are automatically lifted off the rope and run on overhead rails into the station. Each carrier is designed to carry 8 maunds (double carriers up to 13 maunds) and is launched out on the moving rope at 3-minute intervals to ensure economic working and equal load distribution. The carrying capacity of the ropeway is 10 tons per hour. Traffic consists mainly of baled wool, oranges and timber outward and food-grains, brick-tea, cloth and building materials inward. The maundage carried steadily increased until in 1939-40 over 475,000 maunds were handled in the year.

The ropeway has proved to be an efficient and economical form of transport. Extensions to the ropeway are possible in both directions—to the north to provide Sikkim and beyond with cheap and reliable transport facilities and to the south to connect with the railway at Sivok. Branch ropeways are likewise possible to the cinchona factory at Mangpu and to adjacent tea gardens and for the extraction of timber, charcoal and produce from the surrounding forests.

The Ropeway from Darjeeling to Bijanbari has a length of 5 miles and is constructed on the Mono-cable "Breco" system. It is owned by a public carrying company, the Darjeeling Ropeway Co., Ltd., with a capital of Rs. $3\frac{1}{2}$ lakhs divided into shares and debentures. The managing agents are Messrs. Goenka & Co., Darjeeling.

The ropeway was opened for traffic in January 1939. It has two intermediate stations at Singtom and Chungtong and carries an average annual maundage of 150,000. Its carrying capacity per hour is 100 maunds and it is powered by one 24 B.H.P. diesel oil engine at Darjeeling and a similar one at Singtom. It serves Bijanbari which is an important centre for trade from Eastern Nepal and Western Sikkim and an important tea garden, forest and Khas Mahal area. Potatoes, vegetables, poultry, cardamoms and forest produce are carried up to Darjeeling and cloth, yarn, sugar, salt, kerosene and metals are carried down. Rates charged are 5 annas per maund between Bijanbari and Darjeeling, 4 annas per maund between Chungtong and Darjeeling and 3 annas per maund between Singtom and Darjeeling.

The position of both these ropeways is shown on the map in the folder at the end of the gazetteer.

In addition to the above public ropeways sanctioned under the Bengal Aerial Ropeways Act, 1923, there are a number of private ropeways on tea gardens of which the following deserve mention:—

		Power.
Moondakoti to Dhojea	.. 1½ miles	Oil engine.
Brewery to Ringtong	.. 2 ..	Electricity.
Ringtong Balasan	.. 2 ..	Electricity.
Balasan to Murmah	.. 2 ..	Water power.
Liza Hill Tea Estate	.. 1½ ..	Water power.
Thurbo Tea Estate	.. ½ ..	Hydro-electric.
Gopaldhara Tea Estate	.. 1 ..	Water power.
Namring Tea Estate	.. ½ ..	Hydro-electric.
Pashok Tea Estate	.. 3 ..	Hydro-electric.
Gyabari Tea Estate to Tingling	½, ¾ and 1 mile	Gravity.
Phuguri Tea Estate	.. ½ mile	Gravity.
Singballi Tea Estate	.. ½, ¾ and 1 mile	Gravity.

Postal work in the Darjeeling town can be understood from the figures given below for 1943-44. There is one Head Office in the town and 5 sub-offices at Ghum, Jalapahar, Lebong, North Point and Darjeeling Bazar. The sub-offices transact all kinds of business with the exception of the Darjeeling Bazar sub-office which neither delivers postal articles and telegrams nor performs savings bank and cash certificate work.

Daily average number of unregistered articles delivered by the town Head Office and sub-offices.	3,204
Number of telegrams issued (year)	41,789
Number of registered articles (letter mail) posted (year)	59,836
Number of parcels posted (year)	56,691
Number of wireless licences issued (year)	484
Rs.	
Value of money orders issued (year)	18,02,981
Value of money orders paid (year)	1,55,61,821
Value of S. B. Deposits (year)	3,60,755
Value of S. B. Withdrawals (year)	2,49,452

The Head Office received 925 telegrams by telephone for onward despatch and maintained 29 deposit accounts for payment of telegrams.

There are public telephone call offices at Darjeeling, Ghum, Jalapahar and Lebong. The total number of calls booked at these offices during 1942-43 was 1,623.

The Darjeeling Head Office controls the accounts of 31 sub-offices in the District of Darjeeling, Sikkim and Tibet.

The Head Post Office is housed in an imposing three-storied stone building on the Mackenzie Road providing not only accommodation for the Post and Telegraph offices but also residential quarters for the postmaster and the signalling staff. The building was opened on the 2nd May 1921 by His Excellency Lord Ronaldshay, Governor of Bengal,

First class mails (letters) are conveyed from Siliguri to Darjeeling by bus. Heavy parcel, packet and other mails are carried by railway.

Postal work in the District is carried out by 43 offices of which 24 are sub-offices and 18 branch offices. Of the 24 sub-offices, 15 are combined ones, namely, Baghdogra, Gayaganga, Ghum, Jalapahar, Kalimpong, Kurseong, Lebong, Mirik, North Point, Panighata, Rangli Rangliot, Siliguri, Sukhiapokri, Tindharia and Tista Bridge. The total length of mail lines in the Darjeeling District is 281 miles and mail motor services run between Darjeeling and Siliguri, Darjeeling and Lebong, Geille Khola and Kalimpong and Gielle Khola and Gangtok. There are altogether 155 letter boxes at Post Offices and other places in the District.

The following figures give the volume and class of work done in the Post Offices in the District during the year 1943-44:—

(1) Number of registered articles posted	..	164,672	
(2) Number of registered articles delivered	..	199,208	
(3) Insured articles delivered—			
Number	..	..	17,145
Value	..	..	Rs. 30,49,108
(4) Insured articles posted—			
Number	..	..	16,428
Value	..	..	Rs. 53,45,862
(5) Savings Bank deposits	..	..	Rs. 8,88,367
(6) Savings Bank withdrawals	..	..	Rs. 5,65,835
(7) Defence Savings Certificates issued	..	..	Rs. 2,449
(8) Defence Savings Certificates discharged	..	..	Rs. 17,291
(9) Cash certificates issued	..	..	Rs. 59,232
(10) Cash certificates discharged	..	..	Rs. 82,896
(11) National Savings Certificates issued	..	..	Rs. 15,810
(12) Value of Postage Stamps and stationery sold	..	..	Rs. 5,95,341
(13) Money orders issued—			
Number	..	..	135,781
Value	..	..	Rs. 43,98,096
(14) Money orders paid—			
Number	..	..	128,998
Value	..	..	Rs. 1,79,26,942
(15) Number of telegrams delivered	..	..	74,972
(16) Number of telegrams despatched	..	..	77,100
(17) Daily average number of unregistered articles delivered	..	..	12,430
(18) Daily average number of unregistered articles despatched	..	..	12,821

There are nearly 300 miles of line maintained by the Telegraph Engineering Department. There is a direct line from Darjeeling to Calcutta which is worked on the duplex system and direct lines from Darjeeling are worked on the closed circuit system to Yatung, Kalimpong, Gangtok, Saidpur, Mirik and Lebong. The Darjeeling-Saidpur circuit serves the following stations:—Sonada, Toong, Kurseong, Tindharia and Siliguri. The Darjeeling-Yatung circuit serves Kalimpong, Rhenock, Gangtok and Yatung. The Darjeeling-Kalimpong circuit serves Rangli Rangliot, Lopchu and Tista-Bridge. The Darjeeling-Mirik circuit serves Jalapahar, Ghum, Sukhiapokri and Nagri Spur. Darjeeling works Lebong direct. There is another circuit from Dow Hill to Saidpur, which serves Kurseong, Pankhabari, Panighata, Naxalbari, Baghdogra, Gayaganga and Siliguri.

Supervision is carried out by one Engineering Supervisor, Telegraphs, posted in Darjeeling with two Sub-Inspectors and 5 linemen who maintain the telegraph lines and apparatus and instal telephone lines and cables. The Engineering Supervisor, Darjeeling, deals with installations up to Kalimpong, Siliguri and Mirik.

The controlling officer is the Subdivisional Officer, Telegraphs, Saidpur, who is under the Divisional Engineer, Telegraphs, Calcutta East Division in the Bengal and Assam Circle.

There are 12 Hillmen out of a total of 15 men employed in the District on telegraphs.

There are about 450 subscribers to the telephone system in the District on five exchanges. All exchanges are interconnected through the Darjeeling exchange from which trunk calls to the outer world pass. There are eight public call offices in the District. The Darjeeling Telephone District is in the Saidpur subdivision of the Calcutta East Division of the Bengal and Assam Circle. The Darjeeling area contains the following exchanges under the Engineering Supervisor, Telephones, Darjeeling, viz., Darjeeling, Kalimpong, Kurseong, Nagri Spur and Takdah:—

Darjeeling Exchange.—300 Lines Central Battery System. Direct working connections 274 including one private branch exchange—

Extensions—66.

Public call offices—4.

Toll Trunk Lines (to Kurseong, Kalimpong and Saidpur exchanges: the last exchange connects with rest of India)—3.

Free Junction Lines (two to Nagri Spur, one to Takdah)—3.

Staff—Engineering Supervisor, Telephones, Darjeeling, 1 Telephone Inspector (Hillman), 1 Assistant Mistry (Hillman), 13 Telephone operators (5 Hillmen) and 7 Linemen (3 Hillmen).

Kalimpong Exchange.—50 Line Rural Automatic Exchange. Direct working connections 47 including one private exchange.

Extensions—10 of which one is a public call office.

Toll Trunk Line—1 (to Darjeeling).

Staff—Assistant Telephone Mistry (Hillman) and 2 Linemen.

Kurseong Exchange.—50 Line Rural Automatic Exchange. Direct working connections 50, of which one is a public call office.

Extensions—6.

Toll Trunk Line (to Darjeeling)—1.

Staff—Telephone Inspector, 1 Assistant Telephone Mistry and 2 Linemen (1 Hillman).

Nagri Spur Exchange.—50 Line Magneto Exchange. Direct working connections 21.

Free Junction Lines—2 (to Darjeeling).

Staff—Head Operator, 3 Operators and 2 Linemen (2 Hillmen).

Takdah Exchange.—10 Line Rural Automatic Exchange. Direct working connections 9, one of which is a public call office.

Free Junction Line (to Darjeeling)—1.

Staff—1 Lineman (Hillman).

Communications in the District are facilitated by the provision of numerous inspection bungalows sited conveniently for travel. These bungalows are maintained for the use of inspecting officers and are only available for members of the general public on application and after previous allotment by the Controlling Officer if not required by

inspecting officers. When accommodation is allotted it is on this understanding. The only exceptions to the above are the D.I.F. bungalows on the Jorpokri-Tanglu-Phalut route which are maintained for the benefit of tourist visitors. Accommodation in these must also be booked in advance.

LIST OF INSPECTION BUNGALOWS.

1. *Central Government, Public Works Department (Executive Engineer, Central Public Works Department, Gangtok).*
 - (i) Melli at the 3rd mile on the Tista Rangpo Road.
 - (ii) Pedong at the 22nd mile on the Rishi Road.
2. *Communications and Works Department of the Bengal Government (Executive Engineer, Darjeeling).*
 - (i) Pashok at mile 15 on the road from Jorebungalow to Tista.
 - (ii) Siliguri at Siliguri.
 - (iii) Tindharia near mile 17 on the Darjeeling Hill Cart Road.
 - (iv) Kurseong at mile 30 on the Darjeeling Hill Cart Road.
 - (v) Kalijhora, 16½ miles from Siliguri on the Sivok Tista Road.
 - (vi) Birik, 21½ miles from Siliguri on the Sivok Tista Road.
 - (vii) Tista Bridge at mile 32½ from Siliguri on the Sivok Tista Road.
 - (viii) Kalimpong at mile 10 on the Rishi Road.
3. *District Board (Chairman, Darjeeling District Board).*
 - (i) Lodhama, 17 miles from Darjeeling on the Pulbazar Suberkum Road.
 - (ii) Srikhola, 24 miles from Darjeeling on the Pulbazar Suberkum Road.
 - (iii) Namsu.
 - (iv) Naxalbari in the Terai.
 - (v) Kharibari in the Terai.
 - (vi) Phansidewa in the Terai.
 - (vii) Siliguri in the Terai.
4. *Darjeeling Improvement Fund (Deputy Commissioner, Darjeeling).*
 - (i) Badamtam, 6 miles from Darjeeling on the Rangit Road.
 - (ii) Jorpokri, 8 miles from Ghum on the Ghum-Simanabusti Road.
 - (iii) Tanglu, 10 miles from Jorpokri on the Simanabusti-Phalut Road.
 - (iv) Sandakphu, 14 miles from Tanglu on the Simanabusti-Phalut Road bungalows).
 - (v) Phalut on the Simanabusti-Phalut Road.
 - (vi) Senchal, 1½ miles from Ghum (2 bungalows).
5. *Government Estates (Khas Mahal) (Deputy Commissioner, Darjeeling).*
 - (i) Lopchu, 15 miles from Darjeeling on the Pashok Road.
 - (ii) Lingding, 19 miles from Darjeeling.
 - (iii) Takling, 7 miles from Lingding.
 - (iv) Jhepi, 12 miles from Darjeeling on the Pulbazar Suberkum Road.
 - (v) Dangia, 13 miles from Darjeeling via Pulbazar.
 - (vi) Pulungdung, 14 miles from Darjeeling via Ghum and Sukhia.
 - (vii) Pankhabari, 7 miles from Kurseong on the Matigara-Kurseong Road.
 - (viii) Dalapchan, 6 miles from Kalimpong on the Rishi Road.
 - (ix) Algarah, 9½ miles from Kalimpong on the Rishi Road.
 - (x) Kagay on the Pedong-Kagay Road 20 miles from Kalimpong.
 - (xi) Kankibong on the Rilli-Kankibong Road 9 miles from Kalimpong.
 - (xii) Sinji on the Kankibong-Nimbong Road 14 miles from Kalimpong.
 - (xiii) Nimbong on the Kankibong-Nimbong Road 22 miles from Kalimpong.
 - (xiv) Samther on the Sinji-Samther Road 20 miles from Kalimpong.
 - (xv) Gitdubling on the Kalimpong-Budhbarey Road 14 miles from Kalimpong.
 - (xvi) Mangzing on the Budhbarey-Mangzing Road 24 miles from Kalimpong.

- (xvii) Phapharkheti on the Jangi Guard Road 25 miles from Kalimpong.
- (xviii) Gorubathan on the Jangi Guard Road 33 miles from Kalimpong.
- (xix) Kumai in the Kumai block 8 miles from Matelli Railway Station.
- (xx) Patengodak on the Kumai-Jholang-Patengodak Road 19 miles from Matelli Railway Station.
- (xxi) Today on the Patengodak-Tangta-Aritar Road 29 miles from Matelli Railway Station.
- (xxii) Tangta on the Patengodak-Tangta-Aritar Road 34 miles from Matelli Railway Station.
- (xxiii) Lolay in Lolay Block 3 miles from the District Board bridge over the Rilli river and 8 miles from Kalimpong.

6. *Darjeeling-Himalayan Railway Co., Ltd. (General Manager, Darjeeling-Himalayan Railway).*

- (i) Siliguri (two bungalows).
- (ii) Riyang Railway Station in the Tista Valley.

7. *Cinchona Department, Government of Bengal (Superintendent of Cinchona, Bengal).*

- (i) Sureil, 2 miles from Mangpu and 10 miles from the Rambi suspension bridge.
- (ii) Munsong, 10 miles from Kalimpong and 6 miles from Sukiakhola in the Tista Valley.
- (iii) Rongo, 10 miles from the Kumai Tea Estate.

8. *Forest Department, Government of Bengal.*

I.—Divisional Forest Officer, Darjeeling—

- (i) Batasi (6,884 ft.) 10½ miles north-west of Jorpokri.
- (ii) Debrapani (6,150 ft.) 4 miles south of Jorpokri.
- (iii) Lepchajagat (7,300 ft.) 5 miles west of Ghum by motor road.
- (iv) Palmajua (7,250 ft.) 7 miles north-east of Tangu, 8 miles north-west of Batasi.
- (v) Rammam (7,958 ft.) 12 miles north of Rimbick, 8½ miles south-east of Phalut.
- (vi) Rimbick (7,500 ft.) 7 miles north-west of Palmajua.
- (vii) Rambi (7,300 ft.) 6½ miles south-east of Ghum Railway Station.
- (viii) Rangiroon (6,250 ft.) 3½ miles north-east of Ghum.
- (ix) Takdah (5,400 ft.) 16 miles south-east of Darjeeling by motor road.

II.—Divisional Forest Officer, Kurseong—

- (i) Dow Hill, 2½ miles from Kurseong Railway Station and near the Bengal Forest School.
- (ii) Bonklong on the west bank of the Balasan river ¼ mile from the Ambutia suspension bridge.
- (iii) Khairbani, 4 miles west of Panighata near Lohagarh T. E.
- (iv) Bengdubi, 1½ miles north of the Baghdogra Railway Station.
- (v) Siliguri, 1 mile from the Railway Station.
- (vi) Sukna near Sukna Railway Station.
- (vii) Latpanchor on the ridge between the Tista and Mahanadi rivers 11 miles from Kalijhora.
- (viii) Mana, 5 miles from Latpanchor above and near the Mahaldiram T. E.
- (ix) Bagora, 4 miles from Toong Railway Station and on the ridge above it.

III.—Divisional Forest Officer, Kalimpong—

- (i) Dalapchan, 6 miles from Kalimpong by bridle path.
- (ii) Rissisum, 14 miles from Kalimpong.
- (iii) Pankhasari (derelict and unfurnished).
- (iv) Pashiting, 23 miles from Kalimpong near the Jangi Guard Road.
- (v) Lolaygaon, 10 miles south of Rissisum.
- (vi) Tarkhola in the Tista Valley 11 miles from Geillekhola.
- (vii) Nazeok, 2 miles from Riyang Railway Station on the bank of the Tista.
- (viii) Mongpong in the Duars 5½ miles from Sivok.
- (ix) Chunabati in the Duars one mile from Bagrakot Railway Station.

- (x) Gish in the Duars 5 miles from Chunabati.
- (xi) Burikhola in the Duars 9 miles from Dam Dim Railway Station.
- (xii) Khumani in the Duars 5 miles from Matelli Railway Station.
- (xiii) Samsing in the Duars 6 miles from Matelli Railway Station.

The accommodation and furnishing of the above bungalows varies considerably.

There is a landing ground two miles south of Baghdogra Railway Station to which there is access by road at all seasons of the year. There is a runway north and south of marked length 1,500 yards but further ground at either extremity is usable and air approaches in these directions are good. The W.N.W.-E.S.E. runway was only marked 500 yards in length but has not been maintained. Air approaches from the W.N.W. are moderately good. As there is no permanent ground staff, care has to be taken before landing if previous intimation has not been given to the Subdivisional Officer, Siliguri.

CHAPTER XII.

LAND REVENUE ADMINISTRATION.

Land of the District is occupied by departments of Government or has been granted by Government to private persons or public bodies on a variety of conditions. There are the following six agencies by which Government manage their revenue interests and assess and collect their dues:—

- (1) The Tauzi Department of the Deputy Commissioner's office which deals with 269 estates and tenures with a total area of 150 square miles. The settlement, assessment and collection of revenue and cess of all the lands in the District leased for tea is centralised in this office which also controls the collection of revenue and cess from the four permanently settled estates and manages a large number of petty non-agricultural grants.
- (2) The Sadar Kurseong Khas Mahal Department also located at Darjeeling and in charge of a gazetted officer under the direction of the Deputy Commissioner. This Department manages the rural estates of Government in the Sadar and Kurseong Subdivisions (Tauzi Roll Nos. 26, 95, 952, 1006, 1064), grants within the Darjeeling Municipality other than tea grants (Tauzi Roll No. 1079) and the roadside lands of the Siliguri-Darjeeling Cart Road (Tauzi Roll Nos. 96, 1017 and 1121). The area managed by this Department is 57·30 square miles.
- (3) The Superintendent of the Kalimpong Development area of 2·86 square miles, a gazetted officer who works at Kalimpong under the direction of the Deputy Commissioner. This is a building estate in Kalimpong town (No. 1080 on the Tauzi Roll).
- (4) The Manager of the Kalimpong Khas Mahal (No. 93 on the Tauzi Roll), a large rural estate of 172·98 square miles belonging to Government. The Manager is a gazetted officer with his headquarters at Kalimpong who works under the direction of the Deputy Commissioner.
- (5) The Manager of the Terai Khas Mahal whose office is located in Siliguri. He is a gazetted officer working under the orders of the Deputy Commissioner. This rural estate is 230·10 square miles in area (Tauzi Roll Nos. 91, 1060 and 1124) and comprises all the land in the subdivision not leased for tea or worked as reserved forests. Administration of these estates is simplified by reason of the fact that Government is in direct relation only with a limited number of the larger holders of land, from whom the collection of revenue and cesses is a routine operation.
- (6) The Darjeeling Improvement Fund controlled by the Deputy Commissioner who places management in the hands of a Deputy Collector stationed at Darjeeling. Most of the bazars and *hats* in the District belong to Government and the assessment and collection of dues from them is carried out by an elaborate agency controlled by the Fund.

The table which follows shows the various methods by which Government administer its interests in the land of the District:—

			Estates No.	Area. (acres).	Revenue Demand. Rs.	Cess Demand. Rs.
A. Revenue-paying estates—						
(1) Managed by Tauzi Department—						
LR	Tea	M	2	6	34	0
LR	Others	M	9	34	771	0
LR	Tea	R	87	64,045	99,876	22,177
PS	Others	R	4	9,996	316	706
LR	Others	R	85	3,854	7,407	1,331
DIF	Others	M	20	77	684	0
DIF	Tea	R	43	18,076	19,209	6,180
DIF	Others	R	19	65	895	195
Total A. (1)			269	96,153	1,29,192	30,589
(2) Managed by the Sadar Kurseong Khas Mahal Department—						
LR	Others	R	6	35,445	40,490	64
DM	Others	M	2	764	8,093	0
CW	Others	R	1	461	5,579	167
Total A. (2)			9	36,670	54,162	231
(3) Managed by Kalimpong Khas Mahal and Development Departments—						
LR	Others	R	2	112,540	1,00,346	1,336
Total A. (3)			2	112,540	1,00,346	1,336
(4) Managed by the Siliguri Khas Mahal Department—						
LR	Others	R	3	147,265	1,47,458	28,048
Total A. (4)			3	147,265	1,47,458	28,048
Total A. Revenue-paying estates			283	392,628	4,31,158	60,204
B. Revenue-free estates—						
(1) Privately owned (Register BI)—						
	Tea	M	3	401	0	0
	Others	M	92	722	0	0
	Tea	R	143	73,885	0	25,876
	Others	R	35	1,628	0	652
Total B. (1)			273	76,636	0	26,528
(2) Public Lands (Register BII).						
	Others		22	322,116	0	12,157
Total B. (2)			22	322,116	0	12,157
Total B. Revenue-free estates			295	398,752	0	38,685
Grand Total All estates			578	791,380	4,31,158	98,889

Note.—In the above table “Tea” means land under tea lease and “Others” means land not leased for tea.

The following symbols have been used:—

Estates or tenures settled:—

PS Permanently

LR Temporarily

DIF Temporarily

DM Temporarily

CW Temporarily

Revenue credited to:—

Province (Land Revenue).

Province (Land Revenue).

Darjeeling Improvement Fund.

Darjeeling Municipality.

Province (C & W).

M=Estates or tenures situated in the Darjeeling Municipality.

R=Estates or tenures situated outside the Darjeeling Municipality.

The table shows that the area of revenue-paying estates is 613·3 square miles, of privately-owned revenue-free estates is 119·7 square miles and of publicly-owned revenue-free estates is 503·3 square miles. The total of the three comes to 1,236 square miles. This total is based on the Revenue Registers of the Deputy Commissioner's office and is only approximately correct.

A detailed description of the more important features of the land revenue administration of the District now follows, commencing with an account of the four permanently settled estates.

The history of the four permanently settled estates in the District is of special interest. An area of 115 square miles in the north-western corner of the District, lying between Nepal, Sikkim and the Little Rangit river was annexed from Sikkim after 1850 in consequence of the treatment suffered by Dr. Campbell and Sir Joseph Hooker in Sikkim. After the annexation, Chebu Lama, who had been agent of the Raja of Sikkim at Darjeeling, received a lease of the above tract for a term of three years at an annual rental of Rs. 20 in recognition of the services rendered by him during the disputes with Sikkim. This lease was subsequently renewed in 1853 and in 1862 Chebu Lama asked that, in consideration of his services, the land held by him should be granted in perpetuity at a nominal rent. Government acceded to his request by making a grant of the land in proprietary right to him and his heirs for ever, subject to an annual payment of land revenue to Government of Rs. 500 during his life and of Rs. 1,000 after his death. Subsequently, after his death in March 1866, the tract was leased jointly to Rechuk Dewan, his son, Phurboo Dewan, his nephew (brother's son), and Tenduk Pulger, his manager (and described as his nephew). In 1882-83 part of the Estate, containing the forests of the Singalila Range and covering an area of 42,382 acres out of the total area of 74,016 acres according to Colonel Tanner's survey of that year, was sold to the Forest Department. Another area of 2½ square miles (or 1,645 acres) in 1883 was transferred with the approval of the Bengal Government to Sonam Sring, a nephew of Raja Tenduk. In 1889 Phurboo Dewan, one of the parties to the joint lease, transferred his own one-third share to Rechuk Dewan, son of Chebu Lama and one of the co-sharers in the joint lease. Thus, Rechuk Dewan's share became two-thirds and Raja Tenduk's one-third. A private partition was also made between the co-sharers and separate leases were issued in 1893 in respect of the different shares. Rechuk Dewan's share comprising 19,993 acres retained the old Tauzi No. 26 and its revenue was reduced to Rs. 632. Tauzi No. 951 was assigned to the Raja's own share of 9,996 acres and its revenue was fixed at Rs. 316, while Sonam Sring's share of 1,645 acres got Tauzi No. 952 and its revenue was fixed at Rs. 52.

Upon the death of Rechuk Dewan, Tauzi No. 26 (Relling Estate) fell to the shares of his widow and daughters. But, as under Sikkim law females do not inherit, the estate escheated to Government and Government took formal possession of it on the 1st of April 1924 and made it a Khas Mahal. Tauzi No. 952, which was allotted to the share of Sonam Sring and is known as Samabong (Kolbong) Estate, failed to pay Government Revenue in 1909 and was also resumed by Government and has become a Khas Mahal in consequence. Government paid off the debts of Estate No. 952 when it was resumed and granted the widow a pension, 60 acres of land and two houses rent-free. These grants are to continue to her son and his heirs.

The remaining share of 9,996 acres or 15½ square miles, bearing Tauzi No. 951 and known as Raja Tenduk Pulger's Estate or the Kurmi Estate, descended on the death of the Raja to his five sons, who amicably partitioned it among themselves. Four tauzis were formed (viz., Tauzi Nos. 951, 1116, 1117 and 1118), of which the first and third fell to the shares of the first and second sons of the Raja and have in course of time come into the possession of Mrs. R. S. Pulger, wife of the fourth son, who leased it for 20 years to Mr. N. C. Goenka of Darjeeling on an annual rent of Rs. 2,300. These two shares contain the two important *hats* of Pulbazar and Bijanbari, which have also been separately leased to Mr. Goenka for a period of 18 years and four months from the 1st September 1940 on an annual rent of Rs. 6,500. Bijanbari has since developed into an important trade centre as it is the terminus of a ropeway to Darjeeling. Tauzi No. 1118 fell to the shares of the third son's widow and her sons, while Tauzi No. 1116, containing double the area and bearing double the proportionate revenue, fell to the shares of the fourth and fifth sons jointly. These four Tauzis are the only permanently settled estates of the District and have between them a total revenue of Rs. 316.

The 87 and 43 revenue-paying tea estates are assessed to revenue at rates of Re. 1-8 per acre in the hills and at Rs. 2 per acre in the Terai. Leases and renewals are granted for terms of 30 years with rights of renewal for a similar period. The rights conferred are heritable and transferable but transfers have to be registered and part transfers are only valid with the previous sanction of the Deputy Commissioner. Other conditions are that no new markets are to be established and no subletting to be permitted: lessees agree to maintain boundary marks and to supply information of births and deaths and of the progress and outturn of tea cultivation. *Jote* lands in the Terai held on 20-year leases are purchased from time to time by holders of 30-year tea leases. Lands so purchased are regranted on 30-year lease terms and are transferred from the management of the Terai Khas Mahal to that of the Tauzi Department at Darjeeling.

Revenue-paying Tea Estates.

Estates classed "Others" under the various headings of A(1) in the table above have nothing of general interest worthy of further mention.

The table shows that the cess demand is Rs. 60,203-14 for revenue-paying estates and Rs. 38,685 for revenue-free estates. **Cesses.** Under the Cess Act lands lying within Municipalities are exempt from the cess levy. Notifications under the Act have also exempted all Indian cultivators in the Kalimpong Khas Mahals (excluding the Development Area), in the West Tista Khas Mahals, in the Samabong and Relling Khas Mahals and in the Mangpu Cinchona plantations. For all other lands, cess is levied at one anna in the rupee on the valuation. For tea lands the Act limits the annual value to Rs. 10 per acre. The revaluation of 1904-1905 gave the following demands which are shown with those current in 1945:—

		Revenue-paying estates.			Revenue-free estates.		
		No.	Cess demand.		No.	Cess demand.	
			Rs.	a.		Rs.	
1904	.. ..	210	26,470	0	172	18,350	
1945	.. ..	282	60,203	14	295	38,685	

Cess is collected by the Deputy Commissioner and sums realised are credited to the District Board in accordance with the provisions of the Cess Act of 1880.

The nine estates managed by the Sadar Kurseong Khas Mahal Department bear the following numbers in the Tauzi Roll:—Nos. 26, 95, 96, 952, 1006, 1017, 1064, 1079 and 1121. Of the above, the Relling estate (Tauzi No. 26) and the Samabong (Kolbong) estate (Tauzi No. 952) formed part of Chebu Lama's grant as explained above.

