

## Chapter 6

### Forest Communities & CPRs in the Hill Region

#### 6.1 Introduction

The region to be studied lies within the Eastern Himalaya which is a biodiversity hotspot little explored as yet by Government scientific agencies like the Botanical Survey of India [BSI] and the Zoological Survey of India [ZSI]. This makes it an important conservation zone, with an approximate area of 15000 sq. km. of forests having already been committed to designated Protected Areas. However imposition of statutory control over regional forests has been accompanied by large scale diversion of forest lands to plantations, agriculture and urban settlement. Economic development has also been accompanied by high levels of immigration which have brought forests in the region under extreme pressure, threatening their very survival.

Study of the status of property rights and the patterns of use of CPRs, woodfuels and other forest resources is thus expected to throw light on the interdependence of human communities, economic development and natural resources in a region of the Himalaya where significant forests still survive. By documenting forest access and CPR-use by the communities that live on the very edge of subsistence at the forest fringe, we make an attempt to meaningfully contribute towards the operationalisation of sustainable development through the means of self-governing social control systems.

The present chapter and the next are based on the case-studies undertaken in the two northern districts of Darjeeling and Jalpaiguri in West Bengal respectively.

#### 6.1.1 Geographical Description and Position of the Darjeeling district.

Darjeeling is a small district that lies between  $26^{\circ}31'$  and  $27^{\circ}13'$  North latitude and between  $87^{\circ}59'$  and  $88^{\circ}53'$  East longitude in the extreme north of the state of West Bengal in India. The district may be broadly divided into two parts i.e. the mountainous region to the north which cover three subdivisions *viz.* Kalimpong, Kurseong and Darjeeling Sadar forming its greater part and the alluvial plain to the south known as the *Terai* which cover Siliguri subdivision of the district. The shape of the district is triangular surrounded by Bhutan in the east, Sikkim in the north, Nepal in the west and Uttar Dinajpur and Bangladesh in the south.

The district of Darjeeling has an area of 3149 sq. km. (Census, 2001). Among the four subdivisions, Kalimpong is the largest with approximately 1053.12 sq. km. followed by

Darjeeling Sadar subdivision (921.68 sq.km.), Siliguri subdivision (802.01 sq. km.) and the smallest being Kurseong with 503.03 sq. km. Kalimpong is predominantly agricultural with low settlement density. Kurseong has relatively low settlement and a large part of it is under forest and tea plantations. The Sadar subdivision has a high percentage of land under tea and therefore less land is available for agriculture. Siliguri subdivision is entirely in the plain and also the most densely populated. In this subdivision, land is intensively used either for tea or agriculture. The two most important urban centres are Siliguri and Darjeeling and the percentage of urban population in the district is 32.34 % (Census, 2001).

### **6.1.2 Natural divisions of the district**

The district has two distinct features, the Himalaya Mountain and its piedmont plain which is better known as the *Terai*. As a consequence, the district has a large variation in altitude ranging from 91 metres above sea-level in the *Terai* to nearly 3660 metres in the hills. The hill portion of the district is criss-crossed by ridges and valleys. Most of the ridges are covered with forest but large tracts on the lower slopes have been cleared of forests and transferred to tea and other cultivations. The *jhoras* (streams) in northern slope of the Darjeeling hills flow into the Rammam-Rangit basin, which ultimately meets the Tista in the east. In the southern slope of the Darjeeling hill, all *jhoras* flow into the Balasan-Mahananda river basin.

### **6.1.3 Political History**

The district has been so named after its chief town Darjeeling, a picturesque hill-station of which there are few equals in the whole world. The name Darjeeling is thought to be a derivation of 'Dorjiling' meaning the place of the Dorje, the majestic thunderbolt of the Lamaist Religion. In fact the famous Buddhist Monastery standing at the top of the observatory hill was known by this name. The district was part of the dominions of the Raja of Sikkim upto the beginning of the 18th century. The present Kalimpong subdivision of the district was taken from the Raja of Sikkim by the Bhutanese in 1706. The Gorkhas seized power in Nepal and invaded Sikkim in 1780 and overran the kingdom in the next thirty years. The present district of Darjeeling is a creation of the nineteenth century by the British Indian Government. In 1817, war broke out between the East India Company and Nepal and ended with the treaty of Titaliya. Nepal agreed to cede the portion that it had wrested from The Raja of Sikkim restored the country between the Mechi and the Tista rivers. This was the result of the treaty of Titaliya of 1817. Ten years after the treaty, disputes on the Sikkim-Nepal