The West Tista Khas Mahals (Tauzi Nos. 95 and 1006) originally consisted of 14 mahals and now are arranged in 27 blocks and two bazars. The blocks are scattered and all lie in the tract to the west of the Tista annexed from Sikkim after 1850. Their total area is about 15,000 acres or 23 square miles and they extend from Mirik in the Balasan valley close to the Nepal frontier to Lopchu and Mungwa in the Tista Valley. Of the above 27 blocks, 25 originated in 14 mahals mentioned in old papers and two are subsequent additions. The table

which follows shows the names of the blocks and how they correspond with the mahals mentioned in the old papers:—

Block No.	Block name.	Mahal in old papers.
1	Maneydara	I Bidoor Singh's Tukdah.
2	Dawaipani	I Ditto.
3	Singrintum	I Ditto.
4	Lopchu	II Lapchoo.
5	Ryok	II Ditto.
6	Kolbong (Kulbong)	III Mungwa.
7	Chegra (Chikra)	III Ditto.
8	Bara Mungwa	III Upper Mungwa.
9	Soreang (Sadyong)	III Mungwa.
10	Takling	III Ditto.
11	Chhota Mungwa	III Lower Mungwa.
12	Hum-Takdah (Hoom)	IV Hoom-Lingding.
13	Lingding	IV Ditto.
14	Takdah Cant. (part of Hoom)	IV Ditto.
15	Maney Bazar (part of Hoom)	IV Ditto.
16	Poobong	V Poomong.
17	Parmaguri	VI Parmagiri.
18	Tamsang	VII Tumsong.
19	Plumdung	VIII Poolongdong.
20	Pokhriabong	IX Pagriangbong.
21	Barbatea	X Barbatea.
22	Rishihat	XI Rishihat.
23	Takdah	XII Pemchada Bhutea's Takdah.
24	Mirik	XIII Mirik.
25	Dhojea	XIV Dhojea.
26	Jamadar Bhita	(New).
27	Poobong	(New) T. No. 1006.

There are also two bazars (in name only) at Lopchu and Maney Bazar near Takdah Cantonment. A larger bazar at Pokhriabong is now managed by the Darjeeling Improvement Fund.

It appears from a note of a Deputy Commissioner recorded in 1884 that no attempt had been made before that year to settle Hoom-Lingding, Mungwa and Poomong. Parmagiri, Pagriangbong, Barbatea and Rishihat were once settled summarily with hill *raiyats* but reverted to Government for default of payment of revenue. Poolongdong and Tumsong were once settled with a certain Agay Lepcha. They were sold in execution of a decree of the Civil Court—the former was bought by a Colonel Mainwaring and reverted to Government on his failing to pay the revenue and the latter was bought by a Bengali but reverted to Government on his refusing to pay 6 annas an acre. Bidoor Singh's Tukdah and Lopchu were once owned by the Darjeeling Tea Company but were abandoned in 1871 when tea prospects were bad.

These 11 mahals have been gradually converted into 22 convenient blocks.

Pemchada's Takdah was leased to him with an area of 675 acres plus free grazing rights in 275 acres. After expiry of the lease in 1887, a fresh lease was issued jointly in the names of his sons and the *raiyats* of the mahal. This renewed lease expired in 1894.

The Mirik Khas Mahal consists of two blocks, one of which contained 125 acres and was first settled with Singhi Subba. The two blocks are adjacent and were later settled on the joint *raiyatwari* system with the *mandals* and the *raiyats* for 10 years from the 1st of April 1886.

The Dhojea Khas Mahal originated as follows. A large block of land, comprising Nagri, Dilbir and Dhojea, had first been kept reserved for hill *raiyats*. It was later settled with Dr. Greenhill so that he could start a farm. Dr. Greenhill's farm did not pay and on the expiry of his first lease in 1887, a fresh lease was granted for the cultivation of tea. From this lease was excluded a part of Dhojea measuring about 300 acres which Government ordered to be kept reserved for *raiyatwari* settlement. This area is the Dhojea Khas Mahal which in 1890 was measured and settled (with effect from 1887) for 10 years with the *mandal* and *raiyats* on the joint *raiyatwari* system.

In 1892, a grant of half the assets of Hoom-Lingding and of the 6 blocks of the Mungwa group was made to the late Raja Tenduk Pulger for life in consideration of his meritorious services to Government. On his retirement from the office of manager of the Government estate of Darjeeling, Government made certain other concessions, one of which was that the grant would be held by one of his sons.

Hoom-Lingding, however, in the meantime had been broken up into 4 blocks, the total area of which was, according to the settlement papers of 1893, 1,299 acres. In 1910 Government resumed Hum and acquired from it an area of 810.58 acres for the creation of the Takdah cantonment. 367.25 acres were subsequently relinquished and settled with the Gielle and Rangli Rangliot Tea Estates.

The cantonment was abolished in 1927, when Government decided to convert an area of about 100 acres, still known as the Takdah cantonment, into a residential block without any restriction as to the class of tenant to be inducted, levying a rent of Rs. 35 per acre per annum and a *salami* of five times the annual rent. The balance of the land was divided into two blocks, viz., Maney Bazar cultivation area and Maney Bazar. The unacquired area of Hoom Lingding retained its original name of Hum or Hum Takdah, while Lingding remained as a separate block within the grant of Raja Tenduk Pulger.

Pagriabong (now called Pokhriabong) is also subject to an assignment of revenue. In consideration of the good character and the long and faithful services rendered in the military department by the late retired Subedar Major Sardar Bahadur Prithilal Singh, a heritable grant of Rs. 400 per annum was made in his favour in 1910. After the death of the Subedar Major, the grant is held by his grandson Jit Bahadur Subba who is, at the time of writing, the *mandal* of the block.

Jamadar Bhita Jote, a late addition to the West Tista Khas Mahal, is a piece of waste land in the Balasan valley near Pankhabari. Its present area is 228.65 acres of which 81.99 acres is in the *khas* possession of Government: the balance (146.66 acres) was settled in 1941-42 on a revenue of Rs. 161-8.

Tauzi No. 1006 is an estate which lies near the Khas Mahal block of Poobong and was created in 1900 under lease No. 106 in the name of the "Darjeeling Tea and Cinchona Association". It was relinquished in 1920 and taken over as a Khas Mahal. It is now an agricultural block, forming part of Poobong with an area of 40 acres and a revenue of Rs. 35.

The history of settlements in Tauzi No. 95 dates from the more settled conditions which followed conclusion of the treaty of 1861 with Sikkim. The greater part of the area taken from Sikkim was reserved for forest or devoted to the cultivation of tea. Areas left for ordinary cultivation were small and were scattered between reserved forests and tea gardens.

The early settlements of revenue were with individual farmers who were made responsible for the revenue fixed in lump on the block or blocks leased to each of them. The first regular settlement of these *Mahals* appears to have been made in 1884. The system then adopted has come to be known as the joint *rayatwari* system by which settlement was made jointly with the *mandal* and tenants of each block. This 1884 settlement was for a term of 10 years. Under it, blocks were divided into three classes with different rates of revenue : *raiyats* had a nominal right of occupancy but in fact they were entirely at the mercy of *mandals* who could oust them at pleasure. The *mandals* were given a commission of 10 per cent. on the revenue demand and enjoyed the right and profit of settling waste lands.

While this system proved successful as far as the collection of rent was concerned, it was otherwise unsatisfactory because *mandals* realised as much as they could from *raiyats* and looked to their own interest and not to that of Government or of the *raiyats*.

In the next settlement of 1894, the joint *raiyatwari* system was given up. Blocks were now divided into three classes according to the quality of the soil predominating in each and settlement was made direct with each *raiyat* who was given a separate lease for his holding. Lands were reserved for grazing. Persons found to have been in occupation for 12 years or more were recorded as *raiyats* having rights of occupancy. Subletting was forbidden and *raiyats* found holding under other *raiyats* were recorded as under Government whenever they had acquired a right to compensation for disturbance. As in earlier settlements, the *mandal's* commission was fixed at 10 per cent. of the gross demand but the power of granting new settlements was taken from him. To compensate for the low income of some *mandals*, either two blocks were amalgamated or the *mandal's* own lands were allowed to be held rent-free.

A third settlement was made in 1907-08 and a fourth in 1920-22. In the third settlement, Government ordered replacement of the block rates by soil rates. In the fourth settlement, the system of soil classification was made more elaborate and several new classes were added.

Mandals no longer hold any land rent-free and their commission is 10 per cent. not on gross demand but on gross collections.

The total area of the Estate is at present 14,794 acres, of which about 12,000 acres are settled. The revenue has risen from Rs. 4,213 in 1884 to Rs. 21,855 in 1944. The present settlement continues in force until 1952.

The Relling estate contains the following blocks:—

The Relling and Samabong Estates.	Majua.	Singbungdera.
	Dangia.	Relling (or Laringaon).
	Lamagaon.	Kainjalia.
	Jhepi.	Kankibong.
	Hatta.	Lodhama.
	Namla.	Rimbick.

It also contains two small bazars at Dangia and Jhepi, a bazar at Rimbick and a larger *hat* in Kankibong called Lodhama *hat*. These last two are managed by the Darjeeling Improvement Fund. In both, large quantities of potatoes are marketed.

The Samabong (Kolbong) estate contains only two blocks, Kolbong and Murmidong.

After its resumption by Government in 1924, the first settlement of the Relling Estate (Tauzi No. 26) was made in 1925-28 when it was found to contain 19,500 acres of land of which 13,223 acres were cultivated. Seven hundred and seventy-five acres have since been transferred to the Forest Department. The 1925-28 settlement continues in force until 1948, the present demand of the estate being Rs. 14,742.

No record of any previous settlement is available.

The Samabong (Kolbong) estate (Tauzi No. 952) was resumed in 1909 and brought under regular settlement for the first time in 1914 when its area was found to be 1,845 acres, of which 1,219 acres were cultivated. The revenue demand was fixed at Rs. 1,532. The second settlement made in 1925-28 continues in force until 1948. In 1944 the demand of the Estate had risen to Rs. 1,770 for an area of 1,772 acres.

The details and history of the management policy of these two estates will be found later in this chapter in the paragraphs dealing with the administration of the Khas Mahals of Sadar, Kurseong and Kalimpong.

Tauzi No. 1064 is a small estate originally created in 1859 as a rent paying tenure Hopetown lot No. 82. In 1862 the tenure was converted into a freehold grant by commutation under Rule IX of the Waste Lands Rules of 1859. It escheated to Government for failure of heirs. The area is only 2.5 acres with a demand of Rs. 66-13.

Tauzi No. 96 and Tauzi No. 1017 are Hill Cart Road Reserve lands. Under notification 248 of the 9th of October 1866 and a subsequent order 1326 of 26th February 1868 a piece of land "measuring 63 feet, more or less, on either side of the said road (i.e., the Cart Road) between the boundary pillar of the Bazar at Darjeeling to Panch Keela, being a distance of about 41 miles" was declared for acquisition "for the purpose of widening the road and for providing for its future repairs" and an area of 571 acres, 3 rods and 39 poles was acquired. This last was not however the

whole of the land declared for acquisition. The acquisition was entrusted to a Major Johnson who compiled a road atlas showing the area constituting the Cart Road reserve. This atlas shows no reserve land at certain places on the road side, e.g., at Sonada, Kurseong, Sepoydhura and Darjeeling.

In May 1873, Government decided that the Revenue authorities should deal with the letting of these lands: they were to take care that such arrangements were made so that the Executive Engineer would not be hampered in his work on the road. To secure the safety of the road, the Executive Engineer is now always consulted in the administration of these lands. Tenants are mostly railway coolies, who work on the Cart Road whenever necessary, and shopkeepers who meet the needs of travellers on the road. Tenants have no rights of occupancy and settlements are made with them from year to year. No *pucca* structures are allowed to be built and assessments are made at special rates. The revenue of Tauzi No. 96 was Rs. 5,579-4 and of Tauzi No. 1017 was Rs. 1,465-4 in 1944-45.

In 1884 the Board of Revenue ordered that these reserves should be treated as a Khas Mahal and entered under a separate estate in the Revenue Roll: also that rents derived from the lands falling within the Municipality should be made over to the Municipality. At that time only the lands outside the Municipality were recorded in the Tauzi Roll under Entry No. 96. These lands are chiefly in the strip 63 feet wide and are more or less continuous along the whole length of the road. In two places there are reserves for short cuts and in other places for markets and locations. Receipts from this Tauzi are credited first to Land Revenue and then transferred to the Communications and Works Department of the Provincial Government.

Disposal of the rents from the areas within the Municipality which were being collected by the Municipality received further consideration in 1900 with the result that, in 1902, Tauzi No. 1017 was created for these reserve lands. Collections are first credited to Land Revenue and then transferred to the credit of the Municipality.

Tauzi No. 1121 was created on 1st April 1939, out of the 14 locations or building sites lying on the side of the Cart Road and beyond the 63-foot strip included in Tauzi No. 96, the revenue from which was made over to the Public Works Department from 1884. As the Department had no right to revenue from lands outside the 63-foot strip, a separate estate (No. 1121) was created. To secure the safety of the Cart Road, wet cultivation on these lands is prohibited. The area of the estate is about 110 acres and its revenue is Rs. 2,021-4. No lease is granted and tenants hold on a yearly basis.

The last of the estates managed by the Sadar Kurseong Khas Mahal

**Town Khas
Mahal.**

Department is Tauzi No. 1079 described as the Town Khas Mahal. It includes all the Khas Mahal lands other than Cart Road lands or those leased for tea

lying within the town of Darjeeling. The revenue of the Town Khas Mahal has been assigned to the Municipality.

The table below shows details of the various leases under this Tauzi:—

Description.	Leases. Holdings. Area			Revenue.		
	No.	No.	(acres).	Rs.	a.	p.
Perpetual	30	110	141.27	1,418	5	0
99 years	45	72	165.51	1,420	0	6
50 years	1	1	3.81	100	0	0
30 years	21	21	57.74	1,379	8	0
20 years	2	2	.06	60	10	0
15 years	1	1	7.27	179	0	0
10 years	19	19	30.03	629	7	0
5 years	1	1	.01	10	0	0
1 year	6	6	9.14	74	14	0
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	126	233	414.84	5,271	12	6
<i>Bhutia basti.</i>						
Term leases	2	2	.07	40	6	0
Tenants-at-will	0	42	1.51	951	5	3
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	2	44	1.58	991	11	3
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total	128	277	416.42	6,263	7	9

The history of the administration of these leases is somewhat confusing. For some short time after the cession of the old Darjeeling territory in 1835, there appears to have been but little demand for land. The applications put in were dealt with by the Superintendent at his discretion but in 1838 the filing of a large number of applications for building sites led to the issue by Government of a set of rules for the grant of land. These rules were issued in September 1839 and provided that the conditions of any grant made previously by the Superintendent should be binding on Government but that, for the future, land should only be given on the following terms:—

- (1) land suited for building locations, for which purpose a space was specially reserved 200 yards broad on either side of the principal road from Kurseong to Darjeeling;
- (2) cleared spaces of undefined size at Pankhabari, Kurseong, Mahaldiram and Darjeeling to be reserved for bazars; and
- (3) land not required for either of the above purposes to be available for farming leases.

According to the original rules, building leases were to be in perpetuity and subject to a rent of Rs. 50 for a full location, ordinarily 100 yards square. The limitation on size seems to have been disregarded from the first and in 1841 the area of a full location was raised to 200 yards square. This again was often disregarded and many grantees have much more land in their possession than they were entitled to hold under the rules.

In a letter, dated the 23rd of December 1840, the Court of Directors modified the rule authorising leasing in perpetuity and limited the period of leases to 99 years. But before their orders were received, 65 full locations and 10 half locations had been allotted in perpetuity. After receipt of the orders, 76 full locations, 45 half locations and 24 quarter locations were granted for 99-year terms. Seven sites were also assigned to applicants by letter for which leases were never granted.

Under the rules of May 1859, the holders of location leases were allowed the option of converting them into fee-simple rights at the rate of 20 years' purchase of their annual rent. A large number of locations were commuted under these rules.

In 1879, the grant of building sites belonging to Government was regulated by special rules which prescribed that a lease applied for should be sold by public auction, that the rent should be at the rate of Rs. 50 per acre, that the size of the location should be limited to 2 acres and that the period of the lease should be 99 years. These rules were not strictly followed and special orders of Government are taken on every grant proposed.

Building locations and lands within the Municipal area have been settled for the establishment of various schools, clubs and monasteries and for cultivation. Settlements have been made in consultation with the Municipality and with the approval of Government. These settlements are for periods ranging from 5 to 50 years and are included under Tauzi No. 1079.

The relations between Government and the Municipal authorities in connection with the revenue administration of lands within the Municipality have a somewhat intricate history. These relations had their origin in the "Location Fund" required when the early growth of the town called for local arrangements for conservancy, communications and other amenities. For the above purposes, the Government of India, in the year 1838, ordered that "the quit rents paid by the settlers in the ceded portion of Darjeeling should be appropriated to fund to be called the 'Location Fund' and employed for conservancy and for purposes of local improvement." The rents of the bazar to be built out of this fund and of shops erected on public lands were afterwards added.

The Location Fund was under the management of a Committee until 1850 when, on the establishment of the Darjeeling Municipality under Act XXVI of 1850, it was handed over to the Municipal Commissioners.

The Municipality, in 1879, claimed proprietary rights over location lands and the Government of India, in their letter No. 2289 of the 14th of August 1880, decided that "the Municipality should continue to benefit by the quit rents reserved upon location sites within its limits but that they were authorised to grant leases at such rates and for such terms only as Government might from time to time approve and that the Municipality should have full proprietary rights over an area

of about 44 acres comprising the Central Bazar and the Native Town, on condition that they claimed no proprietary rights over certain sites within that area held by Government or over any locations which might have been granted up to that date in fee-simple within their limits and that Government should be entitled to take up such other sites as might be required from time to time for public purposes on payment only of a fair rent to be assessed by Government in each case". The Municipality accordingly continued to collect rents from all the locations within its limits, though the proprietary rights over these lands remained with Government.

The proprietary right of the Municipality to the 44 acres of bazar land, excluding the location areas mentioned above, finds recognition in the entry of these bazar lands in the register of revenue-free properties in the office of the Deputy Commissioner. The Municipality manages this property and has spent large sums on buildings from which a considerable part of its revenue is derived.

In accordance with the orders of Government contained in letter No. 2289 of 14th August 1880, some small scattered plots (485 square feet) of unassessed Government lands within the 44-acre block over which the Municipality has proprietary rights have been formed into a separate estate bearing Tauzi No. 1113. The plots are treated as holdings under Government. The rents (Rs. 55) were not meant to be assigned to the Municipality and are credited to Government as Land Revenue. This estate is managed by the Tauzi Department and not by the Sadar Kurseong Khas Mahal Department.

It was ordered by the Board of Revenue in their letter No. 2817A. of the 6th of September 1911 that the locations, the rents of which had been assigned to the Darjeeling Municipality, should be brought on the Tauzi Roll and that the rents should, in the first instance, be collected by Government and then made over to the Municipality in a lump sum after deducting collection charges. Nothing was specifically mentioned in that order about Government lands in Bhutia Basti or those at Ghum and Jorebunglow: consequently these last two properties remained under the control of the Municipality.

After locations had been brought on the Tauzi Roll, difficulties about the application of Act X of 1859 arose because some of the leases had been granted by the Municipality and the rents could therefore not be treated as revenue. To meet these difficulties, Government, in their letter No. 2356M. of the 3rd July 1914, withdrew the power to grant leases from the Municipality. Certain leaseholders were directed to get their leases renewed by Government and their locations were then brought on the Tauzi Roll as ordered by the Board in 1911.

Tauzi No. 1079 was created in 1919 when all rent-paying locations within the Municipality managed by Government were ordered by the Board to be brought under one Tauzi. The revenue collected, less collection charges, is paid to the Municipality after the close of each financial year.

The lands in Bhutia Basti are not locations but belong to Government. They lie outside the 44 acres but within the limits over which the Municipality's control and management have been recognised by Government (paragraph 8 of Order M/5L-5/2 of 20th October 1890). All tenants are tenants-at-will with whom settlements were made by the Municipality subject to Government's approval. Government maintained their proprietary rights over this area but allowed the rents to be enjoyed by the Municipality. In their letter 9883Ex. of the 30th August 1933, Government ordered that the Municipality should settle no further land in Bhutia Basti and that this area should be treated as part of the Town Khas Mahal, the income being paid to the Municipality as for other Town Khas Mahals. Management was accordingly transferred from the Municipality to Government with effect from the 1st April 1933 and the area now forms part of Tauzi No. 1079.

The Municipal grazing lands and the Ghoom-pahar Jorebungalow lands (bazar and grazing), which include lands at Bhanjang (a *busti* at Ghum) and Batasia, are also Government lands over which the Municipality's control was recognised by the order of 20th October 1890. The control was subject to a condition that the rates of rent and conditions of letting such lands would be approved by Government. The Municipality has accordingly been settling lands with tenants (tenants-at-will) on approved terms. Two hundred and eighty acres were resumed by Government for settlement with Mr. Edward Keventer in 1919 and Subedar Bhagiman Limbu in 1921. The area settled with the Subedar (2 acres) was made into a separate estate Tauzi No. 1092. The rest of the 280 acres was surrendered to Government who settle it with tenants and pay the rents to the Municipality as part of Tauzi No. 1079. The balance of these grazing lands (622 acres less 280 acres) is managed by the Municipality: it receives from them an annual income of about Rs. 7,000.

Two estates are managed at Kalimpong. The first is the Kalimpong Development Area (Tauzi No. 1080) with an area of 1,833.63 acres or 2.86 square miles. It is between 3,400 feet and 4,650 feet above sea-level and is bounded on the north by the Kalimpong Khas Mahal block and the bazar of the Darjeeling Improvement Fund, on the south by the reserved forests of Tasiding, Ringkingpong and Kamesi, on the east by the Bong Khas Mahal block and on the west by the Kalimpong Khas Mahal block. Within the area, some patches of land, lying on the sides of unsettled *jhoras* and measuring in all 170.03 acres, have been handed over to the Forest Department for protective work.

Before this area was selected for the purpose of establishing a hill station alternate to Darjeeling, it was part of the Khas Mahal estate in which the policy of Government was that no land should be settled with persons who were not hillmen. This policy was revised in respect of the land acquired for the above purpose.

The scheme for developing Kalimpong originated in a note recorded by the Hon'ble Mr. C. J. Stevenson-Moore, then Member of the Board

of Revenue, after he visited Kalimpong in 1914. Thereafter the Tista was bridged, Kalimpong connected with Tista bridge by a cart road and a new subdivision created with headquarters at Kalimpong. The land for building development was acquired in 1919 at a cost of 2½ lakhs of rupees and a water-supply was provided at a capital cost of Rs. 8½ lakhs. Main and minor roads have been constructed in the area by Government at a cost of nearly 7 lakhs of rupees. Water connections and water-borne sanitation are insisted on for every building in the area and building regulations require every building plan to be up to a high specification and approved by a local committee before building can commence. Most buildings have electricity laid on. Street lighting by electricity has been sanctioned by Government and will be completed at the conclusion of the war.

The Development area is divided into two parts. Part I of 900.00 acres was surveyed in 1928-29 and the survey of Part II (933.63 acres) was completed in 1942.

Settlement was at first confined to Part I and progress of settlement was slow from 1919 to the 31st March 1941 by which date the total *salami* received for settlement of plots amounted to Rs. 2,07,235. Since 1941 *salami* received has been Rs. 4,12,026 and applications were being received from all parts of India. By the end of 1943-44, 379 out of 606 building plots had been settled and prospects of settling the rest were excellent. The total rent and cess demand on 31st March 1944 was Rs. 42,660 per annum. Rupees 8,363 was realised from the area as water-tax in the year 1943-44.

Up to 1941, administration of the area was in the hands of the Subdivisional Officer aided by a local advisory committee and directed by the Deputy Commissioner. In 1941 a Superintendent was appointed for the area who works under the Deputy Commissioner.

The Kalimpong Government Estate is 172.98 square miles in extent and bears Tauzi No. 93 in the registers of the Deputy Commissioner. The area of the present Kalimpong Subdivision which lies east of the Tista was annexed from Bhutan under the Sinchula treaty of 1865 concluded at the end of the Bhutan War. It was first notified as the Dalingkot Subdivision of the Western Duars District but in the following year it was transferred to Darjeeling District.

The Bhutan Government had realised a poll tax from the population through *mandals* and this system was continued after annexation: realisation of this tax in 1865 amounted to Rs. 640.

Large areas were reserved as Government forests and practically the whole of the rest of the area was administered as a Government estate, Government dealing with tenants direct. After annexation, immigration from Nepal and Sikkim was considerable and by 1882 when the first survey and settlement of the most developed portion of the estate was carried out, the receipts from the poll tax had risen to Rs. 11,800. Population was then 12,683. Most of the immigrants were Nepalis who took the lead in developing agriculture by ploughing,

a method which displaced the less efficient one of *jhum* cultivation formerly practised by the original inhabitants.

The 1882 settlement fixed block rates. The surveyed area was divided into 25 blocks: in the more fertile blocks, revenue was assessed at 8 annas per acre and in the less productive blocks at 4 annas. The annual demand thus based totalled Rs. 8,260 which replaced a poll tax of Rs. 10,313 for this area. The poll tax of Rs. 1,487 continued in the unsurveyed area. A fresh settlement was made in 1892. The rate of rent was increased by 50 per cent. in all blocks except six and cardamom lands were separately measured and assessed at a special rate of Rs. 10 per acre. Population had increased to 26,631 and the area cultivated had increased. The annual demand in the surveyed area rose to Rs. 16,499. Increases in population in the unsurveyed area brought the annual demand on account of poll tax to Rs. 4,461 and the total demand of the estate thus amounted to Rs. 20,960 in 1892-93. The surveyed area assessed to revenue had risen from 26,990 acres to 32,592.

The population of the estate had risen to 36,164 in 1901 when a fresh settlement took place. Poll tax was entirely abolished and the whole area surveyed by cadastral survey instead of by the former plane table method. The previous method of fixing a uniform rate applicable to all land within a block was abandoned and rents were fixed on a classification of land. There were four classes of land, viz., cardamom, panikhet, sukhakhet, and waste and blocks were put into five groups according to fertility, rates of rent being fixed for each class of land in every group.

This settlement raised the annual demand from the previously surveyed area to Rs. 23,041 and assessed Rs. 8,548 on the previously unsurveyed area for which the poll tax had been Rs. 9,611. The total annual demand was thus Rs. 31,589 for a cultivated area of 53,349 acres (33,809 acres in the previously surveyed area and 19,540 acres in the unsurveyed area). There were now 48 blocks in the estate.

The most recent settlement took effect from 1921 and was to be current for 15 years instead of 10 years as had been the term of previous settlements. Population had increased to 41,203 and the total area assessed was 63,119 acres: there was no enhancement on the rate for cardamom lands but on the ground that prices of produce had increased, rates of revenue on other classes of land were increased: on paddy (*panikhet*) lands 25 per cent. to 31 per cent., on *sukhakhet* from 50 per cent. to 60 per cent. and on waste lands from 33 per cent. to 50 per cent. The total annual demand thus rose to Rs. 59,620.

The period of settlement expired in April 1936 and the old leases were renewed until a fresh settlement could be made. There has, however, been an increase in paddy and cardamom cultivation and three new blocks have been opened since the 1921 settlement. The annual rent demand has, from these causes, increased to Rs. 63,806. As the total area under assessment is 63,727 acres and there are 10,608 tenancies, the average size of a holding is 6.00 acres and the average rate of rent Re. 1 per acre.

The 48 blocks of the 1901 settlement had been reduced to 47 in the 1921 settlement on the closure of the Labha block which was found too high and unfertile for successful cultivation. The land of this block was accordingly included in the reserved forest. Since 1921 three new blocks were opened at Kaffergaon, Lolaygaon and Rechila. Kaffergaon and Lolaygaon were opened to provide land for tenants displaced from lands acquired for the Kalimpong Development Area. There are thus 50 blocks in existence as follows:—

No.	Name.	Annual rent demand.		No.	Name.	Annual rent demand.	
		Rs.	a.			Rs.	a.
1	Bhalukop ..	814	11	26	Pabringtar ..	1,243	15
2	Bong ..	1,390	11	27	Pagang ..	531	3
3	Dalapchan ..	1,004	5	28	Paiyung ..	2,918	8
4	Dalim ..	277	11	29	Pala ..	949	8
5	Dungra ..	1,050	10	30	Pankhasari ..	2,632	15
6	Echhay ..	1,350	2	31	Pashiting ..	420	10
7	Gitbeong ..	2,566	10	32	Patengodak ..	1,200	4
8	Git Dubling ..	3,637	13	33	Pedong ..	880	1
9	Gorubathan ..	1,158	1	34	Pemling ..	1,087	11
10	Kaffergaon ..	232	11	35	Pokhriabong ..	886	2
11	Kagay ..	1,483	14	36	Pudung ..	1,209	8
12	Kalimpong ..	2,280	12	37	Rechila ..	114	8
13	Kankibong ..	1,138	8	38	Sakyong ..	3,531	9
14	Kashyong ..	1,714	15	39	Samabong ..	876	14
15	Kumai ..	705	1	40	Samsing ..	473	12
16	Ladam ..	2,726	4	41	Samther ..	866	5
17	Lingsay ..	1,633	10	42	Sangsay ..	1,371	2
18	Lingsekha ..	1,867	2	43	Santuk ..	2,621	15
19	Lolay ..	1,214	9	44	Seokbir ..	683	13
20	Lolaygaon ..	559	5	45	Sindipong ..	2,055	0
21	Mal ..	134	11	46	Sinji ..	796	2
22	Maria ..	812	10	47	Suruk ..	760	8
23	Nim ..	911	8	48	Today Tangta	1,656	2
24	Nimbong ..	1,089	4	49	Yangmakung	1,184	14
25	Nobgaon ..	427	8	50	Yokprintam ..	665	5
					Santolay ..	5	4

The administrations of the Relling estate, of the Samabong (Kolbong) estate, of the West Tista Khas Mahals and of the Kalimpong Government Estate are similar and can be described together.

The rights and obligations of tenants are regulated by Act X of 1859 and the terms of the leases granted to the tenants. Settlements of land revenue are made under Act VIII of 1879 and it will be noticed that the Bengal Tenancy Act does not apply to these areas or indeed to any part of the District.

Under Act X of 1859 a tenant gets a heritable right of occupancy in any land held by him for 12 years. Tenants have no right to transfer or sublet lands held by them without the permission of the Deputy Commissioner under pain of fine or cancellation of their lease.

Transfers or subletting by hillmen to plainsmen are usually not permitted by the Deputy Commissioner nor does he usually permit Lepchas or Bhutias to transfer or sublet lands to Nepalis. The *raiyat's* lease can be determined for any breach of its terms, the most important of which are the terms rendering his holding liable for sale in default of payment of rent on due date, declaring that he has no right to stones or trees on his land, requiring him to plant 5 seedling trees for any one he may be permitted to cut after payment of royalty and requiring every adult to give two days' unpaid labour per annum for the maintenance of *mandali* roads. This free labour is exacted in lieu of a levy of road cess from which lands in these Khas Mahals are exempted by notification. Particular forms of cultivation, viz., wet cultivation or cardamom cultivation, may be prohibited by the Deputy Commissioner and the tenant is also required to supply provisions and coolies at market rates when so ordered by duly authorised officers. Certain lands have been granted rent-free in the Kalimpong Khas Mahal for the maintenance of monasteries or *mandals*: and tenants in this estate have rights to graze cattle on, and collect fuel from, the 7,000 odd acres of grazing reserve lands (*gorucharan*) which form part of the estate. There are also unreserved forests in all these estates, of which the tenants are permitted to make use.

Unauthorised subletting is common and difficult to check. As a result of subletting by absentee or *bhadralok* tenants three classes of under-*raiyat* are found on the Kalimpong Government Estate: (1) *pakhurias* who pay a fixed cash rent to the tenant of the land, (2) *kuthdars* who pay a fixed produce rent and (3) *adhiars* or half crop under-*raiyats*. They are all legally tenants-at-will and liable to summary eviction but there have been instances where *pakhurias* have successfully resisted ejection in the courts. Rates of rent for these under-tenants are high and the Settlement Officer in 1921 found that *pakhurias* paid considerably more than the rent fixed by Government, that *kuthdars* paid over 12 times the Government rent and *adhiars* still more.

Mortgages are of two kinds. "Mashikata" gives possession for a fixed number of years in lieu of both principal and interest and "Biyaz" gives possession in lieu of interest only.

Government is the proprietor of these estates and there is no private landlord or tenure-holder between Government and the *raiyat* who is usually the tiller of the soil. The estates are divided into blocks in each of which is a *mandal* or headman. The *mandals* are the direct representatives of Government on the estate and it is their duty to collect the rent due from the *raiyats* in their blocks and remit it to the Treasury, to report all transfers of land, to inform the police of any crimes that may occur, to see that the roads in their blocks are properly maintained and to supervise the construction of any new roads that may be required, to report births and deaths, to ensure that *raiyats* provide labour and provisions as required, to prevent improper or unauthorised felling of trees and to preserve grazing and waste lands. In return the *mandal* is given 10 per cent.

on gross collections made by him. He is the acknowledged head of the community and arbitrates in all disputes except those relating to marriage, divorce and inheritance which are settled by *panchayats*. In the West Tista and Sadar Khas Mahals *mandals* no longer get rent-free lands or free grazing but in the Kalimpong Government Estate *mandals* still get free grazing and certain *mandals* continue to get rent-free lands although these are resumed whenever a *mandal* dies and his son is not appointed *mandal* in his place. The *mandali* system works on the whole very well. It works smoothly because it is congenial to the people and ensures that the estate is administered with due regard to the feelings and needs of the tenantry. Some *mandals* are from time to time found to be inefficient or dishonest but most perform adequately the simple duties assigned to them by custom.

Rates of rent in the West Tista Khas Mahals in the 1884 settlement were based on three classes of blocks for which rates of annas 12, 9 and 6 per acre were fixed: allowances for fallow land however virtually reduced the rates to 9, 6 and 3 annas an acre. In 1894, blocks were classed according to rough estimates of soil fertility, blocks where black soil fit for all crops predominated being put in the first class and predominantly red soil putting the block in the third class. This time no allowance was made for fallow land, the rates remaining unaltered. In 1906 the block classifications were maintained but a new system of soil classification was introduced: (1) *sukhaket* for dry cultivation, (2) *panikhet* for land where paddy could be grown and (3) waste. The following were the rates:—

Rate and incidence of rent in Hill Khas Mahals.	First class blocks.	Second class blocks.	Third class blocks.
	Rs. a.	Rs. a.	Rs. a.
Sukhaket	0 15	0 12	0 8
Panikhet	1 4	1 0	0 11
Waste	0 3	0 2	0 2

In this settlement not only the quality of the soil but all relevant facilities were taken into consideration in classifying blocks, as in the Kalimpong system. In the 1920-23 settlement other land classifications were added, viz., *gharari* (homestead) and *bagaicha* (orchard) and waste lands were sub-classified into *naya bajo* (current fallow), *purana bajo* (old fallow), *laik bajo* (culturable waste), *gar laik bajo* (unculturable fallow).

The rates fixed were:—

	First class.	Second class.	Third class.
	Rs. a.	Rs. a.	Rs. a.
Sukhaket	1 8	1 3	0 13
Panikhet	1 10	1 5	0 14
Naya bajo	0 3	0 3	0 2
Gharari or bagaicha ..	1 12	1 8	1 4

The rate for cardamom lands in all these settlements was Rs. 10 per acre. These rates compare with Rs. 2 per acre for *sukhakhet* land and half the produce for cardamoms in the Rongbong private estate.

The Relling Estate (Tauzi No. 26) came into Government's hands in 1924 and a settlement was made in 1928.

The rates settled were:—

					Per acre.				
					Rs. a.				
Cardamom	..	..	..	..	10 0
Panikhet I	..	..	..	..	1 4
Panikhet II	..	..	..	..	1 0
Sukhakhet	}								
Homestead									
Orchard						I	1 0
Bamboo						II	0 12
New fallow									
Old fallow	..	..	..	..	0 6

Previous rates were found to be Cardamoms Rs. 10 per acre and all other classes of land—in two blocks annas 9 per acre and in the remaining blocks annas 12 per acre. In 1935 a reclassification took place resulting in the elimination of the class Panikhet II and slight lowering of rates for Sukhakhet and old fallow.

In the Samabong (Kolbong) Estate (Tauzi No. 952), the settlement of 1928 fixed the following rates:—

					Per acre.					
					Rs. a.					
Cardamoms	..	..	..	..	10 0	
Panikhet	..	..	..	..	1 4	
Sukhakhet	}									
Homestead										
Orchard						1 0
Bamboo										
Current fallow										
Old fallow	}									
Culturable waste						0 6

Previous rates when the estate had been in the hands of the proprietor were:—

					Rs. a.
Cardamoms	..	..	..	..	10 0
Panikhet	..	..	..	..	1 4
Sukhakhet, etc.	..	..	..	..	0 14
Culturable waste	..	..	..	..	0 8
Unculturable waste..	..	..	..	..	0 2

Rates in the Kalimpong Government Estate were fixed in the first settlement in 1882 as follows:—8 annas per acre for the more fertile blocks and 4 annas per acre for the less fertile. There was no soil classification.

In the 1892 settlement the rate of rent except in 6 blocks was enhanced 50 per cent. and cardamom lands were separately measured and assessed at a special rent of Rs. 10 per acre.

In 1901 lands in each block were classified as (a) cardamom lands, (b) *panikhet*, (c) *sukhakhet*, (d) waste cultivable land and the 48 blocks were classified into five groups according to their productivity and

accessibility. In the 1921 settlement similar principles were followed but rates were enhanced except for cardamom lands. The table below shows the various rates fixed at these two settlements:—

	Panikhet. Rent per acre.		Sukhaket. Rent per acre.		Waste. Rent per acre.	
	1901.	1921.	1901.	1921.	1901.	1921.
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Group I ..	1 4	1 10	0 15	1 8	0 3	0 4
Group II ..	1 0	1 5	0 12	1 3	0 3	0 4
Group III ..	0 11	0 14	0 8	0 13	0 2	0 3
Group IV ..	0 9	0 12	0 7	0 11	0 2	0 3
Group V ..	0 8	0 10	0 6	0 9	0 2	0 3

Rents for *panikhet* were between 1/20th and 1/33rd of the estimated net profit of the tenant (net profit being taken at half the gross outturn). For *sukhaket* rents were between 1/14th and 1/23rd of the net profit and for waste between 1/11th and 1/16th.

It will be seen that these rates correspond closely to those of the West Tista Khas Mahals. In the Kurmi Estate from which both the Relling and the Kolbong estates were taken the rates were Rs. 10 per acre for cardamoms and for all other lands at low altitudes Re. 1-4 per acre and for all other lands at high altitudes Re. 1-2 per acre. In Sikkim State the highest rates for *panikhet* land are equivalent to Rs. 6 per acre and the highest rates for *sukhaket* to Rs. 2-10 per acre. Rates for tea lands in the Darjeeling District have been given above and later will be found the rates per acre levied for lands in the Terai and corresponding lands in the neighbouring District of Jalpaiguri.

Incidence of land revenue (on fully assessed land) in the District compared with that in other parts of the Province is shown in the table below:—

		Per acre.			Per acre cultivated area.			Per head of population.			
		Rs. a. p.			Rs. a. p.			Rs. a. p.			
		Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	
Darjeeling	1	2	4	2	5	5	1	6	0
Mymensingh	0	3	9	0	6	9	0	2	11
Burdwan	1	12	8	4	15	10	1	14	0
Noakhali	1	4	1	1	10	5	0	11	6
Tippera	0	11	6	0	13	2	0	6	2
All Bengal	0	12	2	1	2	7	0	10	2

An account of agricultural methods and conditions, fertility of soils and outturns in these Khas Mahals will be found in the chapter dealing with agriculture: and details of the population of these areas in Chapter III.

The average size of a holding is to a great extent controlled by the policies followed for regulating transfers of holdings. Transfers which increase the size of a holding above 20 acres or reduce it below 5 acres are not sanctioned. The result is that in the West Tista Khas Mahals

the average size of a holding is 5.6 acres and on the Relling and Samabong Estates 7.5 acres. In the Kalimpong Government Estate the average is 6.00 acres.

The tenantry is heavily indebted and this presents one of the most serious problems of management. Sale of produce in advance, purchase of goods on credit and irresponsible borrowing to meet heavy expenditure on social and religious functions are the processes. Improvidence, irresponsibility and love of gambling, drink and display are the causes. The fact that he cannot transfer or sublet his holding often saves the hillman tenant from ruin. The Co-operative Banks have failed to remedy the situation: rather they have increased the load of indebtedness. The Khas Mahal Manager, Kalimpong, estimates that the outstanding debts to Co-operative Societies in that estate are nearly three lakhs of rupees and that the small sums (totalling under Rs. 20,000) advanced through the Banks for short term crop loans amount to a negligible fraction of the sum required to finance the tenants' agriculture.

In spite of a heavy burden of debt the material condition of the Khas Mahal tenants of these estates is better than that of cultivators in the plains. Rainfall is abundant, rent is low, the size of holdings makes subsistence at the customary level possible and there is usually a considerable local demand for labour at rates which, though low, give the tenant appreciable help in months or seasons of difficulty. Total crop failures are almost unknown. Partial failures of maize and other crops occur occasionally but jungle products are abundant in neighbouring Reserved Forests and the people, especially Lepchas, know how to live on them. It is sufficient indication of the relative advantage hillmen enjoy that in 1943 when distress and starvation were widespread in the plains, there was no need to give any gratuitous relief in the hills or open a single gruel kitchen. The situation was adequately met by the issue of Rs. 15,000 in agricultural loans.

The economic condition of tenants depends a lot on their accessibility to centres of trade. For this reason the people of the West Tista Khas Mahals seem to be better off than those of the Relling Estate. The West Tista blocks are connected with good roads to Sukhia, Darjeeling, Jorebungalow and Tista *hat*. The only communication centre for the Relling Estate is Bijanbari which lies several miles from the estate. Produce and consumption goods have therefore to be carried by coolies or pack animals and it is not so easy for these tenants to earn in subsidiary occupations as coolies in towns, markets or tea gardens or as milk sellers. Generally there is little in the way of cottage industry which helps tenants to improve their standard of living. Difficulties of communication greatly impede the supply of adequate education throughout the Khas Mahals of the District.

Orange growing gives good results because of its heavy outturn. There is hardly ever any failure of the crop and recurring expenditure is low. Cardamom and potato growing are more precarious owing, with the former, to price variations and with the latter, to weather uncertainties: there is a good potato harvest one year only in four.

Government's revenue policy is probably sound but is rather conservative. Real economic improvement can hardly be expected of a rather static revenue collecting administration and must depend on policies for development of communications and power and in agricultural technique and finance.

There are three estates managed at Siliguri by a Khas Mahal Officer under the control of the Deputy Commissioner. Two estates (Tauzi Nos. 1060 and 1124) are very small; the former 328 acres of Cart Road Reserve land on the road between Sukna and Siliguri and the latter a very small area settled with the Siliguri Union Board. The only important estate is Tauzi No. 91 under which there are 860 *jotedars* and *raiyats* who pay revenue or rent direct to Government at Siliguri, the annual demand being about 1½ lakhs of rupees. It is difficult to state exactly the area of land comprised in this estate. The area of the Subdivision is about 258 square miles of which 41 square miles is forest. The estate does not include areas in the Terai leased for tea and the actual area managed is roughly 200 square miles.

Terai Khas Mahal.

The Terai was annexed from Sikkim in 1850 and the southern part was first attached to the Purnea District, the Collector of which settled land revenue for three years. Dr. Campbell in the meantime had settled the upper Terai for three years. Previous to annexation revenue was derived from a *dao* or hoe tax paid by Meches and Dhimals: from land settled with Bengalis in the Lower Terai: from grazing fees from cattle coming from adjoining Districts in the early part of the year: from forest produce, excise, market dues: and from a few minor sources. There were Bengali Officers called *chaudhuris* who collected the more important of these dues, held large grants of lands and exercised civil and criminal powers.

At the time of Dr. Campbell's settlement, there were 544 *jotedars* or persons with whom land had been settled. The gross revenue was then Rs. 19,507 and net Rs. 17,630. These *jotedars* renewed their *jotes* every year but in fact they had hereditary rights which could not be refused. Dr. Campbell's first settlement allowed the *chaudhuris* over 10 per cent. for collection charges. Five-year rent-free grants were also made to encourage clearance of land under jungle. In 1853 the cultivated portion of the Terai was resettled for 10 years exclusively with *jotedars*. There were then 595 *jotes* with a revenue Rs. 30,330. In a resettlement in 1867, 808 *jotes* with an area of 115,137 acres were settled at a revenue of Rs. 35,041. Another settlement in 1879 for 10 years fixed the revenue at Rs. 79,518. In 1897 settlement was renewed for 20 years at a total revenue of Rs. 97,610 with cesses Rs. 22,079 and a one anna cess of Rs. 6,102. This last was a cess for local purposes abolished in the 1924 settlement. There were in 1897, 834 *jotes* exclusive of *hats*. The next settlement took place in 1919-1925 when the area settled was 114,132.23 acres (178.3 sq. miles) at a revenue of Rs. 1,79,168. There were now 860 *jotes* and 22 *hats*. There has been no settlement since. It should be explained that this area and revenue do not include tea grants which were

held at varying rates on 30 years terms. The average rate at which they were held was at the time of the 1919-25 settlement six annas per acre but as grants become due for renewal revenue is assessed at Rs. 2 per acre; Government have not decided to fix any higher rate although the rate of rent on tea lands may be enhanced up to that of the highest class of land under ordinary cultivation which, in 1919-25, would have brought the tea rate up to Rs. 3 per acre.

Originally the Terai was divided into 19 *mauzas* lying in two parganas Patheorghatta and Hathighisa. These 19 *mauzas* included 384 *jotes*, 80 grants under 30-year leases and 21 blocks of land containing private and Government *hats*. This division into *mauzas* had no value and a re-arrangement took place equating *mauzas* to the areas of one or more *jotes* or to one or more of the 30-year grants.

The rights of all tenants of Government in the Terai are regulated by their leases and by the two Acts which are in force in the District, namely, Act X of 1859 and Act VIII of 1879. Whereas the 30-year tea leases are transferable and heritable, these leaseholders have no right to sublet. The 20-year *jote* leases however can be sublet and are, in addition, transferable and heritable. The only restrictions on subletting in the *jotedar's* lease are that rent may not exceed 50 per cent. of the *jotedar's* rent and the agreement with the sub-tenant must provide that he cannot sublet. *Jote* lands can only be put under tea with the Deputy Commissioner's permission and at the rate fixed for tea lands under *jotes* (Rs. 2-13 per acre). *Jotedars* in the Terai have rights to the trees on their land.

In the 1895 survey and settlement, *jotedars* were treated as *raiyats* having a right of occupancy and those who were tenants under the *jotedars* (described as *ticcadars*), or tenants under *ticcadars*, as having no right of occupancy however long they might have been in occupation. In the 1924 settlement, however, *jotedars* who had sublet over 50 per cent. of their lands were recorded as "under-tenants" within the meaning of section 3 of Act VIII of 1879. This description means that they are what is commonly known as tenure-holders. Similarly *ticcadars* under *jotedars* who have held over 50 per cent. of their lands unlet were recorded as *raiyats* and those who fulfilled the conditions of section 6 of Act X were recorded as *raiyats* having a right of occupancy. *Dar-ticcadars* under such *ticcadars* were recorded as "korfa" *raiyats* having no right of occupancy. A small number of *ticcadars*, the area of whose tenancy was large with 50 per cent. leased out to *dar-ticcadars* were recorded as "Under-tenants" (tenure-holders) and the *dar-ticcadars* under them were recorded as *raiyats* having a right of occupancy where they had been in occupation of their land for 12 years. It will be seen that the term *jotedar* has been applied generally to all those who hold land directly under Government and pay revenue to Government. The origin of their rights is obscure and exact determination of their status has never been attempted. Apparently no stir was caused by the decisions in the 1924 settlement about the status of *jotedars* and *ticcadars*.

Adhiars are really labourers and *jotedars* and *ticcadars* usually employ *adhiars* to do the whole work of cultivation and take little

direct interest in the operations of agriculture. *Adhiars* receive the use of ploughs and are given seed and subsistence (these last two often on loan at interest) and in return get half the crop grown. The *adhiar* has little in the way of rights, capital or credit.

The 1898 settlement gave the following figures of tenancies in the Terai:—

	Holdings No.	Acres cultivated.	Acres uncul- tivated.	Total acres.
Tea planters	136	12,462	19,544	32,007
<i>Jotedars</i>	778	15,115	43,244	58,359
<i>Adhiars</i> under <i>jotedars</i>	1,744	5,736	257	5,993
<i>Ticcadars</i>	4,757	25,886	9,329	35,215
<i>Adhiars</i> under <i>ticcadars</i>	915	2,598	139	2,737
<i>Dar-ticcadars</i>	2,803	6,667	853	7,520
Total	11,133	68,464	73,366	141,831

In the 1924 settlement, 535 of the 860 *jotedars* were recorded as "under tenants" (tenure-holders) and 325 as *raiyats*. Under the 535 tenure-holder *jotedars* were recorded 5,075 *ticcadars* classed as follows:—

Under tenants	171
Occupancy <i>raiyats</i>	2,252
Non-occupancy <i>raiyats</i>	2,629
Non-agricultural tenants	23
Total	5,075

There were altogether 6,104 *ticcadars* in this settlement against 4,757 of the 1898 settlement. *Dar-ticcadars* had increased from 2,803 to 4,672. It is believed that in spite of the term of leases prohibiting subinfeudation, this has increased considerably since the 1924 settlement. Most of the *jotedars* are Rajbanshis: there are a few Muslims, Beharis and high caste Bengalis.

Jotes sell from Rs. 300 to Rs. 150 per acre in normal times and *ticca* rights up to Rs. 100 per acre. In war time values have gone up and this has occasioned the filing of a few ejectment suits. Under Act X suits for rent, ejectment or distraint are filed before the Subdivisional Officer, Siliguri. In 1934-35, 75 rent suits, 34 distraint suits and 19 miscellaneous suits were filed. Corresponding figures for 1944-45 were 47, 0 and 12.

From time to time proposals have been made that the Bengal Tenancy Act should be brought into force in the Terai: it is in force in the neighbouring area of the Jalpaiguri District and uniformity of practice and rights has some advantages. But it would create anomalies if the Tenancy Act were applied to some part of the Darjeeling District and not to others. Further there has been no appreciable uneasiness in the relations between the various classes of

tenants in the Terai and therefore no occasion for adopting any radical change in the system of law regulating their rights *inter se* and against Government. This question can well be left for consideration until after a fresh settlement of revenue is undertaken: this appears to be overdue.

Rates of enhancement of *jotedars'* rent were 25 per cent. in the 1898 settlement and 50 per cent. in the 1924 settlement. The following table compares the current Terai rates with those for the neighbouring Baikunthapur private estate in the Jalpaiguri District and those of the West Tista Khas Mahals of the Darjeeling District:—

			Terai.	Baikun- thapur.	West Tista.
			Rs. a.	Rs. a.	Rs. a.
Rupini (paddy)	I	..	3 0	3 0	1 10
Do.	II	..	2 4	2 4	1 5
Do.	III	..	1 14	1 8	0 14
Danga (highland)	I	..	0 15	1 14	1 8
Do.	II	..	0 12	1 2	1 3
Do.	III	..	0 6	1 0	0 13
New fallow	..	..	0 15	3 0	0 13
Old fallow	..	..	0 4½	2 4	0 2
Homestead and bamboo	..	..	0 12	10 0	1 12
				to	1 8
				28 0	1 4
Sal	..	..	2 4	..	..
Tea	..	..	2 13	..	..
Waste land	..	..	..	..	0 3
					0 2

Rent payable to *jotedars* is limited by the terms of the settlement and leases to 50 per cent. in excess of that at which revenue to Government is payable.

In 1924 the value of the produce of an acre of paddy land in the Terai was estimated to be Rs. 83-8. The average rate of rent on paddy land was fixed at Rs. 2-6 and taking Rs. 42 to be the profit (50 per cent. of gross outturn) rent is about 1/18th of the profit.

Apart from *adhiars*, who are not classed as tenants, it may be said that the condition of *jotedars* and subordinate tenants is prosperous. *Ticcadars* and subordinate tenants deserted their holdings occasionally but probably in more recent times this tendency has disappeared.

The table shows that there are altogether 273 revenue-free estates recorded in Register B, Part I, in the Deputy Commissioner's Office, the total area of land covered by these entries being 76,636 acres or 119.74 square miles.

These properties consist mainly of lands the revenues of which were commuted under the Waste Lands Rules of the 7th May 1859 and the Fee-simple Rules of the 30th August 1862, and the 44 acres of land comprising the Central Bazar and the Native Town over which the

proprietary rights of the Darjeeling Municipality were recognised by the Government of India in their letter No. 2289, dated 14th August 1880. The history of the rules of 1859 and 1862 is set out below.

A set of rules for the grant of waste lands in the Darjeeling territory was issued by the Board with the approval of Government on the 7th May 1859, the most important provisions of which were that grants of waste lands should be put up to auction at an upset price of Rs. 10 per acre; that the sale at such auction should convey a free-hold title; that existing lease-hold grants might be commuted to free-hold at the option of the grantee; and that building locations might be commuted at the rate of 20 years' purchase of the annual rent. Between the introduction of these rules in 1859 and their abrogation on the introduction of the fee-simple rules in 1862, over 9,000 acres of land were sold in the hills by public auction at an average rate of about Rs. 12 per acre, while commutations of location rents under rule 10 of the Rules of the 7th of May 1859 continued down to the year 1879.

The provisions under which the lands were put up to auction were, however, much disliked; attempts were constantly made to evade them, some of which were successful; and commutation deeds were given to people who had no claims beyond having purchased the interest of a former lessee in an indefinite lease, the term of which had expired.

Dr. Campbell reported to the Board in May 1861, that he had effected a settlement of some lands with native cultivators for 10 years at an average rate of 5 annas an acre, subject to the sanction of the Board and of some lands with other persons for 10 years at 8 annas an acre with a promise that he would recommend the Board to allow the leases to be commuted at the rate of Rs. 10 an acre. The Board, however, in their letter No. 37 of the 24th September 1861 refused to assent to Dr. Campbell's proposition to allow commutations. But all the leases except three were commuted, after the introduction of the fee-simple rules of 1862, under orders of Government which allowed commutation to rent-free tenure of all farming leases given previous to the notification of the fee-simple rules of the 30th of August 1862. Under these orders many of the leases granted in 1861 to "other persons", as described by Dr. Campbell, were commuted, as well as other leases granted to actual cultivators which appear to have been brought up by tea speculators.

The area of the lands commuted under the orders of 1862 is over 1,300 acres, which, with the area of the commutations under Rule IX of the Rules of 1859, makes a total of over 21,000 acres in the old hill territory commuted to free-hold without being put up to auction.

In 1861, Lord Canning issued a minute regarding the sale of waste lands in fee-simple, which laid down three main principles on which grants of waste lands were to be made in future. These were, first, that such lands should be granted in perpetuity as a heritable and transferable property, subject to no enhancement of land revenue;

secondly, that all prospective land revenue would be redeemable at the grantee's option by a payment in full when the grant was made, or a sum might be paid as earnest at the rate of 10 per cent., the remainder being paid later; and thirdly, that there should be no condition obliging the grantee to cultivate or clear any specific portion within any specific time. The minimum price for the fee-simple was fixed at Rs. 2-8 per acre, so that by paying 10 per cent. of this, or, 4 annas per acre, a title was obtained. This minute was followed up by the issue in 1862 of the fee-simple rules for the sale of land by auction to the highest bidder above a fixed upset price; and subsequently a large quantity of land was commuted to free-hold by special orders which allowed the commutation of all farming leases given prior to the introduction of the fee-simple rules.

Revenue-free properties held by public bodies are given in the table as being 503.30 square miles in extent (322,115.88 acres). These figures are taken from Register B II. in the Deputy Commissioner's office which shows the area held by various departments. The chief areas recorded are:—

	Acres.
Forest Department	268,695.26
Cinchona Department	46,952.51
District Board	2,088.37
P. W. Department	1,796.64
Darjeeling Municipality	765.35
Darjeeling-Himalayan Railway	683.29
Military Department	558.70
Jail Department	231.58
Bengal and Assam Railway	321.26

The recorded figures need considerable revision.

The Darjeeling Improvement Fund receives the income of 82 estates or tenures as shown in the table on page 206. These estates are marked in the Tauzi Roll "F" for farming and "L" for location and are dealt with in a separate register in the Deputy Commissioner's office.

The authority for the assignment is to be found in Government letter No. 137T. of the 22nd July 1864. The area covered by these estates is over 18,000 acres and the income thus assigned is Rs. 20,788.

By virtue of a Government Resolution, dated 12th October 1877, the Fund also obtains an income from Government *hats* and bazars in the District amounting to approximately Rs. 1,84,000 per annum. To collect these bazar rents, fees and tolls, a staff is employed independent of the Khas Mahal administration but under the control and direction of the Deputy Commissioner. A large number of petty officers is required to collect small dues in places scattered throughout the District and collection expenses, including allowances and the cost of supervising staff, are heavy.

Most of the important bazars and *hats* in the District belong to Government and are controlled by the Fund. Their number is 31 and the main receipts collected from them in the year 1944-45 were:—

	Rs.
(1) Rent and cess (permanent holdings)	51,366
(2) Conservancy and water rates	21,012
(3) Salami and transfer fees	8,436
(4) Tolls from petty vendors	65,207
(5) Trees and fruit	220
(6) Rent and cess (temporary holdings)	1,654
(7) Interest and penalties	1,803
(8) Miscellaneous	581
(9) Slaughter house fees	13,626
Total	<u>1,63,905</u>

Items (1), (3) and (5) are ordinary *zamindari* income except that buildings as well as land are sources of income. Rates under item (2) are levied where some kind of water-supply has been provided and the greater part (Rs. 18,800) of the total is realisation in the Kalimpong bazar where the Fund provides the conservancy and pays the Public Health Department for water supplied by it. Under item (4); charges are made for stalls at rates which vary, for a standard stall 8' x 4', from 6 annas to 3 pies per day with lower rates for season tickets. Tolls are also levied for loading and unloading goods for sale, sometimes by weight, sometimes by load or by vehicle and sometimes by volume, for instance, *ghee* or butter on the tin or oranges on the basket. There are tolls on livestock sold paid by purchasers and on vegetables, fodder or hides paid by vendors. Fees are realised on all vehicles and animals which park in bazars.

Income from tolls is considerable at Naxalbari (Rs. 20,800), Matigara (Rs. 15,000), Kalimpong (Rs. 7,500), Siliguri (Rs. 6,400), Tista (Rs. 3,200), Sukhiapokri (Rs. 2,900) and Kharibari (Rs. 2,355).

Slaughter house fees are levied in 12 *hats* but the main income under this head comes from the Kalimpong bazar (Rs. 11,000) with Algarah (Rs. 1,000) next. These fees are levied solely for revenue purposes.

The sum available for expenditure in 1944-45 including an opening balance of Rs. 1,48,000 was Rs. 3,73,400. Effective expenditure during that year was estimated to amount to Rs. 2,17,000 as follows:—

	Rs.
Works—Buildings	20,500
Communications	18,000
Miscellaneous	8,700
Contributions	77,700
Establishment, travelling, etc.	92,000
Total	<u>2,16,900</u>

The Fund uses the staff of the District Board to carry out the works shown; for this it pays a contribution of Rs. 18,000 to the Board in addition to the contribution of Rs. 50,000 which was fixed when

the District Board was established in 1922 and certain functions of the Fund were transferred to the Board. Most of the civil works undertaken are those which are considered likely to improve or maintain revenue. The administration of the Fund comes under some local criticism because expenditure in particular bazars bears little relation to the income derived from them.