frontiers arose and the then Governor General sent two officers, viz. Captain Lloyd and Mr. Grant. Captain Lloyd spent six days in February, 1829 in "the Old Goorkha station of Darjeeling" and was attracted by its advantages as a site for sanatorium. Mr. Grant reported accordingly to the Governor General, Lord William Bentinck stating the numerous advantages for a sanatorium. The Governor General then deputed Captain Herbert, the Dy. Surveyor General to examine the country. The court of Directors approved the project. General Lloyd was directed to start negotiations with Raja of Sikkim and he succeeded in obtaining the execution of a deed grant by the Raja of Sikkim on 1st February, 1835. This was an unconditional cession of what was an uninhabited mountain. General Lloyd was appointed a Local Agent to deal with applications for land which increased in numbers from residents of Calcutta (now Kolkata). In 1836 General Lloyd and Dr. Chapman reported about a few huts which were erected by the Raja of Sikkim in Darjeeling. By 1840 the Pankhabari road was completed and 30 private houses were erected by the same year (District Handbooks Darjeeling, 1951).

The rest of the ceded land was covered with thick forests and practically uninhabited. But under encouragement of Dr. Campbell, Superintendent of Darjeeling to immigrant cultivators the population increased from 100 in 1839 to about 10000 in 1849. However by the end of 1849 relation with Sikkim had started to deteriorate and culminated in imprisonment of Dr. Joseph Hooker and Dr. Campbell. Immediately a small British force was mobilised and entered Sikkim and lay seize in the north bank of the river Rangit. As a result the Raja's allowance of Rs. 6000 was terminated and the *Terai* region (approximately 1657.59 sq. km.) was annexed along with the portion of Sikkim hills bounded by Rammam and Rangit on the north, Tista on the east and Nepal on the east. Immediately after annexation of the southern part of the *Terai* region it was placed under the charge of Purnea district. However, the inhabitants of this region resented the move and the whole area was thus attached to Darjeeling (*ibid.* p. iii).

The annexation of the Darjeeling territory from Sikkim brought a significant change in the relation between Sikkim and British. Sikkim was cut off from access to the plains except through the British territory. The Raja who was a old man had virtually retired to Chumbi in Tibet leaving the affairs of the state in the hands of Dewan Namguay. Trouble broke out again in 1860 and in 1861 Colonel Gawler along with British Envoy Ashley Eden marched with artillery and force of 2600 men and entered Tumlong, the capital of Sikkim. The Dewan fled and the Raja abdicated in favour of his son with whom a treaty was made that was of

particular interest to Darjeeling because that finally brought an end of frontier troubles with Sikkim.

Though peace was been established in the Sikkim frontier but trouble in the Bhutan frontier was not over. In 1862 news spread that the Bhutanese were preparing an attack on Darjeeling and on the plains south of Bhutan known as Bhutan *Duars*. A small mission under Ashley Eden failed in 1863 only to be followed by a military expedition in 1864 to annex the territory of Bhutan *Duars* in the plains and Kalimpong area in the hills. The Kalimpong area was first notified as a subdivision under the Western *Duars* districts but in 1866 it was transferred to the district of Darjeeling. This was the last area added to the district and gives its present dimension.

After the addition of Kalimpong to the district, it was divided into two subdivisions: the Darjeeling Sadar subdivision (2486.39 sq. km.) in the hills with headquarters at Darjeeling and the *Terai* subdivision (709.66 sq. km.) with headquarters at Hanskhawa 10 km. south of Bagdogra from 1864 until transferred at Siliguri in 1880. With the growth of Kurseong it was made headquarter of new subdivision comprising the both *Terai* and the lower hills west of the Tista in 1891. Siliguri was made a separate division in 1907 re-establishing the *Terai* subdivision which had earlier in 1891 been absorbed into the Kurseong subdivision. Since 1866 Kalimpong was a part of the Sadar subdivision and was in charge of a manager of the *Khas Mahals* and in 1916 Kalimpong subdivision was created to facilitate administrative works.