The history of the Fund dates back to 1838 when the Government of India directed that the quit rents paid by settlers in the ceded portion of Darjeeling should be appropriated to a fund called the Location Fund and employed for purposes of local improvement. The rents of certain bazars built out of the Fund and of other shops erected on public lands were afterwards added. In 1854 Government decided that all proceeds from land in the ceded tract should be given up for local purposes. In 1864 the Fund was to be kept distinct from the Municipal Fund. In 1877 the principal object on which the Fund's income was spent was the maintenance of the botanical gardens at Rangiroon, of the bazars and *hats* in the Terai and of the rest bungalows on the frontier roads. In 1907 the fund was responsible for maintaining dispensaries, museums, primary education, rural water-supply, ferries, rest bungalows, veterinary staff and for making grants-in-aid to various institutions. With the establishment of the District Board in 1922, most of these responsibilities were handed over to the District Board and the Fund's main function is now to supply an income to the Board.

CHAPTER XIII.

GENERAL ADMINISTRATION.

A general impression of administration in the District will have been gained by perusal of Chapter II, which not only relates the local administration to that of the Province but also shows the constitutional and statutory background before which the District is administered. In the District itself, Revenue administration is most important and next in importance is the activity of the Forest Department. Separate chapters explain in considerable detail the Revenue and Forest administrations. There are other chapters describing the Public Health, Medical, Agriculture, Veterinary and Education work and organisations in the District and the operation of the various agencies of transportation, communication and local self-government. This chapter only deals with the operation of those Government functions which have not been described elsewhere in this volume.

The administration of criminal justice is conducted by a Sessions Judge, the Deputy Commissioner, Stipendiary Magistrates and Honorary Magistrates. In 1944 there were 10 Stipendiary Magistrates and 7 Honorary Magistrates and in that year 2,158 criminal cases were brought to trial, 10 being disposed of by the Sessions Court, 1,690 by Stipendiary Magistrates and 458 by Honorary Magistrates. The output of work of Stipendiary Magistrates has not altered much in the past 25 years. In 1944, 206 sentences of imprisonment were passed and 26 of whipping: about Rs. 20,000 were realised in fines. The Deputy Commissioner dealt with 5 appeals and 6 revision applications. Other appeals and applications were disposed of by the Sessions Judge.

Criminal and Civil Justice.

At Darjeeling, the Civil Court is that of the Sub-Judge who also exercises powers of a Munsiff and Small Cause Court Judge up to Rs. 500. Work is not heavy, 30 contested cases only being heard in 1944 with just over 400 cases instituted. In Kurseong, Kalimpong and Siliguri, Subdivisional Officers exercise powers of munsiffs and civil work is light. In the last 25 years there has been no appreciable change in the volume of civil work in the District.

For police administration and the detection of crime, the District is divided into three circles in charge of Inspectors, twelve police-stations (investigating centres) under the charge of Sub-Inspectors and 26 police outposts. The regular police force consisted in 1944 of a District Superintendent of Police, a Deputy Superintendent, 6 Inspectors, 33 Sub-Inspectors, 2 Sergeants, 46 Head Constables and 521 Constables.

Police.

In the hills the police are almost all Nepalis, recruited from Jimdars, Murmis, Mangars and Gurungs: these form a stalwart and alert body of men.

Owing to the mountainous nature of the country and difficulties of communication, the police force of this District is stronger than in other parts of the Province. The cost of maintenance in 1943 was Rs. 3,13,000.

In addition to the regular police, in the plains area of the District there is a rural force of village watchmen consisting of 24 daffadars and 142 chaukidars. In the hill portion of the District there are no chaukidars or daffadars: their duties are performed by the ordinary police.

The following table shows the circles, police-stations and chaukidars in the District in 1944:—

Name of circle.	Name of police-station in each circle.	Number of chaukidars.	Number of daffadars.
Darjeeling	.. Darjeeling Sadar ..	0	0
	Pulbazar ..	0	0
	Rangli Rangliot ..	0	0
	Sukhiapokri ..	0	0
	Jorebungalow ..	0	0
Kalimpong	.. Kalimpong ..	0	0
	Gorubathan ..	0	0
Siliguri Kurseong—			
(Kurseong Subdivision)	Kurseong ..	0	0
	Mirik ..	0	0
(Siliguri Subdivision)	Siliguri ..	50	8
	Phansidewa ..	35	7
	Kharibari ..	57	9

The frontier of the District is guarded by a chain of police patrol posts to watch criminals and foreigners crossing the border and entering the territories of Nepal, Sikkim and Bhutan. Beginning from the south along the Nepal border there are posts at Debiganj, Adhikari, Naxalbari, Raniganj, Panighata, Mirik (police-station) and Tanglu. The posts on roads leading to Sikkim are at Lodhoma, Singla, Rangit, Rangpo and Pedong. There is only one post (at Kumai) on the Bhutan frontier.

Crime is very light in this District. Dacoities occur only in the Siliguri Subdivision adjoining Nepal where, from the wilds of Moorang, marauders, taking advantage of dark nights during the dry season, try to loot *jotedars*. To prevent this, the chain of patrol posts mentioned above has been established. The Darjeeling District police have to be specially alert to prevent criminals escaping into Nepal as extradition from Nepal is difficult and rarely successful.

In the Sadar, Kurseong and Siliguri Subdivisions the behaviour of tea garden labour needs the attention of the police. Certain difficulties over passports and customs arise in Kalimpong which is at the end of the trade route through Sikkim to Tibet and China.

The District Police have never had to deal with much serious political activity. The non-co-operation movement of 1921-22 was the first occasion hillmen showed an interest in politics. It aroused

excitement for a short time amongst tea garden labour and there was some boycott of foreign goods. There was a revival of interest in political agitation from 1931 to 1939 and in 1935 Lebong was the scene of a murderous attempt on the Governor of Bengal, Sir John Anderson. Later interest again died down and what little survived was confined to the Siliguri Subdivision where, in 1942, a riot took place in the course of which the police had to fire.

At the beginning of 1943 a number of hillmen organised a society called the All-India Gurkha League with the object of organising Gurkhas throughout India and of establishing the political rights of Gurkhas in any new political reforms which may occur. Communists have taken some interest in this District particularly in towns and tea gardens. The Radical Democratic Party has an organisation amongst Darjeeling-Himalayan Railway workers who were successful in a strike in 1944.

The table below shows the strength in 1944 of the various ranks of the District Police (number of hillmen shown in brackets):—

Inspectors.	Sub-Inspectors.	Assistant Sub-Inspectors.	Sergeants.	Head Constables.	Constables.
6 (4)	28 (24)	24 (16)	2	46 (39)	521 (431)

The District Jail at Darjeeling has accommodation for 114 prisoners in barracks and 6 in cells. The above barrack accommodation includes that of a hospital for 10. There are separate buildings for under-trial prisoners (9) and for European prisoners (4). The staff consists of a superintendent, a deputy jailor, a sub-assistant surgeon, three head warders, 24 male warders and one female warder: 23 of these are hillmen. The Jail industries are cane and bamboo manufacture, gardening, bee-keeping, oil pressing and wheat grinding. The average population is below capacity.

There are sub-jails at Kurseong, Kalimpong and Siliguri, the last being subordinate to the Jalpaiguri Jail. The sub-jails are for the accommodation of under-trials and convicts imprisoned for a fortnight or less and the accommodation is for 24, 16 and 11 at Kurseong, Kalimpong and Siliguri. The Assistant Surgeon at Siliguri is the Deputy Superintendent of the sub-jail there, which is staffed by one head warder and five warders.

The administration of Forests and Land Revenue has been described in Chapters VII and XII. Up to 1941 the average revenue from Forests was Rs. 4,54,000. This rose in 1941-42 to Rs. 5,84,000 and in 1942-43 to Rs. 9,50,000. Excise revenue also rose steeply after 1940-41 as follows:—

	Rs.
1940-41	2,66,000
1941-42	3,17,000
1942-43	5,31,000
1943-44	7,80,000

Revenue from other sources has not fluctuated so much and current figures at the time of writing were:—

	Rs.
Land Revenue	4,31,000
Stamps	1,12,000
Darjeeling Improvement Fund.. .. .	1,84,000
Cesses	99,000

The above compare with earlier revenue figures as follows:—

	1921-22.	1930-31.	1941-42.
	Rs.	Rs.	Rs.
Land Revenue	1,92,000	3,34,317	4,31,000
Stamps	77,000	91,408	1,12,000
Excise	2,65,000	3,08,000	3,17,000
Miscellaneous	24,000	95,000	1,84,000
Cesses	61,000	79,000	99,000

The hill population is fond of liquor, from the milder *pachwai* (brewed from rice) or *marwa* (brewed from millet) to distilled liquor. Consequently a large portion of the revenue of the District is derived from excise. Details of revenue receipts under different heads are shown below:—

	1917-18.	1927-28.	1937-38.
	Rs.	Rs.	Rs.
Country spirit, duty	1,32,219	2,16,926	92,632
,, licence	91,450	45,930	71,586
Pachwai licence fees	49,942	53,400	43,609
Beers duty	16,628	8,532	0
,, licence	165	592	1,613
Wines licence	17,472	5,194	2,928
Opium sale	8,004	17,395	8,463
,, licence	5,621	8,435	2,824
Ganja duty	9,793	9,490	5,109
,, licence	12,738	9,164	3,422
Cocaine	5	8	8
Fines	606	1,131	1,158
Miscellaneous	12	428	800
Total	3,44,655	3,76,625	2,34,152

Considerable increases in revenue occurred during the war years as follows:—

	Total revenue.
	Rs.
1940-41	2,66,364
1941-42	3,17,115
1942-43	5,30,828
1943-44	7,80,052

Details of receipts for 1943-44 are:—

					Rs.
Country spirit	..	..	..	..	6,72,309
Ganja	..	..	..	..	20,646
Opium	..	..	..	..	40,929
Pachwai	..	..	..	..	24,884

The District excise administration is conducted by the following staff, the number of hillmen being shown in brackets: 6 sub-inspectors (2), 3 petty officers (1), 35 peons (20) and 3 clerks (1).

Two temporary petty officers (1) and 6 temporary peons (6) are also employed. Under the Drugs Control Order, 1943, there are employed in addition to the above staff 2 sub-inspectors (0), one clerk (0) and 2 peons (1).

Pachwai in rural areas may be brewed at home up to 12 seers per annum without fee. A licence costing Rs. 2 per annum is required for output in excess of 12 seers. In towns no free brewing is allowed and a licence of Rs. 2 covers only 6 seers. Licence fees in 1943-44 amounted to Rs. 16,693. There were 31 shops licensed for the retail sale of *pachwai* for which Rs. 12,713 was realised as fees.

Licences other than those costing Rs. 2 are paid for at rates fixed at annual auctions. The licence fees are payable monthly: no duty is levied on *pachwai*.

Country Spirit: 36,979 proof gallons were issued in 1943-44 to 30 retail shops. On the average there is one shop to every 39 square miles serving a population of 12,552. The year 1942-43 showed an enormous increase in revenue from country spirit due chiefly to the raising of the duty from Rs. 2-4-9 per bulk gallon to Rs. 7 per bulk gallon. Shops pay for licences on a sliding scale according to which rates increase with sales: for instance sales of 4 to 6 gallons (L.P.) result in a licence fee of Re. 1 while 10 gallons makes the fee Rs. 3 and 20 gallons increases the fee to Rs. 8.

Opium: Annual consumption is 4 maunds 12 seers. There are eight shops for retail sale. Revenue on opium is levied as follows:—

(a) duty, charged at Rs. 217-13 on one seer, of which the cost price is Rs. 17-3.

(b) licence fees, on the sliding scale system with increasing incidence for greater sales. Rebates of licence fees have been granted in war time to compensate vendors for the increased cost of living.

War time transportation difficulties affected issues and consumption of excisable articles but the incidence of excise revenue is now over Rs. 2 per year per head of population. In 1907 the figure was over Re. 1 and was then twice as great as in any other district and more than seven times the rate for the Province as a whole.

The excise administration has to meet frontier problems of various kinds. To prevent smuggling across the frontier lower rates of licence

fees are fixed for shops near the border and agreements are made with the Bhutan Government who maintain a shopless zone 10 miles wide on their side of the border.

There are four offices for the registration of deeds, viz., Darjeeling, Kalimpong, Kurseong and Siliguri. The Deputy Commissioner is the *ex-officio* Registrar of the District and the office of the District Sub-Registrar is filled by the Sub-Judge Magistrate at Darjeeling. The office of the Sub-Registrar at Kalimpong is held jointly by the Subdivisional Officer and the 2nd Officer, that at Kurseong by the Subdivisional Officer of Kurseong and that at Siliguri jointly by the Subdivisional Officer and the 2nd Officer. The average number of documents registered annually in all the offices in the District was 1,402 in the triennium ending 1943. From the following statement giving the salient statistics for 1943, it will be seen that in that year the total number of registrations in the whole District was 1,369 nearly one half of which took place at Siliguri:—

Name of office.		Documents registered.	Receipts.	Expenditure.
			Rs.	Rs.
Darjeeling	.. ..	283	2,873	2,501
Kalimpong	.. ..	292	2,006	585
Kurseong	.. ..	137	757	296
Siliguri	.. ..	657	2,423	1,410
Total ..		1,369	8,059	4,792

Departmental control of the Provincial administration of Co-operative Credit in the Darjeeling, Kurseong and Siliguri Subdivisions is by one inspector, two auditors (both hillmen) and one supervisor (hillman).

The Darjeeling Central Bank was opened in 1913 at Kurseong but moved later to Darjeeling. It has a working capital of about Rs. 62,000 and 24 rural societies are affiliated to it. The operations of these societies are at present more or less at a standstill and little impression has been made on the difficult problems of rural credit and indebtedness. Fifty primary societies are in existence in the Siliguri Subdivision without affiliation to any Central Bank. The capital of the Darjeeling Central Bank was mainly furnished by the Provincial Co-operative Bank, only Rs. 4,000 having been raised from local depositors. More successful have been the 17 non-agricultural credit type societies which draw their members from salary and wage earners. They have a working capital of Rs. 2,52,699. Six were affiliated to the Central Bank but have repaid all their dues to it and all the 17 are able to get adequate funds from share capital and local deposits.

Sale and Supply Societies at Darjeeling and Siliguri have had some success in handling supplies during the period of commodity scarcity. A Co-operative House Building Society (formed in 1926) completed a successful existence with the building of 21 houses on the Lower Beechwood Estate in Darjeeling town. On the other hand attempts to organise the sale of dairy products on a co-operative basis failed.

In the Kalimpong Subdivision there is a departmental staff of one inspector, one auditor, six supervisors and an indoor staff of 3. Of these, the supervisors and indoor staff are all hillmen. There are Central Co-operative Banks at Kalimpong (founded in 1911) and at Pedong (founded in 1919) with 108 societies affiliated to the Kalimpong Central Bank and 41 to the Pedong Bank. The working capital of these two central banks was on 30th June 1944, Rs. 3,42,392 and Rs. 1,64,215. Deposits were Rs. 10,904 and loans from the Provincial Bank Rs. 1,02,000. Long term lending did not prove a success and here also the system has made no appreciable impression on the problem of rural indebtedness. The Department's attempt to finance the orange trade on a co-operative basis failed.

For the administration of the Factories Act, Payment of Wages Act, Bengal Maternity Benefit Act and the Employment of Children Act in factories and workshops, the **Factories and Boilers.** Darjeeling District is included in the jurisdiction of the Inspector of Factories at Jalpaiguri, policy being directed by the Chief Inspector of Factories from the latter's headquarters in Calcutta. The Deputy Commissioner, Darjeeling, is also an Inspector of Factories for the Darjeeling District and for the purpose of certification under the Factories Act as to age and fitness for factory work of adolescents and children, Medical Officers of certain Medical Associations and Boards are Certifying Surgeons of factories within the membership of their respective Associations. For other factories in the Darjeeling District not covered by these medical arrangements the Civil Surgeon, Darjeeling, is the Certifying Surgeon. In addition the Labour Commissioner and his deputies and assistants are *ex-officio* Inspectors of Factories as also are the Director of Public Health and his assistants in regard to matters concerning health and sanitation.

The main work of administration falls upon the whole-time District Inspector of Factories and the Certifying Surgeons of Factories, which for the Darjeeling District for the year ending the 31st December 1943 involved the inspection of 145 registered factories employing 7,033 workers exclusive of "Workshops" amenable to the Employment of Children Act. Of the above registered factories 126 are tea factories employing 5,850 workers, the remainder being printing presses, saw mills, jute presses, railways, rice mills and general engineering carpentry and miscellaneous industries. As tea factory employment is a seasonal occupation certain exemptions have been granted for adult workers in regard to daily and weekly rests; otherwise the full protection of the Factories Act and Payment of Wages Act is applied.

The principal administrative problems are those of structural safety, safeguarding of machinery, elimination of dust, control of excessive temperature and the provision of latrines and pure drinking water.

Tea factories are at present excluded from the application of the Bengal Maternity Benefit Act although many enlightened employers have of their own volition established maternity benefit schemes whilst many others have provided dispensaries and medical facilities to which female labour has access.

The boilers of the District were first brought under survey by officers of the Bengal Boiler Service in 1924 and annual survey is carried out by the deputation of an inspector from Calcutta controlled by the Chief Inspector of Boilers.

At the beginning of 1945, 75 boilers in the District were dealt with under the Indian Boilers Act, V of 1923.

CHAPTER XIV.

LOCAL SELF-GOVERNMENT: DESCRIPTION OF URBAN AREAS.

Up to the year 1921 there was no District Board, Local Board or Union Committee. Many of the responsibilities of District Boards, medical and veterinary relief and village sanitation for instance, were met by the Deputy Commissioner's administration of the Darjeeling Improvement Fund which still exists and the operation of which is described in Chapter XII. Education was supervised by a District Committee of Public Instruction which assisted the Deputy Commissioner in controlling the Zilla School and Primary Education. For the control and maintenance of the roads and bridges in the District, other than the more important ones under the Public Works Department of Government, there was a District Road Cess Committee of 17 Members with the Deputy Commissioner as *ex-officio* Chairman. Under this committee were two Branch Road Committees for Kurseong and the Terai. The District Road Cess Committee was mainly concerned with roads on the west of the Tista, those on the east being kept up by the tenants of the Kalimpong Khas Mahal.

Under the Bengal Local Self-Government Act, 1885, which was introduced in the Darjeeling District in 1921 the District Board was constituted with effect from the 1st April 1922.

The District Board consists of the Chairman, who is the Deputy Commissioner nominated by Government *ex-officio*, and 20 members of whom 10 are nominated, 5 being officials *ex-officio* and 5 non-officials. Of the 10 elected members five are elected by the Sadar Kurseong Local Board, three by the Siliguri Local Board and two by the Kalimpong Local Board.

Three Local Boards have been constituted under the same Act. The Sadar Kurseong Local Board consists of 16 members, all nominated: three are officials *ex-officio*, five representatives of the tea industry and eight other non-officials. In 1940-41 seven of the sixteen members were Europeans. The Siliguri Local Board consists of 12 members, all nominated: two are officials *ex-officio*, four representatives of the Tea industry and six other non-officials. In 1940-41 three out of the twelve members were Europeans. The Kalimpong Local Board consists of ten members, all nominated: three are officials *ex-officio* and seven are non-officials. In 1940-41 three out of the ten members were Europeans.

The three Local Boards all have elected officials as their Chairmen. They have no independent income and act as agents of the District Board: their chief activity is the repair and maintenance of minor roads. The table below shows the main heads of expenditure of each of the three Local Boards:—

	Sadar Kurseong.	Siliguri.	Kalim- pong.
	Rs.	Rs.	Rs.
18—General Administration ..	3,000	1,600	900
26—Minor (Veterinary) Depart- ments ..	4,400	1,000	2,900
45—Civil Works ..	29,600	30,500	3,200

All the employees (Veterinary Assistant Surgeons, clerks and peons) of the two hill Local Boards are hillmen. The Siliguri Local Board employs no hillman.

The resources of the District Board can be understood from the following figures of income for the year 1940-41 when the opening balance was Rs. 1,08,147 and the other income Rs. 2,50,059. The important items making up the latter figure were:—

	Rs.
Local Rates	94,568
Contribution from Darjeeling Improvement Fund ..	50,000
Receipts under Cattle Trespass Act	5,865
Education : contribution by Government	22,646
Medical : contribution by Government	25,583
Civil Works : miscellaneous receipts	1,685
Civil Works : contribution by Government	30,657
Civil Works : contribution by D. I. F.	18,000

It will be seen that the main sources of income are cesses, roughly Rs. 95,000, grants from Government Rs. 79,000 and contributions from the Darjeeling Improvement Fund Rs. 68,000. The incidence of taxation (cesses) per head of population in the District in 1940-41 was Re. 0-5-2 but total income amounted in that year to Re. 0-13-8 per head.

The total expenditure of the District Board in 1940-41 was Rs. 2,69,932, of which Rs. 24,000 approximately was on account of debt and Rs. 2,46,000 against current income. The main heads of expenditure were—

	Rs.
Office establishment, etc.	14,000
Education : inspection	1,200
Education : grants-in-aid	31,000
Education : scholarships	3,400
Medical : establishment	4,700
Medical : hospitals	21,100
Vaccination	8,000
Sanitation	37,400
Veterinary	7,900
Provident Fund	3,300
Civil Works : buildings	1,300
Civil Works : communications	73,600
Civil Works : water-supply	4,600
Civil Works : establishment	29,700
Civil Works : bungalows	1,100

Details of the working of the various branches of the District Board's activities will be found in the chapters dealing with Education, Public Health, Agriculture and Means of Communication.

The District Board employs a staff of about 151 persons. None of the Sanitary Inspectors (4), Rural Medical Officers of Health (23), Estimators (1), Overseers (1) or Sub-Overseers (4) are hillmen. Eight

out of the 16 clerks, 18 out of 19 peons and orderlies, most of the medicine carriers (11) and vaccinators (8), 9 out of the 15 Health Assistants and all the bungalow chaukidars (8) are hillmen. In all about 65 hillmen are employed by the Board.

Under the Bengal Local Self-Government Act of 1885, a Union Committee was established in June 1936 to control minor road, education and sanitation work in a small residential area in the abandoned cantonment at Takdah. There are seven members of the Committee and its total annual expenditure in 1940-41 was Rs. 1,244: the main item of expenditure was Rs. 700 on road maintenance. The Committee received a grant of Rs. 600 from the District Board.

The Bengal Village Self-Government Act, 1919, was introduced in the District and a Union Board was constituted at Siliguri in March 1938. It is the only Union Board in the District and has the usual nine members of whom six are Hindus and three Muslims. The Board spends about Rs. 1,400 on chaukidars and establishment and for other purposes raised Rs. 5,400 in taxation and received grants of about Rs. 1,600 in 1940-41. The following were the main items of expenditure in that year:—

	Rs.
Roads	350
Drainage	325
Conservancy	4,500
Sanitation	540
Schools	400
Dispensaries	200
Miscellaneous	1,300

Siliguri has become an urban area, having rapidly expanded in recent years from a small village to an important communication and distributing centre. Drainage and water-supply are quite inadequate and it is very doubtful if a Union Board ought to be left to cope with the difficult problems that exist. The Board's only effective and adequate activity is their operation of a conservancy system of the usual mofussil hand removal to trenching ground type. The Darjeeling Improvement Fund realises nearly Rs. 12,000 from the Siliguri bazar and only makes a small contribution to the Union Board.

The Siliguri Bazar was originally managed by an Officer of the Northern Bengal State Railway for the benefit of Railway employees. But in 1887 it was transferred to the District authorities in the expectation that the defective sanitation and drainage would be remedied and some control exercised over its expansion. It then came under the management of the Darjeeling Improvement Fund. In 1938 the conservancy of the bazar area was handed over to the Union Board for which a contribution of Rs. 2,000 was made by the Fund. Drainage and water-supply problems have not yet been solved and need much more resolute treatment than so far they have received.

Before describing the activities of the two Municipalities established in the District at Darjeeling and Kurseong, mention will be made of the urban area at Kalimpong and of the Municipal administration in existence there.

The Kalimpong urban or semi-urban area falls into three distinct parts. First there is the Mission and Homes area on the high ground to the north-east of the saddle in the centre of the bazar. Next is the Bazar area, known as the Darjeeling Improvement Fund Bazar extending from the saddle along the Rishi Road for two or three miles. Last is the Development area to the west and on the high ground to the south of the saddle. The three areas have one common water-supply which is operated by the Public Health Department. The water supplied to the Homes and Mission area is mainly covered by a free allowance of 3,380,000 gallons per annum: that to the Bazar area is paid for by rates levied by the Darjeeling Improvement Fund: and that to the Development area is paid for by charges levied by the Superintendent in accordance with the terms of leases. A few free hydrants are provided in the Bazar area with lengths of hose kept ready to deal with fires.

All houses in the Development area built on leased land are required to have water-borne sanitation and pay rates for water-connections. A small scavenging staff is required in this area and is paid for by a rate. The Mission and Homes area has water-borne sanitation for certain houses and its own arrangements for scavenging and dumping refuse within the area. The Darjeeling Improvement Fund Bazar has a number of water-cleansed public conveniences and most of the houses in it have water connections and some water-borne sanitation. For sewage not entirely water-borne, disposal is by transmission to a septic tank $\frac{1}{4}$ mile below the bazar. Bazar refuse is also dumped about $\frac{1}{4}$ mile below the bazar. A water-rate is levied on all houses in the bazar whether they have water-connection or not. A Sanitary Inspector with 25 sweepers is in charge of the bazar sanitation under the Darjeeling Improvement Fund and a District Board Overseer superintends the sewerage, latrine and septic tank installations. A separate conservancy rate is levied in the Bazar area.

In Kalimpong, at the 11th mile on the Rishi Road, is a mule camping ground and sheds where mules can be stabled. There are also private stables but stabling for mules and control of the animals is far from successful with the result that flies are very prevalent to the detriment of public health.

Building regulation is administered in the Development area with relatively satisfactory results by the Superintendent assisted by an advisory committee. In the past, there has not been the same success attending building control in the Bazar area where congestion and insanitary construction are in places conspicuous. An advisory committee under the Subdivisional Officer now deals with the regulation of building in the bazar.

Electricity is provided by a licensed company. House connections are provided in all three areas but street lighting only in the Bazar area where it is paid for by the levy of a rate. Street lighting will be extended to the Development area as soon as materials become available after the war.

A municipality extending over the three areas has been established in 1945. It is hoped that this will result in a vigorous and progressive administration and provide much needed and long overdue improvements.

The Kurseong urban area is nearly 2 square miles in extent. A municipality was established here in 1879 to which the Kurseong. Bengal Municipal Act of 1932 (Act XV of 1932) now applies as modified for the Darjeeling District. This Act has been in force since 1936. All urban areas have been included within the Municipality except Dhobikhola and St. Mary's *bustees*.

The population of Kurseong town according to the 1941 census was 8,497 but if special school areas in the neighbourhood are added the total would come to about 9,800 persons. The summer population is much higher.

There are 12 Municipal Commissioners, of whom 9 are elected from 6 wards and 3 are nominated by Government. When the Municipal Act of 1932 was brought into operation, the Kurseong Municipality was given the right to elect their Chairman and until 1943 continued to elect the Subdivisional Officer: in 1943 they elected a non-official as Chairman.

Holding, water, lighting and conservancy rates provide most of the income (Rs. 70,000 in 1941 out of a total of Rs. 72,000). In 1944-45 the rates were increased from a total of 16½ to 17½ per cent. against a maximum permissible of 22½ per cent. Total receipts in 1943-44 were Rs. 76,689 and the 10-year average up to that date was Rs. 74,291. The incidence of taxation was between Rs. 8 and Rs. 9 per inhabitant according to the 1931 census. The number of rate-payers was in 1941 only 600.

Average expenditure over the above 10-year period was Rs. 77,408. Heavy expenditure on a sweeper's barrack (Rs. 25,000), on certain roads and on a children's park reduced balances to the bare minimum. The principal items of 1943-44 expenditure were:—

				Percentage of total expendi- ture.
General establishment	..	..	..	13.4
Water-supply	..	..	..	7.8
Conservancy	..	..	..	25.3
Vaccination	..	..	..	0.9
Education	..	..	..	11.5
Lighting	..	..	..	11.3
Drainage	..	..	..	2.9
Medical	..	..	..	8.2
Public Works	..	..	..	5.8

In 1941, the Municipality had investments of approximately Rs. 20,000 and outstanding debt to Government of Rs. 10,000.

The water-supply needs increasing and it is proposed to do this by installing a new 4-inch pipe line at a cost of Rs. 22,000. Other needs are sheds for beggars and for segregation and a new Municipal Office.

The limits of the Darjeeling Municipality, first constituted in 1850, were then co-extensive with those of the tract ceded by Darjeeling. the Raja of Sikkim in 1835, i.e., an area of 138 square miles extending from the hills below Pankhabari to the borders of Sikkim on the north. The income was then only about Rs. 20,000 from which 120 miles of roads and the conservancy and police establishment of the Darjeeling station had to be maintained. In early times the main income was derived from rent of lands in or near the town which was assigned by Government for the above purposes. In course of time part of these resources were transferred to the Darjeeling Municipality and part to the Darjeeling Improvement Fund.

The Darjeeling Municipality was first constituted on the 1st of July 1850. Later and until June 1916 the Municipality was controlled by nominated Commissioners under the Bengal Municipal Act (III of 1884) and a special Act (I of 1900): after that date Commissioners were elected under those Acts. The Municipal area was then divided into 10 wards.

The Bengal Municipal Act (XV of 1932) now regulates the municipal administration. Under it there are 28 Commissioners of whom 21 are elected from nine wards and seven are nominated by Government, three of the latter being *ex-officio* members. The Commissioners elect their Vice-Chairman but Government appoint the Deputy Commissioner to be Chairman. In the year 1940-41 eight of the Commissioners were Europeans. Voting qualifications are those laid down for other Municipalities with the addition that a person is also entitled to vote if he has, during a year, paid rent of Rs. 65. There is no reservation of seats or special electorate.

The Municipality, excluding the cantonments of Jalapahar and Lebong, is 4.08 square miles in area. It is 8 miles long (from Ghum to Lebong) and about a mile broad. With the cantonments added, the total area is 4.88 square miles.

Population, according to the census of 1941, was 27,222. This includes the population of cantonment areas. A history of population changes and details of density and distribution by sex and caste are given in Chapter III. There were only 1,533 rate-payers in 1940-41 which gives a percentage on the 1931 census figures of 7.2 and of 5.6 on the 1941 figures.