The district was in the Rajshahi sub-division till October 1905 and due to the partition fiasco it was transferred to the Bhagalpur Division later only to be retransferred to the Rajshahi subdivision in March 1912. However, the district remained intact after Partition of Bengal in 1947.

The district was formerly a Non-Regulated district, that is, Acts and Regulations did not come into force in the district in line with the rest of the country unless they were extended to it and the district had no representation in the legislative council under the Government of India Act, 1919. It was excluded and declared a backward tract and its administration was vested in the Governor in Council and all internal administrative expenditures of the district were not subject to vote of the Legislature. The district was made partially excluded area by the Government of India Act, 1935 under section 92 (*ibid*, p. iv). Under this provision no Act of the Provincial or the Central Legislature applying to it wholly or any specified part of it

could be modified or exempted unless otherwise unless the Governor by public notification so directed.

The district had certain policies carried out for prevention of the exploitation of the hillmen. In Kalimpong areas, Government could not lease any portion of it for tea cultivation except for very special reasons. Transfer of holdings in the Hill *Khas Mahals* of the district from hillmen to people from the plains was not permitted and except for special reasons transfers from Bhutias and Lepchas to the Nepalis have not been allowed in the Kalimpong *Khas Mahals* (*ibid*, pp. iv-v).

## **6.2 Land use Pattern in the Hills of Darjeeling**

The present land use pattern in the hills has a continuation from the British period. Land in the district was under the direct occupation of the departments of the Government or has been granted by Government to private persons or public bodies on a variety of conditions. Large tracts of lands is under forests or has been granted lease to private's for tea plantations, thus sealing them off from common people use. The three subdivisions in the hills do not show the same pattern of land use. In the western part of the district (i.e. Darjeeling and Kurseong subdivisions) the population growth is high but there is limited scope for agricultural expansion as most of the lands are under forests or leased under tea. Kalimpong on the other hand has less population growth but more of *khas mahal* agricultural lands. The reasons for higher proportion of land being under agriculture in the Kalimpong division are:

- (a) The eastern slopes of the subdivision receives better sunlight and is warmer, the terrain is moderately sloped and at lower elevation making it suitable for variety of crops;
- (b) This region earlier known as Dalingkote was part of Sikkim and was conquered by Bhutan in 170, only later to be annexed by the British in 1864. While the western part was settled and tea plantation expanded from 1935 onwards the eastern part remained isolated; and
- (c) The native population of the subdivision mainly the Lepchas practised *jhum* like most tribal communities in Eastern Himalaya, clearing vast stretches of lands in the process;
- (d) The roads, railways and other means of transport and communication remained mainly undeveloped in this part of the district.

### 6.2.1 Expansion of area under Tea in Darjeeling District

Area under tea in Darjeeling district is confined to the western part of the district and in the east, tea is grown only in the Gorubathan block of Kalimpong subdivision. In 1891 there were only two tea estates in this subdivision. It was due to the conscious policy of the Government that land was withheld from being transferred into tea; rather the policy was to reserve the area for forest and agriculture in Kalimpong subdivision.

Tea industry expanded in the western side of the district primarily due to the reason that vast stretches of land were covered by forests and practically uninhabited. In addition, availability of cheap labour from neighbouring Nepal, Revenue Free Policy of the British Government in India, and the special status given to the Darjeeling district benefited tea industry. Darjeeling was a non-regulated district and land-laws of Bengal were not applicable there. Land tenure system in the district was based on the Waste Land Rules, 1859 and most of the tea gardens held the land under either of the two types of tenure system, viz:

- (i) Grant under Old Rules and
- (ii) Grants under New Rules.

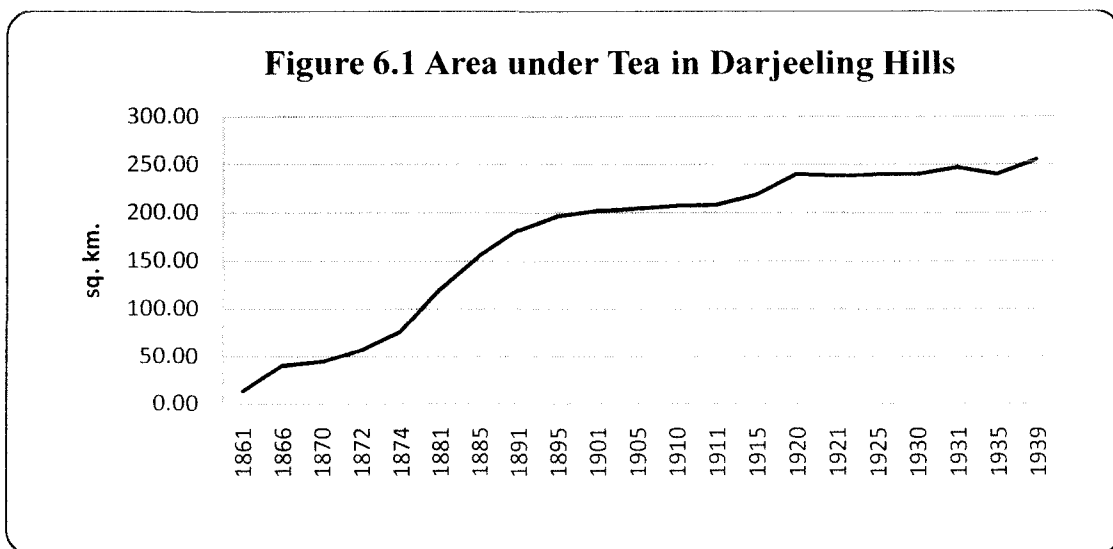
Under the Old Rule system Dr. Campbell had the discretionary power to grant lease. This was subsequently terminated by the Waste Land Rule, 1859 and new set rules were placed for granting lease in Darjeeling district.

The area under tea grew from 4.33 ha. In 1852 to 3251 ha in 1861 which steadily increased further to 14000 ha in 1872. Initially wastelands were sold at a very cheap price through open auction enabling the highest bidder to acquire land for tea and also later expand its size of operation. During the period 1859-62 more than 3642 ha of lands were sold in the hills through public auction at a meagre price of Rs 12 per acre (Turkey<sup>1</sup>, 2005). This method was resented by the planters and instead lands were being leased for 30 years for tea plantation from 1862 onwards under the Fee Simple Rules of 1862.

By 1865 there was a fully fledged department for forests, and large tracts were already being cleared of forests which then were leased out for tea. The tea estates were granted lease of lands in excess of where they intend to grow tea bushes so that such excess lands may be used to grow forest to meet their fuel requirement and also material for packing produced tea. There was a rush to acquire more and more land under lease and in most cases such excess lands remained fallow for years. In 1910 the total area under tea leases was 50122 ha of which 20753 ha were under actual tea plantation. In 1920 these areas had increased to 57527

ha and 24021 ha and in 1940 it was 67976 ha and 25519 ha. Thus the excess lands which in most cases were kept fallow for the 1910, 1920 and 1940 was 29369 ha, 33506 ha and 42457 ha respectively. The area under tea was at maximum in 1943 when it was 25587 ha and the area under lease was 67048 ha. Expansion of tea was however restricted after 1943.

Another factor that played a crucial role for the expansion of tea plantations was policies that exempted tea planters who were mostly Europeans from paying revenue taxes unlike that imposed on other agricultural lands. After the passing of West Bengal Estate Acquisition Act, 1953 all such freehold rights have been extinguished and all tea estates have been made revenue paying (Ghosh<sup>ii</sup>, 1987). The area under tea in the district was 415 sq. km. of which 175 sq. km. was in the hills in 2005.