Census figures of population show only the winter population. The number of summer visitors is considerable but the visitor influx varies from year to year. These variations add to the difficulties of municipal administration and in years when the visitor traffic is very heavy, a serious strain is placed upon the water and electric supply systems and on the staff administering conservancy and health services.

Rates are levied as follows:—

Holding rate	6½ per cent. on rental or annual value.
Water rate	3¼ ditto.
Lighting rate	2½ ditto.
Conservancy rate	8 per cent. on the first Rs. 100 of rental or annual value : 3 per cent. on the second Rs. 100 of rental or annual value : 2 per cent. on the third to sixth Rs. 100 of rental or annual value : and 3¼th per cent. on any excess beyond the above.

The average income of the Municipality is about Rs. 6,50,000 as follows:—

	Rs.
Rates and taxes	2,30,000
Markets and slaughter houses	25,000
Rents of land and buildings	1,30,000
Hydro-electric receipts	2,00,000
Miscellaneous	65,000
Total	<u>6,50,000</u>

Average expenditure is as follows:—

	Rs.
(1) General administration	60,000
(2) Public safety (fire brigade, street lighting and destruction of animals)	30,000
(3) Public health and convenience (Main items being water-supply Rs. 18,000, drainage Rs. 3,000, conservancy Rs. 81,000, health officers establishment Rs. 14,000, hospitals and dispensaries Rs. 55,000, laboratory Rs. 18,000, markets and slaughterhouses Rs. 10,000, arboriculture Rs. 7,000, public works Rs. 20,000, buildings Rs. 10,000, roads Rs. 25,000 and hydro-electric Rs. 1,30,000.)	4,00,000
(4) Public Instruction	35,000
(5) Contributions	5,000
(6) Miscellaneous	60,000
(7) Debt and Extraordinary	60,000
Total	<u>6,50,000</u>

The Municipality has borrowed both from Government and from private sources and at the close of the year 1940-41 loans outstanding totalled Rs. 6,08,187. It has no difficulty in paying what is due on account of interest and principal.

The incidence of taxation per head of population (1931 figures) was in 1940-41 Rs. 12-1-7, the highest figure in the province.

The Municipality has considerable investments. These at the close of the year 1940-41 were:—

	Rs.
(1) Provident Funds	1,53,000
(2) Security electricity	22,000
(3) Hydro-electric reserve	1,28,000

One of the most important of the activities of the Municipality is the generation of electric energy and its supply to the town and to neighbouring tea gardens. A description of the generating plant will be found in Chapter IX. The system is in charge of an electrical engineer and not only supplies energy to consumers at low rates but also benefits municipal revenues by a substantial profit. Municipal roads and public places are well lit by electricity and at an average annual cost of about Rs. 30,000, to meet which a lighting rate at 2½ per cent. is levied.

The water-supply is obtained from springs on Senchal, the water of which is collected in two lakes and filtered mechanically. Supply is augmented in the dry season by an electric pumping plant at Konkhola which supplies additional spring water to the lakes. The lakes are five miles from Darjeeling at an altitude of 7,474 feet above sea level and special precautions are taken to secure that the lakes and catchment areas of the springs cannot be contaminated. Samples of water are regularly tested for purity at the municipal laboratory.

There are 30½ miles of distribution pipes, 208 street standposts, 106 fire hydrants and 652 houses supplied with water of which 573 have private connections with municipal mains. Three places outside municipal limits are also connected. About 250,000,000 gallons of water are supplied annually. Supply is at most seasons ample for all purposes, but in the dry season hours of supply, in some years, have to be restricted.

A water-rate at 3½ per cent. is levied on the annual value of holdings: 4,000 gallons are allowed for each rupee of rate paid and any excess over this quantity is charged for according to a sliding scale. Private connection, for which a fee of Rs. 100 is charged, is given to houses whose valuations are over Rs. 300.

A large staff is employed on conservancy. There are five large septic tanks and seven small ones. Connected with these tanks are the sewerage of those houses which are fitted with water-borne sanitation and 38 chutes into which are emptied 98 public latrines and urinals and nightsoil removed by hand. Refuse is collected from dustbins by motor lorries and is dumped either on roadside land for use as manure or at the terminal of a refuse ropeway which transports it into gullies far below the town.

The conservancy of the town is in charge of the Health Officer who controls, in addition, all other public health activities, viz., the laboratory, markets, slaughter houses, vaccination, registration of births and deaths, baby clinics, infectious hospitals and a dispensary. The laboratory tests water, sewage effluent, samples of food and drink and, in the clinical section, specimens for medical diagnosis. It also manufactures distilled water and electrolytic chlorine.

The Municipality is responsible for the maintenance of the Victoria Hospital to which it makes large contributions. It also manages a hospital for the treatment of infectious diseases, a hospital for the

treatment of tuberculosis and a dispensary at Ghum. An ambulance van is kept by the Municipality and operated in collaboration with the Police.

There are 33.59 miles of road including stepped paths: 27.49 miles are metalled and 11.40 miles unmetalled. There are also numerous well-built drains. The loss of life from landslips in 1899 showed that special building regulations, drainage provision and protection of slopes are essential in a town situated on a steep hillside and the legal provision for this in a special Act passed in 1900 has been continued in the Act of 1932 as it applies to this District. Where slopes have to be protected, owners of private land can be compelled to divert or close roads, to repair or remove buildings, to protect sites against risk of erosion and to maintain or close drains. Fresh buildings, roads, drains, revetment walls or excavations can be similarly controlled. There are signs that building regulation in war time has not been successfully maintained and there are many buildings in the town which ought, on sanitary grounds, to be replaced.

The Municipality itself owns a number of buildings which are let out on rent. The collection of these rents as well as the general administration of rent collection from land and from locations is controlled by the Secretary of the Municipality while the Municipal Engineer is responsible for the maintenance and repair of all municipal buildings, roads, water-supply and drainage and for arboriculture.

Buildings in the town suffered considerable damage in the earthquake of 1934, the most noteworthy being that to Government House, to the house of the Maharajadhiraja of Burdwan, both of which had to be demolished, and to various places of worship. Rockville Hotel, one of the more prominent hotels in the town, had also to be closed and has not been replaced. It was then found that concrete or reinforced concrete construction gives the best protection against damage from earthquake and since 1934 these methods of construction have been more usually employed when new buildings have been put up. Most of the damage caused by the 1934 earthquake was rectified within two years.

The Municipality has effected many improvements within recent times, the more noteworthy being the *pucca* reconstruction of all drains and the surfacing of many roads with tar macadam. A great change has also taken place by reason of the opening of a number of roads to motor traffic. At first only the Cart Road and the Mackenzie Road were open but there have since been extensions. Motor traffic is now allowed on the Robertson Road, the Tonga Road and on portions of the Auckland and the Mount Pleasant Roads. These extensions are convenient for the users of motor vehicles but are often inconvenient and sometimes dangerous for riders on ponies and pedestrians, particularly those with children or dogs.

Darjeeling town is the headquarters of the District and is situated in the Lower Himalayas (27° 3' N. and 88° 16' E.) at a distance of 369½ miles by rail from Calcutta. The name is a corruption of Dorje-ling and means the place of

**Description of
Darjeeling
Town.**

the *dorje*, the mystic thunderbolt of the Lamaist religion; it was the name given to the Buddhist Monastery which stood on the top of Observatory Hill.

The town lies on a long spur projecting northwards from the Ghum-Senchal ridge. The spur rises abruptly from Ghum to the top of Katapahar (7,886 feet) and then gradually descends to 7,520 feet at Jalapahar and to 7,002 feet at the Chaurasta. It rises again to 7,163 feet at Observatory Hill just north of the Chaurasta and then divides into two, the Lebong spur and the Birch Hill (and Takvar) spur. Both these spurs descend steeply into the valley of the Rangit river flowing at a height of less than 3,000 feet above sea level. The ridge is narrow at the top and its eastern slope is very steep: the bazar and nearly all the houses have been built on the more gentle western slope.

Although the town contains a large number of cheaply constructed and unsightly buildings with little in the way of trees to screen them from view, it is located in such a position that from most points in it, views of mountains may be obtained which can scarcely be rivalled in any other part of the world. The visitor can not only view a magnificent distant landscape from the town but he will find, within its limits, parks, gardens and a museum which give him a close view of the animal and vegetable life to be found in the surrounding country and some idea of the original appearance of the spur on which the town now lies before the forest was cleared and the area built up.

The Lloyd Botanic Gardens are situated just below the Eden Sanitarium and date back to 1865 when Dr. T. Anderson started a branch of the Royal Botanic Garden, Calcutta, and a cinchona nursery at Rangiroon about 6 miles from Darjeeling. It was found to be unsuitable for the cultivation of cinchona and too far from Darjeeling for a botanic garden. Sir Ashley Eden, the Lieutenant-Governor, decided to develop a garden close to Darjeeling and Mr. William Lloyd in 1878 presented a suitable plot of land, accessible and with an excellent aspect. The gardens have been named after him in commemoration of his liberality.

The land was cleared and laid out under the direction of Sir George King, then Superintendent of the Royal Botanic Garden, Calcutta. He was assisted by Mr. A. T. Jeffery of the Cinchona plantations who became Curator of the new garden. He was in 1886 succeeded by Mr. Kennedy of the Cinchona plantations and in his time experiments were made in the garden with the introduction of potatoes. These were unsuccessful as were Mr. Kennedy's attempts to plant up the town with trees in replacement of those destroyed or damaged by cattle and the local residents.

In 1898 the municipal vegetable garden was taken out of the supervision of the Curator and about this time steps were taken to bring together in the garden complete collections of Eastern Himalaya species and to add some Western Himalaya and other temperate species.

In 1902 Mr. Cave was appointed Curator in place of Mr. Kennedy. The grounds had contained a museum but this was now transferred to a site outside the garden.

The garden, since 1910, has been used for the collection and distribution of seeds, plants and bulbs and for experiments on the adaptability of exotics. Various investigations of economic importance are conducted on behalf of departments, institutions and individuals and the garden exchanges seeds and plants all over the world and supplies specimens for herbarium, museum and class demonstration to Universities and Colleges in India and abroad.

The area of the garden is forty acres and is divided into three main sections: (1) an upper indigenous section, (2) a lower exotic section containing many species from temperate parts of the world, certain of which have been acclimatised in various provinces in India since their introduction to this garden and (3) a miscellaneous section containing the predominating species of plants of the Eastern Himalayas and certain species of the hill plants of North-Western India, Eastern India, Burma and the Nilgiris. In the Sir John Anderson Rock Garden are grown alpine and other dwarf Himalayan species of rare beauty. The garden has a permanent stock of just over 1,500 plants under cultivation: these represent the temperate floras of thirteen different countries of the world.

The plants grown in the Lloyd Botanic Garden, Darjeeling, have been described in a publication entitled "Plants of the Lloyd Botanic Garden, Darjeeling" written by Dr. K. Biswas, M.A., D.Sc. (Edin.), F.R.S.E., Superintendent, Royal Botanic Garden, Calcutta.

Botanical and other researches are also carried out at the Mayapuri laboratory of the Bose Institute. The property (Mayapuri and Brookside) is situated on the McIntosh Road and was acquired by the late Sir Jagadish Bose in 1920: a laboratory was later established.

The Natural History Museum is housed in a building just below the Victoria Park completed in 1915: before that, it was located in a building in the Botanic Gardens. The Museum contains well-arranged and comprehensive collections of the mammals, birds, fishes, reptiles, leeches, butterflies and dragon flies found in the District and neighbouring areas as well as some specimens from other parts of India and the world. It has a small library. The Museum building is the property of Government and since 1923 it has been managed by the Darjeeling Natural History Society and the Curator Mr. C. M. Inglis. The society publishes a journal quarterly. The income of the Museum since 1923 ranged from Rs. 9,000 and Rs. 10,000 per annum, the main items of receipt being grants from Government, the Darjeeling Improvement Fund and the Municipality.

In contrast to the trim lawns of the Botanic Gardens is the natural beauty of the woods situated on Birch Hill, the ridge running north of the town. The woods are managed by the Forest Department as a reserved forest and are maintained as a public park. With their

wealth of vegetation, shady walks and old moss-covered and creeper-bound trees, they show what Darjeeling was like when it was first discovered. This park and the small areas of forest on Jalapahar and Observatory Hill are the only parts of the town where the fine forests which once covered the hill-sides entirely have not been ruthlessly felled by builders or owners. Most of the few forest trees still surviving in the town have been disfigured by lopping for firewood or fodder. There are a few open spaces in the town maintained by the Municipality as pleasure grounds among which can be mentioned Observatory Hill, the Victoria Park, the Donovan Park and the Brabourne Park—the last opened in 1938 as a memorial to the late Lord Brabourne, a Governor of Bengal.

From the built-up area the Calcutta road on the east of the Jalapahar ridge and the Auckland Road on the west are bridle paths which lead to Ghum and offer to the user delightful views of mountain scenery. Beyond Ghum various roads lead up to Senchal (8,163 feet) and Tiger Hill (8,515 feet) 6 miles from Darjeeling through fine forests of oak, magnolia and rhododendron. The pink flowering magnolia is only found in this locality. There is a golf course between Senchal and Tiger Hill and from the summits of both, when the weather is clear, can be obtained a fine view of the plains of Bengal, of the mountain spurs sinking to the plains and of the courses of several great rivers, the Tista, the Balasan, the Mahanadi and the Mechi. To the north is a panorama probably unsurpassed in the world. In the foreground is the great valley of the Rangnu 4 miles across and 4,000 feet deep, formed, on the one side, by the Darjeeling ridge bare of forest and scarred by landslips and, on the other, by the forest-clad Takdah ridge. Further away is the Rangit valley and beyond it in the middle distance stands prominent the cone-shaped peak of Tendong (8,676 feet). According to Lepcha tradition, when Lepchas were the only inhabitants, there was a great flood. The few survivors of the flood used the summit as a point of refuge as Mount Ararat was said to have been used. Behind Tendong is the higher mountain of Mainom over 10,000 feet high with the precipice on the eastern side of its summit clearly visible. Beyond is a line of snow mountains stretching across the entire northern horizon. Dominating all in the centre is Kinchinjunga 45 miles away and 28,146 feet above mean sea-level: it is flanked on the west by Kabru (24,015 feet) and Janu (25,300 feet) and on the east by the sharp conical peaks of Pandim (22,020 feet) and Narsingh (18,145 feet). To the north-east, can be seen most of the high peaks of North Sikkim, Simvo (22,369 feet), Siniolchu (22,600 feet), Lama Anden (19,250 feet), Chumiomo (22,430 feet), Kanchenjhau 69 miles away with a flat top capped with ice 22,700 feet high and Pahunri (23,180 feet). Further still to the east can be seen the ridge over 14,000 feet high, the boundary between Sikkim and Tibet, extending to the mountain Gipmochi (14,518 feet) which is the trijunction of the boundaries of Sikkim, Bhutan and Tibet. The two passes, the Jelap La and the Nathu La, over which trade from India is carried to Tibet can be picked out on the sky line and, appearing over the ridge and situated in Tibet 40 miles beyond it, can be seen

the beautiful mountain of Chomolarhi (23,930 feet). On the other side of Kinchinjunga west of it and at a distance of over 100 miles from where the observer stands, he can see three snowy peaks above the Singalila ridge which runs down from Kinchinjunga and Kabru to form the boundary first between Nepal and Sikkim and then between Nepal and Darjeeling District. These three peaks seem small in comparison with the nearer Sikkim mountain giants but the middle one, by no means the most impressive of the three in appearance, is Mount Everest (29,002 feet), the highest mountain in the world.

From Darjeeling itself the northward view is almost as impressive but the Everest group and Chomolarhi are hidden by the boundary ridges on the north-east and north-west horizons. To the south Darjeeling gets no view of the plains owing to the higher ground at Ghum intervening. There is no lack of variety in the views even when the high snows are not visible. The play of light and shade and ever-changing cloud and mist over the valleys and tea gardens in the foreground are almost as attractive as the magnificent panorama that becomes visible when the sky clears.

The walker who cares to leave the town will find many delightful roads and paths in the forests which cover the Senchal mountain, the Takdah and Lebong ridges and that between Ghum and the Nepal frontier. For those who have more time, descents to the valleys below through tea gardens and forests offer delightful day expeditions when the weather is favourable. Those who wish to go further will find Darjeeling a good starting point for trips of a week or more along the Singalila ridge or into Sikkim and a convenient centre for the collection of supplies and transport for these expeditions. It is from Darjeeling that porters are recruited by the various mountaineering expeditions which have attempted to scale the high peaks of the Himalayas.

In normal times, Darjeeling has two seasons which are popular with visitors, the spring and the autumn. For most visitors the winter is too cold and the monsoon months too wet. The hotel and boarding house business thus tends to be limited to two somewhat short seasons and many establishments have in consequence a precarious and transitory existence. Among the oldest are the Eden Sanitarium, the Lewis Jubilee Sanitarium, the Mount Everest Hotel, the Bellevue Hotel and, until it was more or less destroyed in the 1934 earthquake, the Rockville Hotel. The Darjeeling Club provides residential and club life for Europeans and the Darjeeling Gymkhana Club indoor and outdoor recreation for members of all communities. The latter has an excellent skating rink, half a dozen tennis courts, two squash rackets courts, a ball room and a billiards room. It also provides golf at Senchal and organises race meetings in the spring and autumn at Lebong.

The town is fairly well provided with means of recreation. A number of open spaces and playing grounds belonging to schools, colleges, the Police and the Military are on occasions available for use by the public. The town has two public cinema halls (one in the Town Hall) and theatrical performances are occasionally given in

them as well as in the Nripendra Narayan Hindu Public Hall. Restaurants, tea shops and eating houses abound and coolies, rickshaws and ponies can readily be hired, at rates laid down by the Municipality, by visitors who require them. Motor vehicles can only use a few roads in the town but taxis can be obtained at the Bazar and the stand near the Town Hall for journeys to Lebung, Ghum and other parts of the District.

Darjeeling has considerable importance as a centre of District and provincial administration. Office and residential accommodation has been built for officers of the Secretariat who used to come to Darjeeling when the headquarters of the Provincial Government moved up here and there is a branch of the Bengal Government Press located permanently in Darjeeling. The Provincial Forest Department offices were until recently located in Darjeeling. In addition to the usual offices connected with the administration of a District, the office of the Superintending Engineer of the Northern Circle of the Communications and Works Department is located in the town. Few of the buildings occupied by the above departments and officers are in any way impressive: the most substantially built and imposing in appearance probably being the newly constructed Police Buildings near the market square. The Post and Telegraph Office is also a well-built stone building: close to it is the Imperial Bank building and beyond that the Town Hall where Municipal meetings and office business are conducted and where the public hall is let out for use as a cinema. The building was completed in 1921 at a cost of Rs. 2,76,000 and has a well-proportioned clock tower, the whole forming perhaps one of the most satisfying of the public buildings in the town. The Victoria Hospital buildings are also well-built of stone and concrete.

Many of the schools in the town have large and well-constructed buildings of architectural merit. And in the cantonments there are a number of strongly constructed but severe looking buildings.

The town contains a number of places of worship for the various communities living in it. Formerly Observatory Hill was crowned by a Buddhist monastery but it had been destroyed by the Gurkhas when they overran the country in the early part of the 19th century. It was rebuilt on its former site but was then removed to Bhutia Basti lower down the hill side. This was destroyed by the 1934 earthquake and the present fine structure was then built as a gift of His Highness Sir Tashi Namgyal, K.C.S.I., K.C.I.E., the Maharaja of Sikkim. Management vests in the leading Buddhists of Darjeeling and high Sikkimese officials. Worship is according to the tenets of the Red Sect of Lamaism. The other Buddhist monastery is at Ghum where worship is conducted by the Yellow Sect of Lamaism. It is famous for its image of the coming Maitreya Buddha and for the Lama dances that are held there. The monastery buildings at Ghum were damaged in the 1934 earthquake but were restored by the munificence of the late Sardar Bahadur S. W. Laden La, C.B.E. Additions were the gift of Messrs. Sharab Lama and Sons of Darjeeling. The Nepali Tamang Gompa is a monastery for Nepali Buddhists. It was built in 1926 and is situated below the Waddell Road in the Judge Bazar.

The most noteworthy Hindu temple in the town is the Dhirddham temple built in the year 1938 by His Highness the Maharaja Sir Joodha Shamshere Jung Bahadur Rana, Prime Minister of Nepal, and opened by his son His Excellency Commanding General Bahadur Shumsher Jang Bahadur Rana in May 1939. It is near the Railway Station and is visited for worship by all sections of Hindus in Darjeeling. It is the only shrine of its kind in India and is unique for the beauty of its architecture in the Nepali style. Contributions from many Hindus including one of Rs. 1,000 from Maharaja Sir Nripendra Narayan of Cooch Behar and a grant of land by the Municipality in 1890 enabled the Bengali Hindus of Darjeeling to construct buildings for religious and social purposes. One of these, the Nripendra Narayan Public Hall, is used as a common meeting place for Hindus and for *puja* celebrations. The Gopal Mandir, a temple used exclusively for worship, is located on the premises where there is also a public library. Elsewhere in the town Rai Parasuram Agarwalla Bahadur, the senior partner of Messrs. Mohanlal Shewlal, presented a large *dharamsala* which is open to all Hindu communities.

Christian places of worship are numerous. There are three Anglican Churches of which St. Andrew's Church, Darjeeling, is the oldest ecclesiastical building in the District. Its foundation stone was laid on St. Andrew's Day, 1843, and the Church was then built at a cost of Rs. 9,000. It had accommodation for 150 persons and the Chaplain of Berhampore used to come to Darjeeling for two periods of six weeks to minister to residents. Later the church was struck by lightning, was rebuilt in 1870 and was consecrated by Bishop Milman in 1873. A clock was added to the tower at the time of rebuilding and by various subsequent additions the accommodation was increased to 450. The walls have a number of inlaid tablets to the memory of some of the early residents and settlers, chief among them being Lieutenant-General Lloyd, the discoverer of Darjeeling.

St. Luke's Church, Jalapahar, is the second church built in that cantonment. The first was built in 1867 but was later dismantled and replaced by the present building in a more central position. St. George's Church, Lebong, was built in 1908 and accommodated 80 people. It was damaged in the 1934 earthquake and had to be abandoned. Worship now takes place in a temporary building loaned from the Military authorities. St. Paul's School has an interesting chapel built in the modern style on a prominent site and St. Michael's School also has a beautiful chapel.

The churches of the Roman Catholic Church had their origin in the communities which grew up around two schools. The Church of St. Francis of Assisi was a wooden one erected in 1885 next to the Capuchin seminary and an Indian Chapel was built in 1889 next to the North Point College. As the community in the town increased, a larger church, that of the Immaculate Conception, was built in 1893 contiguous to the Loreto Convent and the wooden church was transferred to Jalapahar. In 1908 a church dedicated to St. Michael was erected at Lebong. The Church of Scotland has St. Columba's Church in Darjeeling and took over the Union Church in 1935.

The Muslim community has three mosques in the town maintained by the Anjuman Islamia, Darjeeling. The Juma Masjid on the Botanical Gardens Road was built at a cost of Rs. 15,000 and accommodates 1,000 worshippers. The Chhotti Masjid in Butcher Basti was reconstructed at a cost of Rs. 12,000 and accommodates 400. The Anjuman also maintains a two-storied *musafirkhana* built at a cost of Rs. 15,000 to accommodate visitors to Darjeeling irrespective of creed. It contains 21 rooms out of which 5 are family suites.

The Brahmo community has a mandir near the Victoria Hospital. As far as is known, other religious communities have no special places of worship of importance. In the outskirts of the town there are burial grounds and burning *ghats* for the various communities living in it.

One of the features of the town is the market square situated on a levelled and extensive piece of ground in the middle of the town and surrounded by substantial buildings erected by the Municipality. The square presents an animated scene each day and particularly on Sundays, the holiday and bazar day for all tea gardens. The market is crowded with purchasers from the gardens and with sellers and visitors of many races. Nepalis predominate but Tibetans and Bhutias from the hills are conspicuous, in striking contrast to Marwaris and other traders from the plains.

The town is well provided with roads and paths, many surfaced with tar macadam and most well-fenced and kept in good order. A few of the larger roadways are open to motor traffic but many others are unsuitable for various reasons for use by vehicles other than rickshaws or perambulators. Few of the residential buildings deserve mention. The chief is that of the Governor of Bengal. In 1879 an old cottage on the ridge overlooking Birch Hill was replaced by a house for the summer residence of the Lieutenant-Governor. The estate, which was first called The Shrubbery, was gradually improved and buildings added included a Darbar Hall. In the 1934 earthquake the main building was so seriously damaged that it was found necessary to rebuild completely. The present residence with its blue dome and white walls is a conspicuous landmark on the Birch Hill ridge.

His Highness the Maharaja Bhup Bahadur of Cooch Behar has a Darjeeling residence in extensive grounds at Colinton above the Auckland Road and to the south of Darjeeling. He also owns a property consisting of 17 locations within the Municipality and covering an area of about 75 acres.

One of these is leased from Government for a 99-year period. All the others are held on permanent leases, 9 of which are revenue-free.

The property includes about 40 higher class houses in the best residential locality which are let out to tenants. The unbuilt-up portion of the property has been leased on long term for residential building. Part of the property known as the Toong Soong Basti has

been leased out for the smaller class of residential building. The average gross annual income of the Estate from both houses and sites is about Rs. 71,000.

Darjeeling has greatly benefited from the interest which has been shown by Maharajas and members of the ruling family. Not only have they extensive property in Darjeeling, but the Rulers of Cooch Behar have made frequent visits, sometimes prolonged, and have often taken a prominent part in the summer life of the town. Their generosity has been notable and among their many benefactions may be mentioned the following:—

- (1) Gift of Bryngwyn and houses thereon valued at Rs. 50,000 to the Lewis Jubilee Sanitarium in 1887. A contribution of Rs. 400 annually is made for the maintenance of two free beds in this institution.
- (2) Donation of Rs. 1,25,000 to the Darjeeling Municipality for the construction of the Town Hall.
- (3) Donation of two plots of land to the Darjeeling Municipality for water reservoirs.
- (4) Donation to the Maharani School to enable it to start and an annual contribution of Rs. 1,200 up to 1932-33, thereafter of Rs. 600.
- (5) Donations to the Gymkhana Club for the building of squash courts and for other purposes; presentation of cups for racing and the Flower Show.
- (6) Grant of land to the Forest Department for replantation in 1898.
- (7) Sale of land to the Municipality at a concession price for the laying out of the Brabourne Park.

Rose Bank below the Cart Road is the Darjeeling house of the Maharajadhiraja Bahadur of Burdwan, another distinguished property owner in the town and District. About 1850 the Maharaja acquired properties in the stations of Darjeeling and Kurseong, then comparatively undeveloped. He used to travel up from Burdwan *via* Purnea, Bhagalpur and Titaliya by palanquin and with a large retinue. He built several rest houses on this route to make the journey more comfortable. Additions were made by him to the properties originally purchased and now the estates in Darjeeling and Kurseong are about 1,600 acres in extent and consist of forests, tea gardens, residential houses, shops, bazars and agricultural lands. Some are revenue-free and on the rest the annual revenue payable to Government is Rs. 2,682. Maharajas of Burdwan have always associated themselves with local social, religious and educational activities and have made regular grants in support of a number of institutions. On occasions they have shown their interest by free gifts of land. The present Maharajadhiraja Bahadur has been the president of the Sree Gorkha Duksha Niwarak Sammelan from its inception.

Description of Kurseong Town. Kurseong town is the headquarters of the Subdivision of that name and is situated on the main road and railway from Siliguri to Darjeeling at a height of 4,860 feet above sea-level. It is 20 miles by road from Darjeeling. According to the 1941 census, it has a winter population of 8,497, or if neighbouring school areas are added, of nearly 10,000. It is a summer resort and in spring, summer and autumn the population is much higher, the number of visitors varying considerably from year to year. It is not so popular as Darjeeling but many like it who find Darjeeling too high, too cold or too expensive. There are hotels and boarding houses as well as many private houses whose owners occupy them when they can get away from the heat and discomfort of the plains. The Maharajadhiraja of Burdwan owns considerable landed property in the Kurseong town. Although Kurseong is lower than Darjeeling it has a heavier rainfall (165 inches annually) but does not suffer so much as Darjeeling from cloud and mist.

Kurseong is situated on a spur taking off from the long ridge running south from Senchal. It has no northward panorama of snows like Darjeeling as the Ghum ridge limits the view to the north allowing only the peaks of Kinchinjunga to be seen through a gap between Ghum and Senchal. The view northward however is far from being devoid of interest. The Nagri spur, starting from Jorpokri and stretching down to the Balasan, is particularly picturesque amid other hillsides covered with forests, tea gardens and factories. But to many, the real charm of Kurseong is the view to the south. On a clear day, standing on the Eagle's Crag or indeed on almost any point on the ridge running west from the town towards Constantia, the spectator commands a wonderful view of the plains of India, reaching to a distant horizon 100 miles away. At his feet, the hills fall away abruptly to ground about 400 feet or less above sea-level and there cease altogether. Southward is nothing but a vast plain in striking contrast to the jumble of hill and valley behind and to the spurs jutting out on either side of the spectator.

South-east can be seen the Tista which comes from the snows of north Sikkim, flowing through dense forest at the base of the hills and widening into broader reaches as it nears Jalpaiguri. West of it is the Mahanadi which flows past Siliguri just discernible amid trees. Immediately below Kurseong and west of it, the Balasan emerges from the hills and, after forking into two channels, joins the Mahanadi west of Siliguri to flow ultimately into the Ganges. Still further to the west can be seen the outlying hills of Panighata and Lohargarh and beyond them the Mechi river, the boundary between the District and Nepal. Beyond the Mechi and in the plains can be seen the Morung forests and other rivers flowing through Nepal territory.

Few buildings in Kurseong are constructed substantially and far too many are insanitary, ramshackle and untidy. The schools have the best buildings and there are some excellent private residences. Although the town is itself not imposing there are attractive walks in the immediate neighbourhood. Above Kurseong are the roads to

Dow Hill where will be found the old military road to Darjeeling and other paths through the forest. One track leads down from the Forest school to the Cart Road below Gidarpahar and from Gidarpahar a District Board bridle path leads down the ridge to Gayabari through tea with remarkable views on either side. Other bridle roads and paths lead down from Kurseong to the plains, the one taking off below Constantia to Pankhabari being the old military road used before the Cart Road was completed on its present alignment.

Kurseong is not only important as a tourist centre and as the administrative headquarters of the Subdivisional administration but it is, like Darjeeling, a centre of educational activity. There are on Dow Hill two Government Schools for children and a Government Forest School and there are many other schools on the slopes above the town. Kurseong has a club and a cinema hall. It is the headquarters of the Darjeeling-Himalayan Railway administration and the Bengal and Assam Railway maintains rest quarters here for its employees.

The Anglican church of Christ Church, Kurseong, was built in 1870 and consecrated by Bishop Milman six years later. There is also a chapel for the two schools at Dow Hill. The Church of Scotland has St. Andrew's Church in Kurseong. Roman Catholic churches here are St. John's Church built in 1891 and St. Paul's Church built in 1904.

Description of Kalimpong Town. Kalimpong is the headquarters town of the Subdivision of the same name, which is the area taken from Bhutan at the conclusion of the war of 1864-65. The bazar is 32 miles from Darjeeling by the Pashok Road and twelve miles from Gielle Khola, the terminus of the Darjeeling-Himalayan Railway in the Tista Valley. It is also the terminus of the mule trade route from Tibet into India *via* the Jalap La which is about 65 miles away. The Sikkim frontier on this route is about 16 miles from Kalimpong. The bazar is situated on a saddle 3,933 feet above sea-level flanked on either side by higher ground—on the south by the hill of Durbindara about 4,500 feet high and on the north-east by the Deolo Mountain 5,590 feet above sea-level.

The prospect from many parts of the town is a magnificent one, although from nowhere is it quite so remarkable as the view from Darjeeling. Perhaps the best view-point is the summit of Durbindara. From here the northward expanse of snow mountains appears above the top of nearer mountains due north of Kalimpong. Kabru, Pandim and Narsingh are seen more obliquely than from Darjeeling, are more distant and therefore appear smaller. On the other hand peaks to the north-east are closer to Kalimpong and the eye is not distracted by mountains in the middle distance as it is when gazing in a more northerly direction. Simvo, Siniolchu and the other giants of north Sikkim therefore show up prominently. Westward one can look up the Rangit valley winding among mountains and flanked on the south by the Senchal mass. Below the hill one is standing on and west of it, runs the Tista in a

deep gorge past Senchal and Sittong and, looking south-west, one can see the junction of the Riyang and the Tista and the Riyang Railway Station and ropeway terminus at the bottom of the valley. Again to the north and north-east, the Tista lies deep in its gorge and to the east lies ridge after ridge covered in forest and cultivation across the Rilli valley. In that direction can be seen the highest mountain in the Subdivision, the Rishila 10,500 feet high.

The town has three distinct parts. First the Mission and the St. Andrew's Homes area on the lower slopes of Deolo down to the Rishi Road and the Bazar proper. This first area consists for the most part of scattered well-constructed buildings some of which lie hidden in well-wooded hillside. The second area is the bazar, closely built up and mostly a strip development on the sides of the Rishi Road, the eastern end occupied mainly by accommodation for the wool trade and the mules and muleteers engaged in it. The western end on the saddle serves more the needs of visitors from Bengal and the local administration. The third part of Kalimpong lies on the slopes of the hill culminating in Durbindara and is known as the Development Area. It is a residential estate developed by Government. Where development has taken place, better class buildings are seen well spaced amid trees and pleasant gardens. The undeveloped portion, more than half the total area at the time of writing, is less pleasing. Some plots are under excavation or are being prepared for building in such a condition that their appearance is unsightly. The majority, bare of trees and under temporary cultivation, create an uninteresting landscape.

Kalimpong offers to visitors a quieter type of attraction than either Darjeeling or Kurseong. There is no club or golf and little tennis. Walking is pleasant but few paths and roads seem to have been specially designed to be attractive to visitors. For European visitors there are hotels in the Development Area where usually also houses can be rented for the season. There is a cinema hall in the town but it is evident to the visitor that the pleasure that he will get from Kalimpong is more than that to be found in a small country town and less than that of a town resort.

The town has developed rapidly within the last thirty years. Its importance as the terminus of the trade route to Tibet has been enhanced by improvement of communications and from the original Mission Settlement has developed the large educational estate of the Homes. These give the town unique features. Visitors find pleasure in visiting the Homes and walking through the bazar to study the Chinese shops, the eating houses and the hotel accommodation used by Tibetan and Chinese traders and muleteers: and to enjoy the novel spectacle of streets used by many types from Central Asia and by droves of mules aimlessly wandering in search of grazing or water.

Kalimpong has some importance as the administrative headquarters of the Subdivision and in the town is located the office of the District Agricultural Officer.

The town has a number of churches and other impressive buildings. Apart from the residential buildings of the Homes, the Mission and the Development areas, there is the imposing residence of the Tibetan Trade Agent in the Homes area and on the side of the Rishi Road, the residence of the Raja Sonam Tobgye Dorji Deb Zimpan of Bhutan, who is Agent in British India of the Bhutan Government. In this house rested the Dalai Lama when he arrived from Tibet in 1913 escaping from the Chinese. There is a Buddhist monastery in the bazar as well as large substantially constructed wool godowns. There are also well constructed administration buildings noteworthy among which is the office of the Subdivisional Officer built in 1939 on a prominent site in replacement of a building which had been destroyed by storm and earthquake.

Kalimpong is well provided with places of worship. The Buddhist monastery has been mentioned above. There is also a Hindu temple and a mosque. The Church of Scotland has a fine Gothic Church which was erected in the Mission area above the bazar in memory of the Revd. W. MacFarlane, the pioneer missionary of the Church of Scotland in the District who died here in 1887. In the Homes estate can be seen the graceful chapel built in more recent times in memory of Mrs. Graham, the wife of Dr. Graham, the founder of the Homes.

The three hill towns are all important in varying degree as centres of visitor traffic, of educational activity, of trade and communications and of local and provincial administration. Details will be found in the various chapters dealing specifically with those matters. Description in this chapter has been confined mainly to matters of general interest to the visitor.

The town of Siliguri, "the stony site", is 396 feet above sea-level and at a distance of 318½ miles from Calcutta by rail.

Description of Siliguri Town. It lies on the bank of the Mahanadi river close to the border of the Darjeeling and Jalpaiguri Districts. It has grown from a small village with a population in 1901 of 784 to what can be described as a town by reason of its importance as a centre of communication and transhipment. When the North Bengal State Railway was extended to Siliguri in 1878, the village was transferred from the Jalpaiguri District to Darjeeling and the administrative headquarters of the Terai was moved to it from Hanskhawa. The Darjeeling Hill Railway on a different gauge was very soon completed and the Cart Road to Darjeeling was thereafter steadily improved. Siliguri thus became a transhipment point from the metre gauge railway to the narrow gauge railway and the Cart Road. Roads and railways were later opened out in the Terai and up the Tista Valley, thus increasing the business importance of Siliguri. The opening in recent years of a road connection with the Western Duars and Assam *via* the Coronation Bridge over the Tista has further added to the town's importance as no doubt will any future improvement in the Ganges Darjeeling Road running south-west from it.

Such administrative importance as Siliguri has secured is due to its position as a focus of communication. This was the reason for the

establishment of a subdivision and for the erection of the various inspection bungalows located here. The few industries as it possesses, for instance, rice milling and timber sawing, have the same origin.

Its growth has been rapid, haphazard and without proper direction. The result is an unhealthy urban area with deplorable drainage and inadequate water-supply. Adequate remedies for these defects have not yet been devised.

The visitor is usually only concerned with Siliguri as a transshipment point. As he approaches it by rail he gets his first view of the hills with possibly a glimpse of snow mountains. After detraining in the railway station he finds hasty refreshment and then hurries away to car, bus or hill train, anxious only to start for his destination.

CHAPTER XV.

EDUCATION.

The pioneers in the spread of education in the District were Christian missionaries and particularly those of the **History.** Church of Scotland Mission. When the British took over the District, popular education was practically unknown. A few of the better classes had private tutors for their boys: a few who could read tried to hand on this accomplishment to their families: and in Buddhist Monasteries novitiate monks were taught to chant Tibetan texts. But of real general education there was none and no schools worthy of the name were in existence.

The first attempt to reach the hill people by education was made about 1850 by the Rev. W. Start, a private Missionary, who added to his record of good work in Darjeeling by opening a school for Lepchas. After him came a band of German missionaries, one of whom, a Mr. Niebel, devoted himself to school work, prepared some Lepcha primers and gathered boys together into schools. It was not however until the advent of the Rev. William MacFarlane in 1869 that any broad scheme of vernacular education was introduced into the District. He realised that it would be essential to train teachers and with this object he collected a band of hill boys, to teach whom he devoted the first years of his missionary life in the hills. This group of boys was the nucleus of a training school at Kalimpong. Mr. MacFarlane found he could use Hindi text-books as a means of instruction and induced Government to give scholarships for students attending his courses of instruction. He himself taught in the face of many discouragements and the frequent disappearance of his most promising pupils. But he persevered and, overcoming all obstacles, was able, with the help of Government, to start primary schools in many parts of the District.

In 1873 there were 25 primary schools with 650 boys and girls receiving instruction. Under his successors in the **Primary Education.** Church of Scotland Mission, progress was steady. Others interested in the spread of education were not slow to follow the lead given but the Scots Mission has been the most important influence in the spread of education in the District.

By 1907 there had been expansion to 70 primary schools with a roll strength of 2,420 boys and 300 girls, average attendance being 1,880. The corresponding figures for 1944 are—

Number of Schools.	Roll strength.		Average atten- dance.
	Boys.	Girls.	
299 for boys	10,166	1,424	8,645
19 for girls	215	1,167	954

One hundred and twenty of these schools are run by the Scots Mission, 10 by the Roman Catholic Mission, 3 by the Ramkrishna Vedanta

Asram and 4 by the Buddhist Mission (Young Men's Buddhist Mission). Darjeeling Municipality has under its direct management two Biss' Scheme Free Primary Schools—one for boys and the other for girls. The boys' primary school has a roll strength of 340 boys and there are ten teachers on the staff, all of whom are trained. The school for girls has a roll strength of 123 girls and there are seven teachers on the staff.

There are two Municipal managed boys' primary schools with a roll strength 209 and one *maktab* with 32 pupils within the Kurseong Municipality.

The proportion of pupils in primary schools to those of school-going age is 56.6 for boys and 9.2 for girls. These figures exclude pupils reading in secondary schools.

During 1943-44 Government contributed Rs. 32,268 for the maintenance of boys' primary schools and Rs. 7,109 for girls' primary schools, the District Board Rs. 3,396 for boys' schools and Rs. 360 for girls' and Municipal funds Rs. 20,676 for boys' and Rs. 11,064 for girls' schools. Fee income from boys' primary schools was Rs. 9,876 and from the girls' Rs. 1,687. The balance of the total expenditure of Rs. 1,19,275 on boys' schools and Rs. 32,885 on girls' schools were met from Mission and other private funds.

The table below shows how primary education has developed in the District—

Year.	Number of Schools.	Number of Pupils.		Expenditure.		
		Boys.	Girls.	Public. Rs.	Private. Rs.	
1916-17	Boys	207	4,153	343	22,981	8,525
	Girls	8	0	468	3,284	0
1921-22	Boys	216	4,602	399	26,675	13,899
	Girls	11	30	374	21,581	6,730
1926-27	Boys	231	3,701	0	25,374	16,138
	Girls	14	0	545	4,532	10,693
1931-32	Boys	261	5,974	494	37,200	24,737
	Girls	17	171	511	5,351	7,344
1936-37	Boys	307	7,702	929	42,306	49,436
	Girls	21	207	793	9,738	10,754
1941-42	Boys	311	8,829	1,369	46,945	58,251
	Girls	21	280	971	15,246	11,604

There are at present six High and 12 Middle English schools for boys and four High and four Middle English schools for girls in the District. Figures for pupils and expenditure are given below—

	Roll strength on 31-3-44.	Number of Hill boys.	Number of Hill girls.	
High English for boys	..	2,122	1,297	0
Middle English for boys	..	1,629	1,123	72
High English for girls	..	1,266	28	733
Middle English for girls	..	570	92	245

Expenditure.

		From Public Funds.	From Private Funds.	Total.
		Rs.	Rs.	Rs.
High English for boys	..	42,319	61,275	1,03,594
Middle English for boys	..	17,018	24,264	41,282
High English for girls	..	16,757	31,767	48,524
Middle English for girls	..	5,934	11,991	17,925

The following are the six High schools for boys:—

- (1) Government High English School, Darjeeling.
- (2) St. Robert's High English School, Darjeeling (R. C. Mission).
- (3) St. Alphonsus' High English School, Kurseong (R. C. Mission).
- (4) Scottish Universities Mission Institution, Kalimpong.
- (5) Pusparani High English School, Kurseong (unaided).
- (6) Siliguri High English School (aided).

The twelve Middle English schools for boys are located as follows:—(1) Darjeeling, (2) Darjeeling for Hindi-speaking pupils, (3) Sukhiapokri (Scots Mission), (4) Mirik (Scots Mission), (5) Pedong (Roman Catholic Mission), (6) Ghum, (7) Kurseong, (8) Phansidewa, (9) Kharibari, (10) Naxalbari and (11) and (12) Kalimpong.

The four girls' High schools are:—

- (1) The Nepali Girls' High School in Darjeeling (originally called the Girls' Boarding School). On the 31st of March 1944 the number of pupils reading in this school was 444 of whom 27 were hill boys, 331 were hill girls and the remainder were Indian Christians.
- (2) The Maharani Girls' School in Darjeeling. The pupils in this school are mostly Bengali-speaking.
- (3) St. Joseph's Girls' High School at Kurseong (R. C. Mission).
- (4) Kalimpong Girls' High School (Scots Mission).

The Sisters of Saint Joseph de Cluny supervise Saint Philomena's Middle English Girls' Day School for hill children at Kalimpong. The school is maintained by the Roman Catholic Mission and receives a grant from Government. Connected with the R. C. Loreto Convent in Darjeeling is St. Teresa's Middle English School for the children of hillmen. It has over 200 pupils, mostly girls.

Scholarships have been awarded from 1941 on the result of the Primary Final Examination. Grade I scholarships (Rs. 3 per month for two years) have been awarded as follows:—6 to Hill boys, 1 to a Bengali boy and 6 to Bengali girls.

Grade II scholarships (Rs. 2 per month for two years) were awarded as follows:—27 to Hill boys, 12 to Hill girls, 14 to Bengali boys (3 Muslims and 5 Scheduled Castes) and 1 to a Bengali girl.

At least 3 Middle Scholarships are awarded each year, of which one is open, one is reserved for a Muslim and one or more is reserved for educationally backward classes. From 1933 to 1943 3 hill boys secured open middle scholarships and 14 reserved scholarships.

The Scottish Universities Mission Institution, Kalimpong, teaches up to the Intermediate Arts stage and in 1944 there were 30 students in the College Department. This and a few institutions for European education are the only places in the District where college teaching is given.

Collegiate Education.

One hundred and fifty males and 192 females were receiving special instruction in various institutions, all situated in the hill portion of the District as shown below:—

Special Education.

Schools.	Boys.	Girls.
Teachers, training schools	15	15
Industrial schools	63	277
School for the Blind	12	..
Tols	38	..
Monastic (Buddhist) school	32	..

Teachers' training schools are three in number, one at Kalimpong for boys is run by the Scottish Universities Mission Institute. There are two training schools for girls, one maintained by the Church of Scotland Mission, Kalimpong, with 5 pupils on the 31st March 1944 and the other at the Roman Catholic Mission at St. Joseph's School, Kurseong (10 pupils). The school for the blind was founded by the Hon. Mary H. Scott in 1940 and is being managed by her. Boys are taught the use of Braille as well as music and handicrafts. There are four teachers on the staff as well as a blind teacher trained at the Behala Blind School. Five cottages accommodate the students who live in them under the full charge of a master. The Monastic school is at Ghum and receives grants totalling Rs. 30 per month from Government and the Darjeeling Municipality. The Roman Catholic Mission runs an orphanage at Kalimpong where between 40 and 50 girls are cared for and educated. The Mission also runs an industrial and technical school at Kurseong training boys in carpentry, printing, book-binding, weaving, tailoring, canework and leatherwork. The Kalimpong Industrial School is described in Chapter IX.

In addition to the special education mentioned above which is for the young or adolescent, adult education is provided in 75 night schools of the primary school standard for those otherwise occupied in the day time. Nine hundred and three students received instruction in these schools during the year ending 31st March 1944. Reading, writing, arithmetic up to the lower primary standard and

simple hygiene are taught. Most of the night schools are attached to day primary schools and teachers receive grants up to Rs. 5 per month.

Special education for Europeans and Anglo-Indians is dealt with later in this chapter.

Prior to 1938, no particular attention was paid to physical education. Most schools taught some stereotyped and rather dull drill and in some secondary schools hockey and football were played. A District Organiser of Physical Education was appointed in 1938 and from that date a long needed change has been taking place. This officer holds each year at different centres short courses of training for teachers of Primary and Middle schools and he visits the schools to inspect their physical training work. The Indian School Sports Association organises competitions and tournaments and this has done much to improve the standard of games in High, Middle and Primary schools. The Scout movement is very popular and most of the schools in urban areas and a few in rural areas have their own troops and packs. The District has three Scouts' Associations at Darjeeling, at Kurseong and at Kalimpong.

There are 57 tea garden schools including 17 night schools. A few of these are of the four-class type but most are of the lower primary standard. The total number of pupils is 1,693, which is very small against the number of school-going age. The problem is a serious one: as soon as they are able to do anything useful, children are put to work on the garden to earn money and supplement the family resources instead of being sent to school.

In the Terai there are 70 Primary Schools for boys, 4 for girls, 13 *maktabs*, three boys' Middle English schools, one girls' Middle English school, one Junior Madrasah and one High school for boys. The number of children receiving instruction in the Terai on 31st March 1944 was as follows:—

	Boys.	Girls.
In Primary schools and Maktabs ..	1,272	220
In Secondary schools:—		
High English schools for boys ..	316	0
Middle English schools for boys ..	230	24
Middle English schools for girls ..	24	61
Junior Madrasah for boys ..	57	17

The corresponding figures for the hills are:—

	Boys.	Girls.
In Primary schools and Maktabs ..	7,685	2,156
In Secondary schools:—		
High English schools for boys ..	1,806	0
High English schools for girls ..	72	1,194
Middle English schools for boys ..	1,275	100
Middle English schools for girls ..	95	390
Junior Madrasah for boys ..	74	0

The 1941 census figures of males and females are:—

			Males.	Females.
Hill areas	..	..	149,338	137,300
Terai	..	..	50,573	39,344

If the number of children of school-going age be taken at 10 per cent. of population it is found that percentages of pupils at school to those of school-going age are:—

			Males.	Females.
Hill areas	..	..	73·7	28·0
Terai	..	..	37·5	8·2

Provincial control of education in the District is exercised by the Inspector of Schools of the Rajshahi Division whose office is at Jalpaiguri. He controls and inspects the High Schools of the District directly. Under him and directly responsible for primary and lower secondary education is the District Inspector of Schools. For primary education, the latter is assisted by two Sub-Inspectors at Darjeeling and at Kurseong, one Assistant Sub-Inspector at Kalimpong and an Inspecting Pandit for the Siliguri Subdivision.

**Administra-
tive Control.**

The District Board and the two Municipalities exercise control of the schools maintained or assisted by them through Education Committees. That of the District Board consists of 3 members of the Board, three persons not members of the Board and the District Inspector of Schools *ex-officio*. The Scots Mission controls the schools they maintain by three Superintendents located in Darjeeling, Kurseong and Kalimpong. The Roman Catholic Mission control their schools at Kurseong by the Superintendent who, in addition to being the Principal of the High School and an Industrial School, also supervises five Primary Schools.

Every Government or aided school is managed by a committee which is reconstituted after three years. Membership of all committees requires the approval of the Deputy Commissioner.

**Important
Schools.**

The Government High School, Darjeeling, had its origin in a Government Middle School which was established at Darjeeling about 1860 and a Tibetan Boarding School which was started in 1874. These two schools were amalgamated in 1892 and raised to High School status. The High School at first had two departments, the General Department meant for boys of all races and the Special Department designed for Bhutia, Lepcha and Tibetan boys. The Special Department was abolished in 1927 and was replaced by School Final Classes which also proved unpopular and were in turn abolished in 1937. The School now prepares pupils for the Matriculation examination of the Calcutta University. Five Indian vernaculars and four classical languages are taught and on the managing committee are six non-officials

representing the Bengali, Behari, Tibetan, Nepali, Christian and Muslim communities of Darjeeling. In 1944 there were 389 pupils as follows:—

Bengali	..	..	..	..	143
Nepali	..	..	..	..	160
Behari and United Provinces	..	..	..	..	39
Bhutia and Lepcha	..	..	..	..	47
			Total	..	<u>389</u>

Of the above pupils, 18 were Muslims, 68 were Buddhists, 12 were Christians and 2 Jains.

The Scottish Universities' Mission Institution at Kalimpong was opened in 1887 replacing a smaller school at Darjeeling. It provides education for boys from the infant stage up to the Matriculation stage and for young men and women up to the Intermediate Arts stage. Attached is a training school turning out teachers for Primary schools. In 1944, the High School had 750 pupils on the rolls, of whom 45 were boarders; 650 were hillmen. There were 30 students in the college department and 15 in the training department. Almost all the trained teachers employed in the hill area of the District obtained their training here.

The Church of Scotland Mission Girls' High School and Training College is at Kalimpong. The pupils are Nepali, Lepcha and Tibetan with a few plains children and Chinese: in 1944 there were 504 girls on the rolls of the High School and five in the training classes. Nepali is the medium of instruction in the Middle School classes and English in the High School Department. The School has a hostel with accommodation for 65 pupils. The staff of trained women teachers includes two graduates in Science, one a European and one a Nepali.

Darjeeling owes its original development to its suitability as a health resort for Government servants. It is not therefore surprising that schools were needed there for the children of those European Government servants who used it as a sanitarium and who could not afford to send their children to be educated in their native land. Schools were attracted to the District or were opened in it to meet these needs. At first the schools which were started were on a small scale and had a precarious existence. They gradually gained stability. Their aim was to provide for European and Anglo-Indian children that type of education and upbringing to which the parents had been accustomed in their native country. Though the schools were designed and maintained for European and Anglo-Indian children, the type of education they provided has proved attractive to a number of Indian parents who could afford the fees and practically all the so-called European schools now accept children of Indian parents up to 15 to 25 per cent. of the total number of their pupils.

European Education.

The earliest of the European schools in the District was the Loreto Convent for girls founded in 1846 and managed by the Loreto nuns who have their mother house in Rathfarnham, Dublin. The original building was at Snowy View where teaching continued until a more spacious building on the present site could be completed. That building was replaced in 1892 by the main building now in use. A concert hall was later added and in 1925 a class room building, a hospital and a large skating rink were constructed. There is now a separate building for the staff and Higher School Certificate pupils.

Though most of the teaching is given by the Sisters of the Institute, they are aided by secular teachers and matrons most of whom are resident. The courses of study are those laid down by the Code of Education for European Schools and include preparation for the Cambridge Junior School and Higher School Certificate examinations, for the Trinity College and Royal Academy examinations in Music and Theory of Music, the Royal Drawing Society art examinations and for elocution examinations. Religious instruction is given to Catholic pupils in Catholic doctrine and to non-Catholic students in moral philosophy. Lessons are also given to those whose parents so desire, in piano, violin and cello playing, in art, dancing and physical culture and in needlework, domestic science, shorthand and typing. The school has several playing fields, an excellent library and is well equipped with modern apparatus. In normal times, pupils number about 250 of whom 160 are boarders. Numbers increased considerably in war time.

St. Paul's School for boys was opened in Darjeeling in 1864 with 30 pupils on the rolls. Part of the funds used to finance the opening was derived from the sale-proceeds of a St. Paul's School which had been located in a building in Chowringhee, Calcutta, from 1848. For a time this school had flourished but as it was unendowed and failed to meet competition, it had to be closed and the building sold. The St. Paul's School of Calcutta had its origin in earlier schools there, one replacing another as various difficulties arose. Such schools were the Parental Academic Institution founded in 1823 and a High School for Europeans in Calcutta established by Archdeacon Corrie in 1830.

When it opened in Darjeeling in 1864; the school had one building. Numbers gradually increased until 1895 but from that date the prosperity of the school declined until, in 1907, the average number of pupils was a little over 100. Later recovery took place and since 1936 the school has been full. In 1944 there were 257 pupils on the rolls, all of whom were boarders. Boys of all races are admitted on equal terms but in order to preserve the European tone of the school Indian entrants do not exceed 25 per cent. of the total roll strength. In 1944, the School had a teaching staff of 13 masters and 5 mistresses, about half of whom held degrees of English Universities and the remainder degrees of Indian Universities. There is an experienced steward, an English trained hospital

sister and four house matrons. The school prepares boys for the Cambridge Junior and the School Certificate examinations and boys in the top form are prepared for the Intermediate Arts and Science examinations of the Calcutta University. Every attempt is made to give as wide an education as possible by encouraging out of school activities. There is a debating society, a carpenter's shop and excellent arrangements for organised games, the playing grounds and tennis courts being some of the best in Darjeeling.

The school occupies a magnificent site about 500 feet above Darjeeling with an unrivalled view of snow mountains. There are four blocks of buildings enclosing a dignified quadrangle which contains dormitories, class rooms and physics and chemistry laboratories. The Chapel stands apart from the main buildings and below them. It was dedicated in 1935. Excellently designed in the modern style and sited prominently on a ridge, it is one of the features of Darjeeling, visible from almost every part of the town.

St. Michael's School, Darjeeling, is a school for girls under the management of the Sisters of the Order of St. John Baptist. It was handed over to them in 1895, after it had been founded in 1886 as the Darjeeling Girls' School by Bishop Milman of Calcutta. In 1895 it was made a Diocesan School with the Metropolitan as President. In the cyclone of 1899, the site and all the buildings were destroyed. No lives were lost and the Lieutenant Governor placed the Darbar Hall at the disposal of the Sisters for temporary use. In 1900 the school was housed in Rivers Hill and Richmond Hill. A good piece of forest land was granted for a new site and a service of dedication took place in 1901 when the first sod was cut. In September 1904 a new school building and a Chapel dedicated to the Good Shepherd and St. Michael were blessed by the Metropolitan. In 1929 the name of the school was changed from Diocesan Girls' School to St. Michael's School.

The Sisters managing the school are aided by a large staff of resident mistresses. Pupils are prepared for the Cambridge School Certificate and Junior School Certificate examinations and for those of the Royal Drawing Society, London, of the Associated Board of the Royal College and the Royal Academy of Music, London, and of the London Institute of Needlework.

St. Joseph's College, North Point, Darjeeling, is conducted by the Jesuit Fathers under whom the Rector of the College is in charge. It was founded in 1888 when Father Henry Depelchin was placed in charge of the small school of St. Joseph at Sunny Bank. In order to provide for expansion, Government gave an excellent plot of ground on the crest of the spur running north from Birch Hill and in 1891 the school was removed to the new site after a building had been erected on it. The college now possesses fine buildings to which Government had made grants-in-aid, good laboratories for physics and chemistry, a cinema hall and excellent play-grounds. Teaching is carried out by Jesuit Fathers assisted by a few lay masters. There are nine standards in the school

(excluding the infant department) where boys are prepared for the Senior Cambridge examination. The College Department prepares students for the Intermediate Arts and Intermediate Science examinations of the Calcutta University. Boys are admitted between the ages of 7 and 12 in the school department: for admission to the college department students must have passed the Matriculation in the first or second divisions. The majority of pupils are Catholics but boys of other religious denominations are admitted: in 1944 there were 31 Indian boys in the school in addition to boys from Sikkim, Nepal and Tibet. In all there were 390 boys on the rolls of whom 317 were boarders and 73 day boys. In the college department there were 30 day students most of them hillmen. Fees vary but in 1944 for day scholars the tuition fee was Rs. 200 per annum and the inclusive charge for boarders Rs. 950 per annum.

Mount Hermon, an institution of the Methodist Episcopal Church of America, is a co-educational school. Its Board of Governors is made up of missionary representatives of many different missionary societies.

The school was founded in 1895 in order to provide a Christian school in a favourable climate, where missionaries' and other English speaking children might be trained physically, mentally and spiritually under Christian influence, guidance and education. The school buildings and play-ground are situated in the centre of the 100-acre Mount Hermon Estate at North Point, Darjeeling.

The school is on the approved list of the Cambridge Syndicate and it receives maintenance and teachers' salary grants from the Government of Bengal.

Mount Hermon is a secondary school and follows the courses prescribed by the Education Department for European Schools, Bengal, with additional courses in music (including preparation for Trinity College Music examinations), handwork and domestic science. All pupils take part in organised games and physical training.

On 31st March 1944 the enrolment was 248 of which number 132 were boys and the remainder girls. One hundred and ninety-one were classed as Europeans and Anglo-Indians and the remainder were Jews, Parsis and Indians. Two hundred and one were boarders and the rest day scholars.

The main school building, known as Queen's Hill, is one of the finest educational buildings in India. Three additional hostels accommodate the boys.

At present there are 38 members on the staff, American, English, Scotch and Anglo-Indians. The Principal is the Manager of the Mount Hermon Estate and his wife is the Vice-Principal of the School.

During the European War of 1939-45, a need arose for education for the children of British residents in India who normally sent their children to Europe to be educated and who desired for them conditions comparable with those which they expected to find in

Europe. Various schools were started in India to supply the needs of such parents. Two of those which opened in Darjeeling were the New School and Singamari School. The New School was founded in Calcutta in 1940 and first moved to Jalapahar for the summer in 1941: later the main school was transferred to Jalapahar where it continued until December 1944. It provided education from the Kindergarten to the Higher Certificate stages and numbers were limited to 170 European boys and girls. Singamari School was opened in 1941 and was not closed at the termination of the European War. The Principal, Miss S. A. Webb, and a staff of graduates and trained teachers instruct in the subjects of the ordinary secondary school curriculum and prepare students for the Cambridge School Certificate and Junior examinations: also for those of the Royal Drawing Society and of the Associated Board of Music. The School is for girls and smaller boys and in 1944 the number of pupils was 74 of whom 34 were boarders.