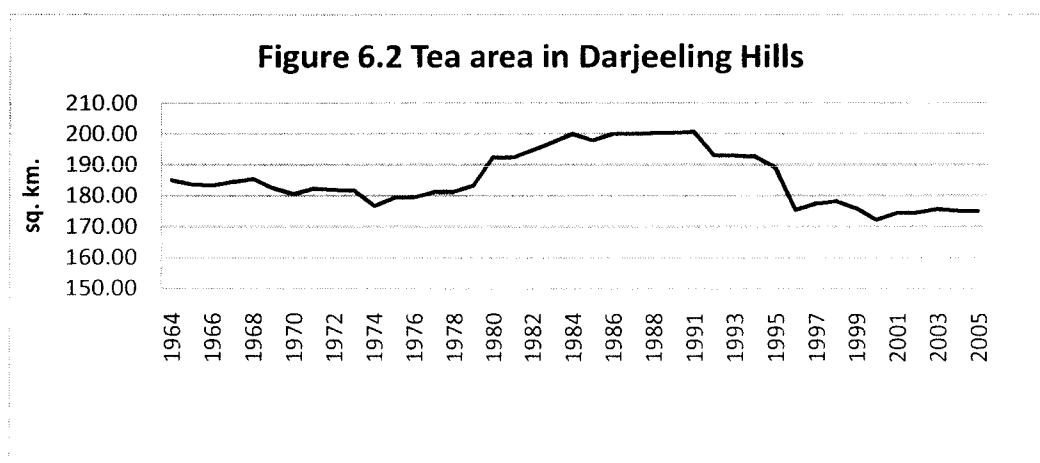


Source: District Handbook Darjeeling, Census 1951; O'Malley (1907).

In Figure 6.1 the area under tea is given for the period 1861 to 1939. This period can be roughly identified as the period when the first plantation in 1852 with a meagre 4.33 ha. was created, to the beginning of WW-II when the total area under tea in hills stood at 63059 ha (255 sq. km.). There has been a steady increase in land under tea in the hills. For the period 1901 to 1941 for which we have at least comparable data shows that the loss of forest land in the two subdivisions of Darjeeling and Kurseong was to the extent of almost 138 sq. km. Out of this loss only 55 sq. km. was accounted by an increase in area under tea. The data for area under tea should always be considered with caution. In most cases the reported data is exclusive of the total area given in lease to tea gardens and only revealed the area under tea plantation. There is always a possibility to account for an area under tea larger than 55 sq.

km. only. The rest of the loss can be accounted from transfer to agriculture and growth of *jotes* in the *terai* region of Kurseong Forest Division<sup>iii</sup>.

In 1964 under the 1953 Act the entire area under the tea garden forests, private protected forests and other private forests were brought under the direct administration of the respective FD. As a result there was a decline in area held under tea lease. The average area under tea thus remained around the 180 sq. km. mark during the period 1964 to 1980. However, in the decade 1980 to 1990 there was an increase in area under tea in Darjeeling hills but it declined sharply after that. Also the number of tea gardens in the Darjeeling hills declined from 102 in 1990 to 85 in 2005 (Tea Statistics).



Source: *Tea Statistics* (Various Years)

This decline in area under tea naturally has implication for employment opportunities in the hills. Population increased during latter half of the nineteenth and first half of the twentieth century in Darjeeling hills due to the growth in employment opportunities provided by this industry. When expansion of employment in this industry gets chocked, it increases rural destitution because of the limited opportunity of alternative employment in the hills. This increases the pressure on forests for sustenance needs of the rural poor.

### 6.2.2 Land under Agriculture in Darjeeling Hills

In 1871 the reported area of the Darjeeling district was 3196.06 sq. km. of which 703.57 sq. km. was in the plain subdivision and 2490.13 sq. km. in the hills subdivision. The area under cultivation in the plains was 408.24 sq. km. of which 251.39 sq. km. was reported to be under cultivation. The extent of barren and uncultivable land was 43.98 sq. km. For the hills the same Figureures were 1849.21 sq. km., 90.86 sq. km. and 550.09 sq. km. respectively. The agriculture statistics for the year 1903-04 is given below:



| Subdivision | Total   | Cultivated | Cultivable waste | Forests |
|-------------|---------|------------|------------------|---------|
| Darjeeling  | 1880.34 | 300.44     | 69.93            | 844.34  |
| Kurseong    | 1134.42 | 349.65     | 44.03            | 277.13  |
| Total       | 3014.76 | 650.09     | 113.96           | 1121.47 |

Figureures are in sq. km.