The oldest of the schools for Europeans in Kurseong is the Victoria Boys' School. It was founded in 1879 by Sir Ashley Eden for boys and girls and was housed in Constantia, at present the residence of the Subdivisional Officer. The School was moved to Dow Hill in 1880. In 1897 the present Victoria School was opened for boys and the Dow Hill School for girls was separated. The Victoria School is a Government school, established originally for the children of Railway employees, later opened to the sons of Government servants and now also to European or Anglo-Indian boys of parents of any occupation. The capacity of the school is about 200, all of whom are boarders. Classes are taught from standards II to IX and for the Cambridge School Certificate. There are also classes preparing for the Intermediate Arts examination of the Calcutta University. The School is situated on a commanding site near the top of the Dow Hill above Kurseong and has excellent buildings including an assembly hall, gymnasium and class rooms with well equipped laboratories. It has also fine play-grounds. The staff consists of a head master, nine assistant masters, two lady teachers, a physical training and games master, an Indian Language teacher, a steward, a lady housekeeper, 3 matrons and 4 clerks.

The Dow Hill Girls' School was separated from the Victoria School in 1897 and in 1898 opened as a Middle school with 80 children and a staff of a head mistress, 5 junior mistresses and a matron. It can now accommodate about 200 children as boarders. The accommodation includes a dormitory for little boys up to the age of 8½. In 1944 there were also about 10 day scholars. This school is a Government school originally intended to provide education for children of Government servants of the Anglo-Indian and Domiciled European community. The majority of pupils continue to come from these communities but in 1944 there were in the school 14 Indian children of various communities. The school prepares pupils for the Senior and Junior Cambridge Local examinations: all the main subjects are taught. Music, domestic science,

games and art are all part of the curriculum and Bengali is taught as a second language. The school occupies a site near that of the Victoria School and has excellent buildings and playing grounds which include tennis and badminton courts. There is a hospital serving both schools which has a fully qualified staff of three trained nurses.

St. Helen's College, Kurseong, is conducted by the Daughters of the Cross of Liege and was opened in a small rented house in 1890 by Mother Marie then Provincial. Expansion made it necessary to move into larger premises in 1891 and when the earthquake of 1897 had made the latter unsafe a second move followed. The foundation stone of the present building was laid in 1899 and the unfinished building was occupied in 1900. At the present time the school can accommodate 180 boarders and has generally 200 on the rolls. The staff consists of the Sister Superior who is head mistress, twelve Sisters and ten lay mistresses. The course of studies is that laid down in the Code and includes preparation for the Cambridge Local examinations. Particular attention is given to musical education and elocution and pupils are prepared for the usual music examinations. There are commercial classes and the curriculum includes physical culture and games: the school has good grounds for tennis, hockey, net-ball and badminton.

The Goethals Memorial School was founded in memory of the Most Rev. Dr. Paul Count Goethals, s.j., Archbishop of Calcutta, and was formally opened in 1907 by Sir Andrew Fraser, Lieutenant-Governor of Bengal. The school is under the management of the Christian Brothers of Ireland and occupies an estate of over 140 acres two miles from Kurseong. It was founded to impart a sound literary, moral and religious education to Catholic boys of the European and Anglo-Indian communities but Christian boys of other denominations as well as non-Christians are received as boarders. In 1944 there were 225 boarders and 19 day scholars. Studies are those laid down in the Code for European Schools and pupils are prepared for the Cambridge School Certificate and Junior School Certificate examinations.

The most important establishment for European education in Kalimpong is that founded in 1900 by the late the Very Rev. Dr. J. A. Graham, c.i.e., d.d., Guild Missionary of the Church of Scotland. He was, until his death on the 15th of May 1942, the Honorary Superintendent of the St. Andrew's Colonial Homes which had been founded by him. The object for which these Homes were established was "to provide for children wholly or partly of British or other European descent such an education and training based upon Protestant principles, as may fit them for emigration to British Colonies or for suitable work elsewhere". The Homes are situated on an estate of about 611 acres on the hillside above the Kalimpong Bazar at heights ranging from 4,500 to 5,000 feet above sea-level. There is accommodation for 600 children in cottages scattered over the hillside, each cottage holding 24 to 34 children and being in

charge of two ladies from Britain or the Colonies. There are no servants in the cottages and all work is done by the children themselves. This gives them excellent practical training in domestic work which proves of great use in after-life. The Homes have excellent buildings including 18 cottages, a hospital and isolation block, 8 school buildings, 11 staff houses, a Chapel built in memory of Mrs. Graham, wife of the founder, administration buildings (stores, bakery, farm, dairy, hostel, clothing depot, workshops and office), a swimming bath, a workers' club house, Scouts' and Girl Guides' dens and a holiday home for old pupils. The Homes have a Higher Grade school with a Secondary section. On the Higher Grade side, pupils are taken up to the Board of Apprenticeship Training examination and on the Secondary side are prepared for the Cambridge examinations and the Calcutta University Matriculation. There is a teaching staff of 26 teachers most of whom come from Britain and half of whom are University graduates. Three thousand one hundred and ten children have been received into the Homes and old pupils are to be found in all parts of the world, many occupying responsible posts and acquitting themselves with credit. The Homes are managed by a Superintendent controlled by a Board of Management meeting three times a year in Darjeeling, Kalimpong and Calcutta.

St. Joseph's Convent, Kalimpong, was founded in 1922 as a sanatorium for Sisters teaching in plains schools and in 1926 was opened as a boarding school for Anglo-Indian and European girls by the Sisters of the Congregation of Saint Joseph de Cluny. In 1944, there were on the rolls 140 boarders and 50 day scholars including 25 hill children. Boys up to the age of 8 are admitted. Children are prepared for the Cambridge Senior Certificate examinations and the Trinity College Music examinations. The Catholic religion is taught but children of other denominations are admitted. Particular attention is given to health and physical development which are supervised by a doctor and a games mistress. The school has two large playing fields.

In this District religious association and worship have been closely linked with cultural and educational activity: Christian missionary effort here has made great use of education and it is probably true to say that cultural progress has depended more on the work of religious men than on cultural associations of a non-religious type.

Religion and Culture.

* Muslims are few but, as usual, Muslim culture centres round their mosques near which in Darjeeling there are a *madrakah*, a *maktab* and a *musafirkhana* open to non-Muslims as well as Muslims. The *Anjuman-i-Islamia* directs these institutions and leads Muslim culture generally. Monasteries are centres of Buddhist culture even though the standard of education that is imparted in them is, judged by secular standards, low. In the Kalimpong Subdivision, Buddhist monasteries are more numerous and it is here in the District that Buddhist culture has survived most strongly. The spread of

Christian culture has been vigorous and well recorded. The first attempt in the District to introduce Christianity was made by the Rev. W. Start, a Baptist, and he brought out to follow him a band of Moravian Missionaries from Germany who had their headquarters at Takvar and worked among Lepchas for many years without, however, much result. Efforts of two German missionaries to preach to Meches and Rajbanshis in the Terai also failed. Missionary enterprise on a larger scale began in 1870 when the Church of Scotland started work. Mr. William MacFarlane was transferred from Gaya to the District and gave education a foremost part in his programme of mission work. He laid the foundation of Primary Education in the District and was a successful missionary: before his death in 1887 over 600 persons had been converted to the Christian faith. The Christian community connected with the Scots Mission in the District is now claimed to be 5,786. Missionaries are stationed at Darjeeling, Kurseong and Kalimpong and there are village churches in charge of pastors and catechists in most of the chief towns and villages of the District. In the early days converts were mainly Lepchas but at the present time the Christian community includes people of all the various races in the District. The Bible has been translated into Nepali which is the language most generally used. The missionaries of the Scotch Church have always interested themselves in every activity which concerns the welfare and uplift of people of the District.

The early missionary effort of the Roman Catholic Church was intimately connected with the establishment of European schools. Catholic communities grew round the Loreto Convent and St. Joseph's School and soon had their own churches, that of St. Francis of Assisi built in 1885 near the Convent and an Indian Chapel built in 1898 next to St. Joseph's College. As the town community increased the Church of the Immaculate Conception was built next to the Convent in 1893 and the wooden church it replaced moved to Jalapahar. Lebong later (1908) had a church dedicated to St. Michael. The mission reinforced its appeal by establishing two Indian High Schools in the town—St. Robert's founded in 1934 and St. Teresa's situated in the grounds of the Convent. Similarly St. Mary's College in Kurseong, a house of theological studies, became a centre of missionary effort in the neighbourhood. In the field next to the college an orphanage and a dispensary were started and in 1891 St. John's Church was built for the Nepalese Catholics of St. Mary's Hill. In 1904, St. Paul's Church was built for the domiciled community of the town. The mission runs a co-operative bank, a technical school and in the Subdivision many primary schools. In the Siliguri Subdivision, most of the Catholics are immigrants from Chota Nagpur working on tea gardens. Before the 1918 war they were numerous enough to be visited four times a year by a Father from St. Mary's. As their numbers increased, a mission was opened in Gaya-ganga in 1933 which now has a convent, a big Church (1937), a middle school and a dispensary (1938). The Subdivisions of Darjeeling, Kurseong and Siliguri are within the archdiocese of Calcutta

and Kalimpong belongs to the Prefecture Apostolic of Sikkim. Siliguri town lies within the diocese of Dinajpur being on the south bank of the Mahanadi.

In Kalimpong the first attempt at missionary effort by Catholics was made in 1883 when it was hoped that they could advance into Tibet. A station was opened in Pedong where Tibetan books were printed. It was not found possible to enter Tibet so the mission at Pedong devoted itself to converting Nepalis. French Fathers translated the Gospels, the Acts and various other religious books into Nepali. In 1935 the field was handed over to the Canon Regulars of St. Augustin, who now have 6 stations with resident priests, viz., Kalimpong, Pedong, Mariabasti, Gitbeong, Algarah and Gorubathan. There are Catholic schools in Kalimpong mentioned above and in addition a middle school at Pedong and many primary schools in the Subdivision. In July 1943 it was estimated that there were at least 6,172 Catholics in the District and 21 churches or chapels where Mass is said every day.

There is an Indian Christian Association which claims that there are about 12,000 Christians of local origin in the District, most of whom are of Nepali races. The community has few who have received education beyond the primary standard and Indian Christians of the District therefore hold practically none of the higher administrative posts. They have given loyal service in both the world wars.

Hindu culture has centred round Nepali, Hindi and Bengali places of worship and associations. The *Nepali Sahitya Sammelan* founded in 1924 has done much to spread the influence of Nepali literature and culture and has with this object published books. The *Manobinod* Library established in 1924 is managed by hill people for their own benefit. The *Himachal Hindi Bhawan*, Darjeeling, was founded in 1931 with the object of popularising the Hindi language and literature locally. It is controlled by a body of 3 trustees of whom Rai L. N. Sukhani Bahadur, M.B.E., is at present a member. It runs a public library of 2,250 volumes and a reading room both of which are open to all and it organises literary discourses in Hindi and maintains educational institutions including a co-educational Hindi Middle English school and a Sanskrit *tól*. The *Nripendra Narayan Hall* is a centre of Hindu cultural life mainly Bengali and contains a public library named after the wife of a prominent Bengali. The institution is maintained as a common meeting place of Hindus for their socio-religious activities.

There are 15 public libraries in the District, most of which are located in the chief towns. All are fairly well equipped and provide satisfactorily for the needs of the reading public, some offering additional recreation to subscribing members. The total number of members of these libraries in 1943 was 1,909.

Libraries.

CHAPTER XVI.

GAZETTEER AND INDEX OF PLACE NAMES.

[NOTE.—The index below contains the names only of places not all of which occur in the text of this gazetteer. After each name will be found letters as below enclosed in brackets which indicate the country or (for places in the Darjeeling District itself) the police-station in which the place lies :—

Tl = Tibet.	Ja = Jalpaiguri District.	Jo = Jorebungalow.	Sil = Siliguri.
Sik = Sikkim.	Bengal.	Su = Sukhiapokri.	Kh = Kharibari.
Ne = Nepal.	Bihar.	Ra = Ranglirangliot.	Ph = Phansidewa.
Bh = Bhutan.	Da = Darjeeling.	Ku = Kurseong.	Ka = Kalimpong.
Pur = Purnea District.	Pu = Pul Bazar.	Mi = Mirik.	Go = Gorubathan.

The figures below each name are the numbers of the pages of this volume on which the name occurs. Below the numbers are given (when known) an account of the derivation of the place name and for tea estates the acreage leased and area actually under tea.]

A

- Adalpur (Sil)**
183, 187.
- Adhikari (Kh)**
169, 170, 188, 236.
- Algarah (Ka)**
55, 93, 95, 171, 172, 182, 183, 187, 201, 233, 279.
Bazar D. I. F.
Bungalow K. M.
- Aluabari (Pur)**
191.
Railway Station.
- Alubari (Da)**
113.
T. E. leased 263 under tea 120 acres.
- Ambari (Ph)**
186, 188.
- Ambiokh (Go)**
(=Tib. the place below the demon's shrine.)
T. E. leased 901 under tea 303 acres.
- Ambutia (Ku)**
113, 202.
(=Nep. the place of the mango trees.)
T. E. leased 2614 under tea 736 acres.
- Aritar (Sik)**
202.
- Arya (Da)**
T. E. leased 597 under tea 239 acres.
- Ashapur (Kh)**
T. E. leased 430 under tea 253 acres.
- Atal (Sil)**
188, 189.
T. E. leased 1121 under tea 618 acres.
- Avongrove (Su)**
T. E. leased 1015 under tea 475 acres.
- Azambad (Kh)**
T. E. leased 435 under tea 200 acres.

B

- Babookhola (Ku)**
185.
River.
Bridge.
- Badamtam (Da)**
17, 55, 113, 123, 189, 201.
(=Lep. the bank of the Padam bamboo.)
T. E. leased 3059 under tea 781 acres.
Bazar D. I. F.
Bungalow D. I. F.
- Baffupani (Ku)**
9, 95.
River.
Bridge.
- Baghdogra (Sil)**
17, 95, 125, 150, 163, 165, 166, 172, 183, 186, 187, 188, 195, 199, 202, 203.
(=Ben. the place of the roaring tigers.)
T. E. leased 483 acres.
Rural Health Unit.
Railway Station.
Forest Range.
Landing Strip.
- Bagora (Ku)**
186, 190, 202.
Bungalow F.
- Bagrakot (Ja)**
17, 153, 162, 183, 184, 187, 191, 202.
- Balasan (Jo)**
6, 13, 17, 22, 30, 38, 123, 126, 184, 185, 189, 198, 209, 211, 254, 260.
(=Ben. Nep. the river of golden sand.)
T. E. leased 1149 under tea 427 acres.
River.
- Baluabash (Pu)**
185.
Bridge.
- Bamanpokri (Ku)**
135.
Forest Block.
- Bannockburn (Da)**
T. E. leased 733 under tea 337 acres.

- Bara Mungwa (Ra)**
210.
K. M. Block.
- Barbatea (Da)**
210.
K. M. Block.
- Barnesbeg (Da)**
189.
T. E. leased 762 under tea 278 acres.
- Batasi (Su) (Kh)**
186, 190, 202.
Bungalow F. (Su)
T. E. (Kh).
- Batasia (Jo)**
218.
(=Nep. the windy site.)
- Bejoynagar (Kh)**
T. E. leased 916 under tea 328 acres.
- Belgachi (Sil)**
T. E. leased 2246 under tea 413 acres.
- Bengdubi (Sil)**
202.
T. E.
Bungalow F.
- Benoyagar (Ph) (Sil)**
T. E. leased 520 acres.
- Bhalukop (Ka)**
79, 221.
K. M. Block.
- Bhangjang (Jo)**
218.
- Bhogibhita (Kh)**
95.
Dispensary.
- Bhutia Basti (Da)**
172, 215, 217, 218, 256.
- Bijanbari (Pu)**
55, 93, 95, 160, 169, 171, 172, 197, 208,
226.
Rural Health Unit.
Ropeway Station.
Bazar.
- Birch Hill (Da)**
28, 32, 252, 253, 258.
- Birik (Ka)**
127, 201.
Forest Block.
Bungalow C & W.
- Bloomfield (Da)**
189.
T. E. leased 1001 under tea 574 acres.
- Bong (Ka)**
79, 189, 218, 221.
K. M. Block.
- Bonklong (Mi)**
202.
Bungalow F.
- Budhbari (Ka)**
201.
- Burikhola (Go)**
203.
Bungalow F.
- C**
- Cambrian (Sil)**
189.
- Castleton (Ku)**
T. E. leased 631 under tea 377 acres.
- Cedars (Jo)**
T. E. leased 550 under tea 375 acres.
- Chamong (Su)**
T. E. leased 1601 under tea 391 acres.
- Champa (Ra)**
184, 185, 188.
Bridge.
- Champta (Ku)**
113.
T. E.
River.
- Chandmani (Sil)**
T. E. leased 952 under tea 400 acres.
- Chanta (Ku)**
188.
- Charles Field (Da)**
T. E. leased 2017 under tea 630 acres.
- Chattakpur (Ku)**
124.
Forest Block.
- Chegra (Ra)**
210.
K. M. Block.
- Chel (Go)**
6, 9, 13, 125, 129, 136.
Forest Range.
River.
- Chhota Mungwa (Ra)**
210.
K. M. Block.
- Chikra (Ra)**
210.
(=Chegra q. v.)
- Chomolarhi (Ti)**
255.
Mountain.
- Chumbi (Ti)**
40, 179.
- Chungtong (Pu)**
197.
(=Lep. the arrow headed place, i.e., a
site at the junction of two rivers.)
T. E. leased 2825 under tea 1065 acres.
Ropeway Station.
- Chumiomo (Ti) (Sik)**
254.
Mountain.
- Chunabati (Ku) (Ka)**
8, 202, 203.
(=Nep. the lime kiln.)
Bungalow F. (Ka)
Railway Station (Ku).
- Churanti (Ka)**
153.
River.
- Coffeebari (Ku)**
189.
- Constantia (Ku)**
183, 187, 260, 261.

D

- Dagapur (Sil)**
T. E. leased 733 under tea 404 acres.
- Dalapchan (Ka)**
14, 79, 137, 201, 202, 221.
K. M. Block.
Bungalow F.
Bungalow K. M.
- Dalgaon Tar (Go)**
190.
- Dalim (Go)**
221.
K. M. Block.
- Daling (Go)**
8, 9, 10, 153, 219.
(=Tib. the place like an arrow.)
- Dalingkot (Go)**
153, 219.
(=Daling q. v.)
- Damdin (Sil) (Ja)**
203.
T. E.
- Damsong (Ka)**
Mountain N. of Kalimpong.
- Dangia (Pu)**
201, 213.
K. M. Block.
Bungalow K. M.
- Daulatpur (Sil)**
T. E. leased 387 under tea 152 acres.
- Dawaipani (Ra)**
210.
K. M. Block.
- Debiganj (Kh)**
236.
- Debrapani (Su)**
202.
Bungalow F.
- Deolo (Ka)**
261, 262.
Mountain above Kalimpong.
- Deomoni (Sil) (Ph)**
T. E. leased 854 under tea 450 acres.
- Dhobijhora (Ku)**
17.
- Dhobikhola (Ku)**
247.
- Dhojea (Su)**
198, 210, 211.
(=Nep. the ridge of prayer flags.)
T. E.
K. M. Block.
- Dhutaria (Jo)**
113.
T. E. leased 4676 under tea 1303 acres.
- Dichhu (Go)**
(=Tib. water.)
(=Jaldhaka q. v.)
River.
19A

- Dilaram (Ku)**
190.
T. E. leased 1125 under tea 469 acres.
- Dilbir (Su)**
211.
- Dinajpur (Bengal)**
43, 179, 279.
- Dow Hill (Ku)**
2, 93, 97, 125, 179, 188, 202, 261, 275.
T. E. leased 50 under tea 50 acres.
Bungalow F.
- Dudhiajhora (Mi)**
184, 188, 189.
- Dumri (Sil)**
188.
- Dumsong (Ka)**
T. E. leased 24 under tea 23 acres.
- Dumuria (Kh)**
186.
- Dungra (Ka)**
79, 189, 221.
K. M. Block.
- Durbindara (Ka)**
261, 262.
- Durgapur (Sil)**
(=Nischintapur q. v.)
T. E.

E

- Echhay (Ka)**
79, 221.
K. M. Block.
- Edenvale (Ku)**
T. E. leased 96 under tea 83 acres.
- Everest (Ti) (Ne)**
255.
Mountain.

F

- Fagu (Go)**
17, 190.
T. E. leased 1773 under tea 950 acres.
- Fagutar (Go)**
T. E. leased 1150 under tea 383 acres.
- Fulbari (Kh)**
T. E. leased 909 under tea 323 acres.
- Fulbari Pattan (Sil)**
T. E. leased 618 under tea 208 acres.

G

- Galgalia (Pur)**
165, 166, 169, 170, 188, 191.
Railway Station.
- Ganeshkandi (Sil)**
(=Fulbari Pattan q. v.)
- Gangaram (Ph)**
T. E. leased 2614 under tea 1,099 acres.

- Gangtok (Sik)**
16, 17, 20, 159, 167, 168, 181, 199, 201.
- Garidhura (Ku)**
188, 189.
- Gayabari (Ku)**
8, 172, 261.
T. E. leased 143 under tea 143 acres.
Railway Station.
- Gayaganga (Ph)**
95, 199, 278.
T. E. leased 1494 under tea 800 acres.
- Ghoompahar (Jo)**
124, 218. (=Ghum q. v.)
- Ghughujhora (Ph)**
186, 188.
- Ghum (Jo)**
2, 6, 8, 91, 93, 96, 110, 111, 145, 146,
147, 155, 163, 165, 166, 169, 172,
179, 183, 186, 187, 190, 195, 198, 199,
201, 202, 217, 218, 248, 251, 252, 254,
255, 256, 260, 267, 268.
Railway Station.
- Ghum-Simana (Jo)**
125, 128.
Forest Range.
- Ghumti (Ku)**
110, 189.
(=Nep. turn in road.)
T. E. (=Mahanadi T. E. q. v.)
- Gidarpahar (Ku)**
261.
(=Nep. the vulture's hill.)
T. E.
- Gielle (Ra)**
159, 193, 211.
T. E. leased 1024 under tea 533 acres.
- Giellekhola (Ka)**
159, 160, 163, 165, 166, 168, 182, 187,
190, 192, 195, 196, 199, 202, 261.
Railway Station.
- Ging (Da)**
113, 172.
(=Tib. the stretched out slope.)
T. E.
Bazar.
- Gipmochi (Sik) (Ti) (Bh)**
254.
Mountain.
- Gish (Go)**
6, 203.
Bungalow F.
River.
- Gitang (Ku)**
T. E. leased 2669 under tea 725 acres.
- Gitbeong (Ka)**
79, 171, 172, 221, 279.
K. M. Block.
Bazar.
- Gitdubling (Ka)**
79, 92, 93, 201, 221.
K. M. Block.
Bungalow K. M.
- Glendernol Lodge (Ra)**
T. E. leased 32 under tea 16 acres.
- Glenburn (Ra)**
17, 189.
T. E. leased 1749 under tea 662 acres.
- Gok (Pu)**
185, 189.
(=Lep. narrow, difficult of access.)
Bridge.
- Gopaldhara (Su)**
198.
T. E. leased 1015 under tea 322 acres.
- Gorubathan (Go)**
47, 52, 53, 95, 114, 115, 184, 202, 221,
236, 279.
(=Nep. grazing station.)
Police Station.
K. M. Block.
- Great Rangit (Pu) (Da) (Ra)**
(See Rangit.)
River.
- Gulma (Sil)**
33.
T. E. leased 2807 under tea 989 acres.
River.
- Gyabari (Mi)**
17, 198.
T. E. leased 3814 under tea 614 acres.
- H**
- Hanskhawa (Ph)**
42, 263.
T. E. leased 830 under tea 495 acres.
- Happy Valley (Da)**
13, 22.
T. E. leased 298 under tea 243 acres.
- Hathighisa**
228.
- Hatta (Pu)**
213.
K. M. Block.
- Hemchamta (Sil)**
T. E. leased 1033 under tea 485 acres.
- Hindu Tea Co. (Ph)**
T. E. leased 392 acres.
- Hopetown (Jo)**
113, 213.
T. E. leased 1953 under tea 856 acres.
- Hum (Ra)**
146, 184, 187, 210, 211.
- Humlingding (Ra)**
210, 211.
- Hum Takdah (Ra)**
210.
K. M. Block.
- J**
- Jalapahar (Da)**
53, 92, 131, 145, 146, 198, 199, 248, 252,
254, 257, 275, 278.
(=Nep. the burnt hill.)
Cantonment.
- Jalapia (Ti) (Sik)**
159, 167, 182, 254, 261.
Pass.
- Jaldhaka (Go)**
1, 3, 6, 8, 125, 166, 186.
(=Nep. the hidden water because the
river flows in places below the
ground.)
Forest Range.
River.

- Jalpaiguri (Ja)**
1, 6, 15, 32, 42, 44, 45, 53, 67, 68,
115, 127, 132, 133, 146, 162, 180, 225,
229, 230, 237, 241, 260, 263, 270.
- Jalpaiguri Duars Tea Co. (Kh)**
(=Thanjora T. E. q. v.)
T. E. leased 1077 acres.
- Jamadar Bhiti (Ku)**
210, 211.
- Janu (Ne)**
254.
Mountain.
- Jhabra (Kh)**

T. E.
- Jhanjhana (Ku)**
T. E.
- Jhepi (Pu)**
185, 201, 213.
K. M. Block.
Bungalow K. M.
Bridge.
- Jholang (Go)**
202.
- Jinglam (Ra)**
T. E. leased 2495 under tea 1001 acres.
- Jorpokri (Su)**
201, 202, 260.
Bungalow D. I. F.
- Jore Bungalow (Jo)**
46, 51, 53, 114, 115, 145, 172, 184, 187,
188, 201, 217, 218, 226, 236.
(=Nep. the pair of bungalows.)
Police Station.
- Jungpara (Ku)**
T. E. leased 255 under tea 201 acres.
- K**
- Kabru (Sik) (Ne)**
254, 255, 261.
Mountain.
- Kadma (Sil)**
183, 187.
- Kaffergaon (Ka)**
221.
K. M. Block.
- Kagay (Ka)**
79, 201, 221.
K. M. Block.
Bungalow K. M.
- Kagjhora (Da)**
11.
(=Nep. the stream of crows.)
- Kahail (Da) (Pu)**
17, 38.
T. E. leased 875 under tea 670 acres.
River.
- Kainjalia (Pu)**
213.
K. M. Block.
- Kaley Valley (Jo)**

T. E. leased 1255 under tea 658 acres.
- Kalijhora (Ka)**
8, 11, 93, 95, 201.
(=Nep. the black stream.)
Bungalow C. & W.
- Kalimpong (Ka)**
3, 4, 5, 9, 10, 13, 14, 15, 16, 17, 18, 19,
20, 22, 24, 37, 40, 42, 43, 44, 45, 46,
47, 49, 51, 52, 53, 54, 55, 62, 64, 66,
69, 70, 71, 72, 73, 74, 75, 76,
77, 78, 79, 80, 81, 82, 83, 87, 90, 93,
94, 95, 97, 98, 100, 101, 107, 108,
110, 114, 115, 123, 124, 125, 126, 127,
129, 130, 131, 132, 133, 135, 136, 137,
138, 140, 146, 147, 151, 152, 154, 159,
160, 161, 162, 163, 165, 166, 167, 168,
169, 170, 171, 172, 174, 175, 176, 178,
182, 184, 186, 187, 189, 190, 192, 193,
196, 197, 199, 200, 201, 202, 205, 206,
209, 213, 218, 219, 221, 222, 223, 224,
226, 233, 235, 236, 237, 240, 241, 243,
245, 246, 261, 262, 263, 265, 267, 268,
269, 270, 271, 276, 277, 278, 279.
[=Tib. the stockade (pong) of the
King's minister (kalon).]
K. M. Block.
Police Station.
Hospital.
Bungalow C. & W.
- Kamala (Ph)**
T. E. leased 1890 under tea 700 acres.
- Kamalpur (Sil)**
T. E. leased 418 under tea 158 acres.
- Kambal (Ra)**
T. E.
- Kamesi (Ka)**
190, 197, 218.
Ropeway Station.
- Kanchenjhou (Sik)**
254.
Mountain.
- Kankibong (Pu)**
79, 93, 201, 213, 221.
K. M. Block.
- Karagola (Bihar)**
179, 180, 183.
- Kashyong (Ka)**
79, 221.
K. M. Block.
- Katapahar (Da)**
53, 145, 252.
Cantonment.
- Katchary Jhora (Da)**
13.
- Kayel (Da)**
T. E. (=Kahail q. v.)
- Khairbani (Mi)**
202.
Bungalow F.
- Kham (Ti)**
167.
- Khaprail (Sil)**
113, 188.
- Kharibari (Kh) (Ph)**
46, 52, 66, 68, 69, 70, 81, 95, 114, 115,
172, 186, 188, 189, 201, 233, 236, 267.
T. E. leased 1100 under tea 335 acres.
Police Station.
- Khempung (Ka)**
Mountain.
- Khumani (Go)**
1, 203.
Bungalow F.
- Kinchinjunga (Sik) (Ne)**
254, 255, 260.
Mountain.
- Kishanganj (Pur)**
132, 160, 162, 163, 165, 180, 190, 191,
193, 195.
Railway Station.

Kizom (Pu)

95.

Dispensary.

Kolaigomti (Ka)

184.

River.

Kolhong (Pu) (Ra)

93, 189, 208, 209, 210, 213, 221, 224, 225.

K. M. Block.

Konkhola (Jo)

93, 250.

Kristopur (Ph)

(= Deomoni q. v.)

T. E. leased 843 acres.

Kumai (Go)

95, 202, 221, 236.

T. E. leased 2044 under tea 740 acres.

K. M. Block.

Bungalow K. M.

Kurmi (Pu)

55, 208, 225.

Kurseong (Ku)

2, 6, 10, 13, 17, 38, 42, 43, 45, 46, 50,
 51, 52, 53, 54, 62, 64, 66, 69, 70, 71,
 73, 75, 77, 79, 80, 81, 82, 83, 85, 92,
 93, 94, 96, 97, 100, 110, 113, 114,
 115, 124, 125, 126, 127, 129, 130, 131,
 132, 135, 140, 146, 150, 151, 152, 156,
 161, 162, 163, 165, 166, 171, 172, 176,
 178, 179, 180, 181, 183, 186, 187, 188,
 189, 190, 192, 195, 199, 200, 201, 202,
 205, 206, 209, 213, 214, 215, 217, 235,
 236, 237, 240, 243, 245, 247, 259, 260,
 261, 262, 266, 267, 268, 269, 270, 275,
 276, 278.

Police Station.

Hospital.

Bungalow C. & W.

Railway Station.

Kyal (Da) (Pu)

123.

(= Kahail q. v.)

River.

T. E.

Kyel (Da) (Pu)

17.

(= Kahail q. v.)

River.

T. E.

L**Labha (Ka)**

3, 55, 132, 172, 186, 190, 221.

(= Tib. the wind swept site.)

Ladam (Ka)

79, 221.

K. M. Block.

Lalkuti (Ra)

186, 190.

Lama Anden (Sik)

254.

Mountain.

Lamagaon (Pu)

213.

K. M. Block.

Laringaon (Pu)

213.

K. M. Block.

Latpanchor (Ku)

140, 202,

Bungalow F.

Lebong (Da)

2, 29, 38, 53, 92, 113, 131, 139, 146, 151,
 172, 184, 187, 188, 198, 199, 237, 248,
 252, 255, 256, 257, 278.

(= Alibong Lep. the tongue like spur.)

T. E. leased 2017 under tea 630 acres.

Cantonment.

Lepchajagat (Jo)

6, 93, 188, 189, 202.

(= Lep. the toll bar on imports from Nepal.)

Bungalow F.

Lepchatar (Mi)

188.

Lhasa (Ti)

145, 182.

Lingding (Ra)

201, 210, 211.

K. M. Block.

Bungalow K. M.

Lingia (Jo)

T. E. leased 550 under tea 417 acres.

Lingsay (Ka)

79, 221.

K. M. Block.

Lingsekha (Ka)

79, 221.

K. M. Block.

Lish (Ka)

6, 13, 129, 136, 153, 183, 184.

River.

Little Rangit (Pu) (Da) (Jo)

(See Rangit.)

River.

Liza Hill (Pu)

198.

T. E. leased 492 under tea 300 acres.

Lodhama (Pu)

95, 169, 172, 201, 213, 236.

K. M. Block.

Bungalow D. B.

Bazar D. I. F.

Rural Health Unit.

Lohagarh (Sil)

202.

T. E. leased 985 under tea 359 acres.

Lohargarh (Sil)

9, 127, 260.

(= Lohagarh q. v.)

Lolay (Ka)

79, 202, 221.

K. M. Block.

Bungalow K. M.

Lolaygaon (Ka)

202, 221.

K. M. Block.

Bungalow F.

Longview (Ku)

189.

T. E. leased 3502 under tea 723 acres.

Lopchu (Ra)

17, 126, 172, 199, 201, 209, 210.

T. E. leased 639 under tea 250 acres.

K. M. Block.

Bungalow K. M.

Bazar.

Lower Mungwa (Ra)

210.

M**Mahaldi (Ku)**

(= Lep. the bent going river = Ben. Mahanadi).

River.

- Mahaldiram (Ku)**
2, 6, 17, 38, 124, 202, 215, 250.
(=Lep. the source of the Mahaldi.)
Forest Block.
T. E. leased 331 under tea 162 acres.
- Mahanadi (Ku) (Sil)**
1, 6, 9, 11, 17, 38, 123, 126, 153, 172,
179, 185, 189, 202, 254, 260, 263, 279.
(= Lep. Mahaldi.)
River.
Railway Station.
T. E. (Goomti or Ghumti) leased 826
under tea 319 acres.
- Maharani (Ku)**
T. E.
- Mainom (Sik)**
254.
Mountain.
- Majua (Ku) (Pu)**
213.
K. M. Block.
T. E.
- Makaibari (Ku)**
113.
T. E. leased 1510 under tea 430 acres.
- Mal (Go)**
135, 221.
Forest Block.
K. M. Block.
- Malda (Bengal)**
179.
- Mana (Ku)**
190, 202.
Bungalow F.
- Maneydara (Ra)**
210, 211.
K. M. Block.
- Maney Bazar (Ra)**
210, 211.
K. M. Block.
- Mangarjan (Su)**
T. E.
- Mangpu (Ku) (Ra)**
9, 17, 35, 93, 95, 140, 141, 197, 202, 209.
Cinchona Plantation.
- Mangzing (Go)**
201.
Bungalow K. M.
- Manibhanjan (Su)**
2, 17, 93, 169, 172, 186, 190.
(=Nep. dip between hills near the
mani.)
- Manjha (Sil)**
188, 189.
T. E. leased 725 under tea 411 acres.
- Manjitar (Da)**
184, 185, 188.
Bridge.
- Marapore (Sil)**
T. E. leased 400 under tea 150 acres.
- Margaret's Hope (Jo)**
189.
T. E. leased 1963 under tea 816 acres.
- Maria (Ka)**
221.
K. M. Block.
- Mariabasti (Ka)**
279.
(= Maria q. v.).
- Marionbari (Ku)**
T. E. leased 1447 under tea 535 acres.
- Marybong (Jo)**
17.
T. E. leased 875 under tea 670 acres.
- Matelli (Ja)**
170, 202, 203.
- Matigara (Sil)**
95, 132, 153, 163, 165, 170, 172, 179,
183, 186, 187, 188, 189, 191, 195, 201,
233.
(= Nep. the mud house.)
Bazar D. I. F.
T. E. leased 555 under tea 274 acres.
- Mechi (Kh) (Sil)**
1, 2, 6, 8, 13, 17, 37, 71, 123, 127, 188,
254, 260.
(= Ben. the river of the Meches.)
River.
- Melli (Ka)**
3, 189, 201.
Bungalow Central P. W. D.
- Merryview (Sil)**
T. E. leased 1185 under tea 500 acres.
- Mim (Jo)**
17.
T. E. leased 994 under tea 445 acres.
- Minchu (Da)**
(= Tib. the mineral springs.)
T. E. leased 733 under tea 337 acres.
- Mineral Springs (Da)**
T. E. leased 2017 under tea 630 acres.
- Minglas (Ja)**
17.
- Mirik (Mi)**
46, 52, 93, 95, 107, 110, 114, 115, 169,
172, 199, 200, 209, 210, 211, 236, 267.
(=Lep. the burnt hill.)
Police Station.
K. M. Block.
Bazar.
- Mission Hill (Go)**
T. E. leased 900 under tea 448 acres.
- Mohargang (Sil)**
T. E. leased 2807 under tea 989 acres.
- Mongpong (Ka)**
202.
Bungalow F.
- Monteviot (Ku)**
189.
T. E. leased 192 under tea 185 acres.
- Moondakuti (Jo)**
198.
T. E. leased 2494 under tea 1285 acres.
- Moonee (Ph)**
T. E.
- Morung (Ne)**
236, 260.
- Mulootar (Ku)**
T. E. leased 1150 under tea 383 acres.
- Mungwa (Ra)**
209, 210, 211.

Munsong (Ka)
17, 95, 140, 202.
Cinchona plantation.

Murmah (Jo)
198.

Murmidong (Pu)
213.
K. M. Block.

N

Nagree (Su)
179.
(= Nagri).

Nagri (Su)
17, 188, 211, 260
(= Lep. nak-straight, gri-high stockade
T. E. leased 1413 under tea 758 acres.

Nagri Farm (Su)
T. E. leased 2057 under tea 647 acres.

Nagri Spur (Su)
189, 199, 200.
(See Nagri).

Namia (Pu)
213.
K. M. Block.

Namring (Ra)
189, 198.
T. E. leased 2495 under tea 1001 acres.

Namsu (Mi)
185, 189, 201.
Bungalow D. B.

Narbung (Ku)
T. E. leased 2669 under tea 725 acres.

Narsingh (Sik)
254, 261.
(= Tib. the uplifted nose.)
Mountain.

Nathu La (Ti) (Sik)
159, 167, 254.
Pass.

Naxalbari (Kh) (Sil)
94, 132, 150, 153, 162, 163, 165, 169,
170, 172, 183, 186, 187, 188, 191,
195, 199, 201, 233, 236, 267.
T. E. leased 387 under tea 152 acres.
Bungalow D. B.
Bazar D. I. F.

Nazeok (Ka)
186, 197, 202.
Bungalow F.

Neora (Go)
125, 186.
Forest Range.

New Chamti (Sil)
T. E. leased 206 acres.
(See Belgachi).

New Terai (Sil)
T. E. (with Panighata q. v.).

Nichu (Go)
1.
River.

Nim (Go)
221.
K. M. Block.

Nimbong (Ka)
9, 79, 95, 97, 140, 201, 221.
K. M. Block.
Bungalow K. M.

Nischintapur (Sil)
T. E. leased 784 under tea 381 acres.

Noam (Go)
190.

Nobgaon (Ka)
221.
K. M. Block.

O

Observatory Hill (Da)
252, 254, 256.

Okati (Mi)
T. E. leased 1086 under tea 505 acres.

Oaks (Jo)
T. E. leased 585 under tea 320 acres.

Ord (Sil)
T. E. leased 1499 under tea 571 acres
(with Gangaram q. v.).

P

Pabringtar (Ka)
221.
K. M. Block.

Pacheem (Jo)
(Now Sonada q. v.)

Padamlu (Ka)
Mountain.

Pagang (Ka)
79, 221.
K. M. Block.

Paglajhora (Ku)
193.
(= Nep. the mad torrent.)

Pagriangbong (Su)
210, 211.

Pahargumia (Ph) (Sil) (Kh)
T. E. leased 2116 under tea 956 acres.

Paiyung (Ka)
79, 221.
K. M. Block.

Pala (Ka)
79, 221.
K. M. Block.

Palmajua (Pu)
202.
Bungalow F.

Panchanai (Sil)
191.
Railway Station.
River.

Panchkeela (Ku)
213.

- Pandam (Da)**
113.
T. E. leased 1286 under tea 286 acres.
- Pandim (Sik)**
254, 261.
(= Lep. the King's minister.)
Mountain.
- Panighata (Sil)(Mi)**
172, 183, 187, 188, 189, 199, 202, 236, 260.
(=Nep. the water mill.)
T. E. leased 2102 acres.
Bazar.
- Pankhabari (Ku)**
8, 9, 10, 38, 93, 113, 125, 153, 179, 181, 183, 184, 187, 199, 201, 211, 215, 248, 261.
T. E.
Forest Range.
Bungalow K. M.
- Pankhasari (Go)**
125, 202, 221.
(= Tib. the pasture land of kasha grass.)
K. M. Block.
Forest Range.
Bungalow F. (derelict).
- Parmagiri (Jo)**
210.
(= Parmaguri q. v.)
- Parmaguri (Jo)**
210.
K. M. Block.
- Pashiting (Go)**
202, 221.
K. M. Block.
Bungalow F.
- Pashok (Ra)**
2, 9, 17, 146, 184, 187, 188, 189, 198, 201, 261.
(= Lep. the jungle.)
T. E. leased 2441 under tea 802 acres.
Bungalow C. & W.
- Passimbong (Jo)**
189.
T. E. leased 1724 under tea 562 acres.
- Patanbari (Sil)**
188.
- Patengodak (Go)**
202, 221.
K. M. Block.
Bungalow K. M.
- Patheorghatta**
228.
- Patkabari (Mi)**
110.
- Pattiabash (Da)**
172.
Bazar.
- Pahunri (Sik)**
254.
Mountain.
- Pedong (Ka)**
3, 16, 17, 22, 55, 79, 93, 95, 167, 172, 201, 221, 236, 241, 267, 279.
(= Tib. the halting place at the Po or incense tree.)
K. M. Block.
Bungalow Central P.W.D.
Dispensary.
- Pemling (Ka)**
221.
K. M. Block.
- Phalalum (Su)**
(= Phalut q. v.)
- Phalut (Su)**
1, 2, 5, 131, 184, 188, 201, 202.
(=Lep. Fak-lut, the peeled summit mountain.)
Bungalow D.I.F.
- Phansidewa (Ph)**
1, 6, 42, 46, 53, 66, 68, 69, 70, 81, 95, 114, 115, 186, 188, 201, 236, 267.
Police Station.
Bungalow D.B.
- Phapharkheti (Go)**
202.
Bungalow K.M.
- Phari Dzong (Ti)**
159, 182.
- Phubsering (Da)**
29, 113.
(=Tib. Phurpu—Thursday, Sering born on a Thursday.)
T. E. leased 1233 under tea 351 acres.
- Phuguri (Ku)**
198.
T. E. leased 1589 under tea 578 acres.
- Phulbari (Da)**
T. E. leased 263 under tea 120 acres.
- Plumdung (Jo)**
210.
K. M. Block.
Bungalow K. M.
- Pobong (Jo)**
(=Lep. the place of the Pobamboo.)
T. E. leased 994 under tea 445 acres.
- Pokhriabong (Su) (Go)**
172, 210, 211, 221.
K. M. Block.
- Poobong (Jo)**
17, 210, 212.
T. E. leased 1272 under tea 500 acres.
K. M. Block.
- Poolongdong (Jo)**
210.
- Poomong (Ra)**
210.
- Pudung (Ka)**
221.
K. M. Block.
- Pulbazar (Pu)**
22, 46, 51, 55, 93, 95, 114, 115, 160, 169, 171, 172, 188, 189, 201, 208, 236.
Police Station.
Bazar.
- Pulungdung (Jo)**
201.
(= Plumdung q. v.)
- Pumong (Ra)**
126.
- Purnea (Pur)**
1, 6, 39, 43, 180, 190, 227.

Puttabong (Da)

T. E. leased 575 under tea 386 acres.

Putinbari (Sil)

T. E. leased 493 under tea 237 acres.

Putung (Mi)

T. E. leased 4500 under tea 972 acres.

R**Rakti (Ku) (Sil)**

9.

River.

Rambi (Ka) (Ra)

35, 55, 93, 126, 172, 185, 202.

Bazar.

River.

Bridge.

Rambikhola (Ka) (Ku)

162, 182.

(= Rambi q. v.)

Rammam (Pu)

1, 5, 33, 39, 40, 126, 128, 131, 185, 188, 202.

(= Lep. Ra surging advance from Mong, a lake with demon's name.)

Bungalow F.

River.

Rangaroon (Jo)

(= Rangiroon q. v.)

Rangarun (Jo)

(= Rangiroon q. v.)

Rangbee (Ra)

35.

(= Rambi q. v.)

Rangbul (Jo)

172, 189.

Rangiroon (Jo)

17, 202, 234, 252.

(=Lep. the turning of the great river, i.e., the place to which the great Tista flood reached.)

T. E. leased 388 under tea 214 acres.
Bungalow F.

Rangit (Pu) (Da) (Ra)

1, 2, 3, 5, 8, 17, 22, 30, 33, 38, 39, 40, 90, 100, 126, 128, 184, 185, 188, 189, 201, 207, 236, 252, 254, 261.

(= Nep. for Rangnyit—the two extended waters, i.e., the Great and Little Rangit rivers.)

Rangli (Sik)

168.

(=Lep. the Lepcha's house.)

Rangli Rangliot (Ra)

46, 51, 114, 115, 172, 199, 211, 236.

(=Lep. the place of the receding waters, i.e., from which the great Tista flood receded.)

T. E. leased 1049 under tea 341 acres.
Police Station.

Bazar.

Rangneet (Da)

T. E. leased 410 under tea 190 acres.

Rangnu (Da) (Ra) (Jo)

5, 17, 38, 123, 254.

(= Lep. the straight flowing river.)
River.

Rangpo (Ka) (Sik)

1, 3, 8, 159, 167, 168, 181, 182, 201, 236.

(=Lep. the wandering or shifting river.)

River.

Raniganj (Kh)

236.

Ranihat (Ku)

9.

Rayeng (Ka)

(= Riyang q. v.)

Rechila (Go)

221.

(= Richila q. v.)

K. M. Block.

Relling (Pu)

101, 208, 209, 213, 221, 224, 225, 226.

K. M. Block.

Rhenock (Sik)

168, 199.

(=Tib. the black hill or possibly the hill like a nose.)

Riang (Ka)

(= Riyang q. v.)

Rilli (Ka)

3, 93, 136, 160, 192, 196, 197, 201, 202, 262.

Ropeway Station.

River.

Rimbick (Pu)

169, 172, 202, 213.

K. M. Block.

Bungalow F.

Ringkingpong (Ka)

187, 218.

Ringtong (Jo)

198.

T. E. leased 1953 under tea 856 acres.

Rishichu (Ka)

1, 3.

River.

Rishihat (Da)

189, 204, 210.

(=Nep. the place of the saint.)

T. E. leased 511 under tea 346 acres.

K. M. Block.

Rishila (Go)

1, 3, 17, 30, 262.

(=Tib. the pass of the shifting mountain.)

Rishi Road (Ka)

182, 184, 187, 188, 201, 246, 262, 263.

Rissisum (Ka)

3, 132, 186, 190, 202.

(=Bhut. the three hills.)

Bungalow F.

- Riyang (Ka)**
3, 35, 93, 127, 132, 140, 163, 165, 168,
187, 188, 195, 197, 202, 262.
(=Lep. the spread out or shallow
river.)
Railway Station.
Bungalow R.
River.
Bazar.
Ropeway Station.
- Rohini (Ku)**
T. E. leased 4973 under tea 1281 acres.
River.
- Rongbong (Su) (Mi)**
185, 189, 224.
T. E. leased 60 under tea 60 acres.
River.
- Rongbul (Jo)**
(=Rangbul q. v.)
- Rongdong (Ka)**
184.
River.
- Rongjo (Ra)**
140.
(=Rambi q. v.)
- Rongo (Go)**
140, 202.
Bungalow Cinchona.
- Rongtong (Ku)**
11, 17.
(=Lep. the southern river.)
Railway Station.
- Rummuck (Jo)**
185.
River.
Bridge.
(See Rungmook.)
- Rungbee (Ra)**
139, 140.
(=Rambi q. v.)
- Rungjong (Ka)**
140.
(=Rongdong q. v.)
- Rungmook (Jo)**
T. E. leased 1265 under tea 885 acres.
- Ryok (Ra)**
210.
K. M. Block.
- 8**
- Sabbook Golah (Sil)**
179.
(= Sivok q. v.)
- Sadyong (Ra)**
210.
K. M. Block.
- Sahebganj (Bihar.)**
180.
- Saidpur (Bengal)**
199, 200.
- Sakyong (Ka)**
79, 221.
K. M. Block.
- Salu (Da)**
T. E.
- Samabiyong (Go)**
T. E. leased 1749 under tea 276 acres.
- Samabong (Pu)**
208, 209, 213, 221, 224, 226.
(=Kolbong q. v.)
K. M. Block.
- Samalbong (Ka)**
9, 79, 221.
K. M. Block.
- Samsing (Go)**
17, 95, 203, 221.
K. M. Block.
Bungalow F.
- Samther (Ka)**
9, 79, 201, 221.
K. M. Block.
Bungalow K. M.
- Sandakphu (Su)**
2, 33, 126, 127, 201.
(=Tib. the aconite hill.)
Mountain.
Bungalow D. I. F.
- Sangsay (Ka)**
79, 221.
K. M. Block.
- Sannyasisthan (Ph)**
T. E. leased 494 under tea 247 acres.
- Sanser (Ka)**
93.
- Santolay (Ka)**
221.
K. M. Block.
- Santuk (Ka)**
79, 221.
K. M. Block.
- Saptiguri (Ku)**
189.
T. E.
- Sapur (Sil)**
188.
T. E.
- Sathbhaya (Kh)**
T. E.
- Seeyak (Su)**
T. E. leased 1180 under tea 389 acres.
- Selimbong (Su)**
17.
T. E. leased 366 under tea 366 acres.
- Selim Hill (Ku)**
T. E. leased 2121 under tea 400 acres.
- Senchal (Ra) (Jo)**
2, 5, 17, 32, 93, 125, 139, 145, 188, 189,
201, 250, 252, 254, 255, 260, 261,
262.
(=Lep. the damp misty hill.)
Forest Range.
Bungalow D. I. F.
- Seokbir (Ka)**
9, 79, 221.
K. M. Block.
- Sepoydhura (Ku)**
93, 189, 214.
(=Nep. the sepoy lines.)
T. E. leased 894 under tea 264 acres.
- Sibakhola (Ku)**
185.

- Sidrapong (Da)**
151.
T. E.
- Sikbar (Ka)**
9.
(=Seokbir q. v.)
- Siliguri (Sil)**
6, 10, 17, 42, 43, 44, 46, 51, 52, 53, 55,
62, 63, 64, 66, 68, 69, 70, 71, 79, 80,
81, 82, 83, 86, 90, 92, 94, 98, 100,
109, 110, 111, 114, 115, 126, 127,
132, 146, 150, 151, 152, 153, 159,
160, 161, 162, 163, 164, 165, 166, 167,
168, 170, 172, 176, 178, 179, 180,
181, 182, 183, 184, 186, 187, 188, 189,
190, 191, 192, 193, 194, 195, 198, 199,
200, 201, 202, 203, 205, 206, 227, 229,
233, 235, 236, 237, 240, 241, 243,
244, 245, 260, 263, 264, 267, 270,
278, 279.
(=Koch. stony site.)
Railway Station.
Bungalow F.
Bungalow C. and W.
Bungalow D. B.
Bungalow R.
Hospital.
- Silimpong (Su)**
(=Selimbong q. v.)
- Simana (Su)**
6, 55, 93, 169, 172, 183.
Bazar.
- Simanabasti (Su)**
162, 184, 187, 188, 201.
(=Simana q. v.)
- Simbong (Ra)**
T. E. leased 1749 under tea 662 acres.
- Simkona (Ku)**
186, 190.
(=Cinchona.)
- Simlijhora (Ra)**
126.
River.
Forest.
- Simring (Ku)**
T. E. leased 2669 under tea 725 acres.
- Simulbari (Ku) (Sil) (Ph)**
T. E. leased 2279, 2294 under tea 564.
- Simvo (Sik)**
254, 261.
Mountain.
- Sinchula (Ja)**
221.
Pass.
- Sindipong (Ka)**
79, 221.
K. M. Block.
- Singala (Da)**
T. E. leased 3198 under tea 1254 acres.
- Singalela (Sik)**
(=Singalila q. v.)
- Singalila (Sik)**
2, 5, 30, 32, 71, 125, 128, 131, 207, 255.
(=Lep. the mountain of the alder.)
Mountain.
- Singballi (Mi)**
185, 189, 198.
T. E. leased 2127 under tea 728 acres.
- Singbungdera (Pu)**
213.
K. M. Block.
- Singell (Ku)**
113.
T. E. leased 1328 under tea 752 acres.
- Singhiajhora (Ph)**
T. E. leased 382 under tea 254 acres.
- Singla (Pu)**
95, 126, 169, 171, 172, 188, 189, 236.
Bazar.
T. E. (=Singala q. v.)
- Singrintum (Ra)**
210.
K. M. Block.
- Singtom (Da)**
17, 197.
(=Lep. Shing garden tam level spot.)
T. E. leased 1489 under tea 624 acres.
Ropeway Station.
- Siniolchu (Sik)**
254, 261.
Mountain.
- Sinji (Ka)**
79, 201, 221.
K. M. Block.
Bungalow K. M.
- Sittong (Ku)**
2, 140, 262.
Mountain.
- Sivok (Sil)**
3, 11, 17, 124, 125, 150, 162, 172, 182,
183, 184, 186, 187, 190, 191, 197,
201, 202.
Forest Range.
River.
- Sombaria (Go)**
170, 171, 172.
Bazar.
- Sonachandi (Kh)**
T. E.
- Sonada (Jo)**
93, 163, 165, 172, 189, 195, 199, 214.
(=Lep. the bear's lair.)
Railway Station.
- Songchonglu (Ka)**
Mountain.
- Soom (Da)**
T. E. leased 1836 under tea 534 acres.
- Soreang (Ra)**
93, 210.
K. M. Block.
- Sourini (Mi)**
172.
T. E. leased 1126 under tea 116 acres.
Bazar.
- Southern Terai T. E. (Kh)**
T. E. leased 296 acres.
- Springside (Ku)**
T. E. leased 489 under tea 489 acres.
- Srikhola (Pu)**
169, 201.
Bungalow D. B.
- Sriram Sambeong (Go)**
(=Samabiyong q. v.)

- Steinthall (Da)**
113.
T. E. leased 100 under tea 56 acres.
- St. Mary's (Ku)**
247, 278.
- Suberkum (Su)**
189, 201.
(=Lep. the cliff of the musk deer.)
- Sukhia (Su)**
201, 226.
(= Sukhiapokri q. v.)
- Sukhiapokri (Su)**
46, 51, 55, 93, 95, 110, 114, 115, 169,
172, 186, 188, 190, 199, 233, 236, 267.
(=Nep. the dry pool.)
Police Station.
Dispensary.
Bazar.
- Sukhiakhola (Ka)**
202.
- Sukna (Sil)**
8, 10, 33, 95, 125, 183, 186, 187, 190,
202, 227.
(=Nep. the dry site.)
T. E. leased 697 under tea 478 acres.
Railway Station.
Bungalow F.
Forest Range.
- Sumripani (Su)**
T. E.
- Sungma (Su)**
T. E. leased 610 under tea 382 acres.
- Sureil (Ra)**
202.
Bungalow Cinchona.
- Suritar (Ku)**
T. E. leased 1648 under tea 396 acres.
- Suruk (Ka)**
79, 221.
K. M. Block.
- T**
- Taipo (Ph)**
T. E. leased 962 under tea 327 acres.
- Takdah (Ra)**
2, 44, 93, 95, 113, 125, 146, 172, 188,
189, 200, 202, 210, 211, 245, 254, 255.
T. E. leased 462 under tea 462 acres.
K. M. Block.
Forest Range.
Bungalow F.
Bazar.
- Takdah Cantonment (Ra)**
93, 184, 210, 211.
K. M. Block.
- Takling (Ra)**
201, 210.
K. M. Block.
- Takvar (Da)**
2, 113, 178, 188, 252, 278.
(=Lep. tak thread vor fishhook, i.e.,
curved ground.)
T. E.
- Tamsang (Jo)**
210.
K. M. Block.
- Tanglu (Su)**
5, 36, 125, 131, 201, 202, 236.
(= Lep. the hill of fir trees.)
Mountain.
Bungalow D. I. F.
- Tangta (Go)**
202.
Bungalow K. M.
(See Today Tangta.)
- Tarkhola (Ka)**
189, 202.
Bungalow F.
Bazar.
- Tasiding (Ka)**
218.
Forest Block.
- Tendong (Sik)**
254.
(=Lep. the uplifted horn—a sacred
mountain which saved Lepchas by
miraculously rising above the great
flood.)
Mountain.
- Terai (Sil)**
1, 2, 6, 7, 14, 15, 16, 17, 19, 20, 21, 23;
29, 30, 33, 37, 39, 42, 43, 49, 51, 53,
55, 56, 57, 58, 59, 63, 64, 66, 67, 68,
71, 83, 89, 90, 91, 92, 99, 100, 101,
102, 105, 106, 107, 113, 115, 116,
117, 118, 119, 121, 124, 127, 132, 149,
152, 154, 159, 162, 169, 170, 173, 174,
177, 181, 191, 193, 201, 205, 208, 225,
227, 228, 229, 230, 234, 243, 263, 269,
278.
- Thackchu (Ka)**
93.
- Thakurganj (Pur)**
191.
Railway Station.
- Thanjhora (Kh)**
188.
(=Jalpaiguri Duars Tea Co.).
T. E. leased 504 under tea 504 acres.
- Three Mile Basti (Ra)**
93.
- Thurbo (Mi)**
189, 198.
T. E. leased 3400 under tea 1200 acres.
- Tiger Hill (Ra)**
2, 254.
Mountain.
- Tindharia (Ku)**
8, 10, 55, 93, 94, 152, 163, 165, 172,
192, 199, 201.
(= Nep. the three ridges.)
T. E. leased 1016 under tea 368 acres.
Railway Station.
Hospital.
Bazar.
- Tingling (Mi)**
198.
- Tirhana (Sil) (Kh)**
183, 187, 188, 189.
(= Nep. a swamp).
T. E. leased 1760 under tea 548 acres.
- Tirihana (Sil) (Kh)**
(= Tirhana q. v.)

Tista (Ra) (Ka) (Sil)

1, 2, 3, 5, 6, 8, 9, 10, 11, 15, 17, 22, 30,
33, 35, 36, 37, 39, 42, 49, 55, 76, 89,
90, 100, 101, 123, 124, 125, 126, 127,
131, 132, 152, 159, 160, 162, 163,
167, 168, 170, 171, 177, 181, 182,
183, 184, 185, 186, 187, 188, 190,
191, 192, 193, 195, 196, 197, 201,
202, 209, 211, 219, 221, 223, 225,
226, 230, 233, 243, 254, 260, 261,
262, 263.

(=Nep. Trisrota, the three courses—
formerly the river divided into three
on emerging into the plains.)

River.

Bridge.

Bazar.

Tista Bridge (Ka)

95, 146, 166, 172, 181, 182, 187, 199,
201, 219.

Bungalow C. & W.

Bazar.

Tista Valley (Ra)

17, 99,

T. E. leased 1922 under tea 717 acres.

Forest Range.

Titaliya (Ja)

37, 179, 180, 259.

Today (Go)

202.

Bungalow K. M.

(See Today Tangta.)

Today Tangta (Go)

79, 95, 97, 221.

K. M. Block.

Bungalow K. M.

Tonglu (Su)

(=Tanglu q. v.)

Toong (Ku)

172, 189, 190, 199, 202.

(=Nep. the place of the toon tree.)

Railway Station.

Bazar.

Toong Soong (Jo)

189, 258.

Toribari (Sil)

188.

Tumsong (Jo)

17, 210.

T. E. leased 469 under tea 355 acres.

K. M. Block.

Turzam (Su)

T. E. leased 563 under tea 363 acres.

U**Upper Mungwa (Ra)**

210.

Y**Yangmakung (Ka)**

221.

K. M. Block.

Yatung (Ti)

199.

Yokprintam (Ka)

79, 221.

K. M. Block.