Source: Census, 1951

The district has a large variation in physical characteristics and makes the conditions of agriculture in different parts exceedingly varied. Broadly we can divide the district into three tracts on the basis of patterns of agriculture. The credit for expansion of agriculture along the slopes of the hills in this district can be given to Nepali cultivators who knew the use of plough and method of terrace cultivation. This enabled people to settle along the slopes when slopes were cleared of trees for export. Rice and maize are two most important cereals grown in the district; the former is generally grown in lower elevation whereas the latter is grown in higher lands. A large variety of vegetables and fruits are also grown both in the hills and in the *terai* territory. In the hills Darjeeling oranges are in high demand as pineapples in the plains.

According to the District Gazetteer, 1947, the total reported area of the district was 3087.27 sq. km. and approximately 670.81 sq. km. was leased for tea, 1118.88 sq. km. under RF, and 85.47 sq. km. was under *chinchona* plantation. The rest 1199.17 sq. km. was left for general unreserved forests and cultivation of non-plantation crops. In addition to this almost 207.2 sq. km. of land that was leased for tea was also cultivated. However, based on the distribution of land under tea, forests and agriculture, the district could be identified into three distinct territories. In the Kalimpong subdivision almost 546.49 sq. km. are under RF, 455.84 sq. km. of Government Estate, of which only 246.05 sq. km. was settled with tenants and the area under crop was 217.56 sq. km. in this settled land. The rest of the subdivision i.e. 56.98 sq. km. was for tea and miscellaneous purposes. The distribution of 668.22 sq. km of land in the *terai* territory is summarised below.

| Land use in <i>Terai</i> | Area (sq. km.) |
|--------------------------|----------------|
| RF                       | 72.52          |
| Tea                      | 170.94         |

|              |        |
|--------------|--------|
| Waste        | 37.56  |
| Sal forest   | 22.02  |
| Uncultivated | 51.80  |
| Cropped area | 313.39 |

In a later survey during 1944-45 the agriculture statistics of the district was given as:

| Land use in Terai  | Area (sq. km.) |
|--------------------|----------------|
| Jungles            | 64.01          |
| Water              | 25.22          |
| Unculturable waste | 66.81          |
| Culturable waste   | 175.37         |
| Cultivated area    | 445.95         |

The survey observed that there was a decrease in both culturable waste and unculturable waste from the previous survey (1906). The decrease has been attributed to increase in population, deforestation and expansion of area under tea plantation. The Government waste lands which included the (i) unoccupied areas (like river beds, ravines, steep slopes), and (ii) grazing reserves, accounted for 192.58 sq. km. in Kalimpong and 17.40 sq. km. in Darjeeling and Kurseong subdivisions.

**Table 6.1 Land use Classification in Darjeeling district (in sq. km.)**

| Year     | Reporting Area for land utilisation statistics | Forests | Not available for cultivation | Net sown area |
|----------|--|---------|-------------------------------|---------------|
| 1980-81* | 838.44   | 225.82  | 97.53                         | 457.24        |
| 1995-96  | 3252.13  | 1244.72 | 315.05                        | 1457.15       |
| 1998-99  | 3252.12  | 1244.76 | 353.87                        | 1415.58       |
| 1999-00  | 3252.12  | 1244.76 | 279.24                        | 1478.69       |
| 2000-01  | 3252.12  | 1244.76 | 458.21                        | 1549.15       |
| 2001-02  | 3252.13  | 1244.77 | 338.14                        | 1669.22       |
| 2002-03  | 3252.13  | 1244.77 | 324.12                        | 1683.24       |
| 2003-04  | 3252.12  | 1244.78 | 386.79                        | 1620.55       |
| 2004-05  | 3252.12  | 1244.78 | 354.02                        | 1653.32       |

\* Figures are for Siliguri subdivision only  
Source: Statistical Abstract 2005

The land use pattern for the Darjeeling district in recent years is given in Table 6.1 below. The net sown area under appears to have reached its highest limit and there is no room for further expansion of land under agriculture. Thus agriculture activity is done on an intensive

margin in the district. Further, a large area of the district is under the RF, which limits any further expansion of the agriculture land in the district to meet the needs of a rapidly increasing population.

### 6.3 Livestock Population in Darjeeling district

The system of hill agriculture that has evolved combines cultivation with livestock farming. Both land scarcity and low crop yields account for wide prevalence of mixed farming in mountain regions like the Himalaya. It is a characteristic of such a system in which heavy forest-dependence exists for meeting energy and animal husbandry requirements within it. Low productivity in agriculture land makes it uneconomical to use purchased inputs from market. Rather, locally available biomass like animal waste and crop waste are used to replenish soil fertility. The loss of fertility in the hills affects productivity more than in the plains for two reasons. First, the initial soil fertile in the hills is much less than in the plains. Second, fertility is lost more than in the plains during monsoon because of the location of agriculture fields on the slopes. In such a situation when forest cover and *usufruct* yields decline, other substitute of biomass resources available locally, such as cowdung, straw and crop residues, are diverted from manuring and fodder uses into meeting energy demands, causing continuous decline in crop yields. This is a vicious circle where loss of natural biomass and diversion of crop waste into energy use reduces fodder for livestock. Also livestock and poultry, supplement cash income either through sale of produce (e.g. milk and milk products, eggs) or rent (e.g. ploughing and drawing carts or loads). Forest cover also an important asset that not only can be transformed into cash when required, but also appreciates in value

**Table 6.2 Livestock & Poultry for Darjeeling**

| Year | Large livestock |         |                 | Small livestock |        |       |        | Total livestock |
|------|-----------------|---------|-----------------|-----------------|--------|-------|--------|-----------------|
|      | Cattle          | Buffalo | Horses & Ponies | Sheeps          | Goats  | Pigs  | Others |                 |
| 1972 | 179311          | 7143    | 1350            | 3135            | 96930  | 18535 |        | 306404          |
| 1977 | 166198          | 7081    | 1238            | 2568            | 82375  | 17234 |        | 276694          |
| 1982 | 202821          | 8193    | 4158            | 4448            | 167678 | 45852 | 29     | 433150          |
| 1989 | 251182          | 7557    | 3646            | 4029            | 208036 | 52840 |        | 527290          |
| 1994 | 233301          | 10406   | 8058            | 6406            | 265350 | 56756 |        | 580277          |
| 1997 | 239406          | 10538   | 8118            | 6409            | 294137 | 61205 |        | 619813          |
| 2003 | 277057          | 5520    | 499             | 2649            | 187975 | 53875 | 71593  | 527575          |

Source: Statistical Abstracts, 2005; pp. 280-81

In 1951, the total head-count of all livestock taken together was 437122. In Table 6.2 we give an account of the composition of livestock population in the Darjeeling district. Almost all of

the daily fodder consumption by the livestock is drawn as a CPR. For the initial census years 1972 and 1977, large livestock like cattle, buffalo, horses etc., exceeded the number of small livestock comprising sheep, goat, pigs etc.,. The later census shows that small livestock has increased steadily since then. The possible reasons are:

- (i) Depletion of biomass and loss of common grazing grounds due to increase in population has diminished the availability of fodder and maintenance of large animals became difficult.
- (ii) The number of cattle increased since 1982 but other livestock showed a gradual decline. The increase in cattle was possibly due to high demand for milk and encouragement from milk co-operatives.
- (iii) In case of small livestock the numbers of goats increased at a very high rate because it was easier to maintain and meet their fodder needs and also due to a growing demand for its meats in the urban areas.

Increase in small livestock does not mean that the pressure on biomass of the region would be less. An increase in biomass extraction in the village is ultimately transferred through an increase in extraction from the neighbouring commons especially the forests.

#### 6.4 Land under forests in Darjeeling district

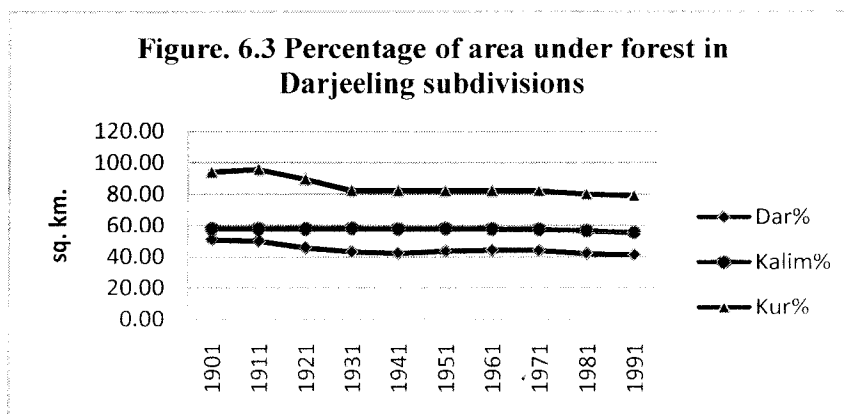
The forests of Darjeeling district have been administered under the Darjeeling, Kalimpong and Kurseong Forest Divisions ever since the turn of the century. Of these, the first two are entirely hill divisions, while the third includes the substantial belt of reserved forests that still survives along the *terai*. Tea cultivation in the district is confined almost entirely to lands transferred on lease from the Darjeeling and Kurseong divisions, indicating that substantial felling activity has occurred there in the past. Most surviving forests in these two divisions are converted forests growing conifers at temperate elevations, and teak and *sal* in the *terai*.

**Table 6.2** Forest Category in Darjeeling district 1901-64 (in sq. km.)

| Year | Reserved Forests |        |                     | Protected Forests |      |       | Unclassed State Forests |      |       | Private Protected Forests |     |       | Tea Garden Forests |        |       | Other Private Forests |       |       | Total Forests areas |        |        |
|------|------------------|--------|---------------------|-------------------|------|-------|-------------------------|------|-------|---------------------------|-----|-------|--------------------|--------|-------|-----------------------|-------|-------|---------------------|--------|--------|
|      | Darj             | Kur    | Kalim               | Darj              | Kur  | Kalim | Darj                    | Kur  | Kalim | Darj                      | Kur | Kalim | Darj               | Kur    | Kalim | Darj                  | Kur   | Kalim | Darj                | Kur    | Kalim  |
| 1901 | 298              | 282.31 | 546.49              | -                 | -    | -     | 3                       | 2.59 | 56.98 | -                         | -   | -     | 129                | 126.91 | 7.77  | 39                    | 62.19 | -     | 469                 | 473.97 | 611.24 |
| 1911 | 290              | 290.08 | 582.75              | -                 | -    | -     | 3                       | 2.59 | 20.72 | -                         | -   | -     | 129                | 126.91 | 7.77  | 39                    | 62.19 | -     | 461                 | 481.74 | 611.24 |
| 1921 | 290              | 290.08 | 582.75              | -                 | -    | -     | 3                       | 2.59 | 20.72 | -                         | -   | -     | 96                 | 95.83  | 5.18  | 39                    | 62.16 | -     | 422                 | 450.66 | 608.65 |
| 1931 | 290              | 290.08 | 587.93              | 3                 | -    | -     | 3                       | 2.59 | 20.72 | -                         | -   | -     | 64                 | 59.57  | 5.18  | 39                    | 62.16 | -     | 399                 | 414.4  | 613.83 |
| 1941 | 287              | 290.08 | 582.75              | 3                 | -    | -     | 3                       | 2.59 | 20.72 | -                         | -   | -     | 59                 | 59.57  | 5.18  | 39                    | 62.16 | -     | 391                 | 414.4  | 608.65 |
| 1951 | 287              | 290.08 | 585.34              | 16                | -    | 0.7   | 3                       | 2.59 | 20.72 | -                         | -   | -     | 59                 | 59.57  | 5.18  | 39                    | 62.16 | -     | 404                 | 414.4  | 611.94 |
| 1961 | 295              | 290.08 | 582.75              | 16                | 2.59 | 0.6   | 3                       | 2.59 | 20.72 | -                         | -   | -     | 56                 | 56.98  | 5.18  | 39                    | 62.16 | -     | 409                 | 414.4  | 609.25 |
| 1964 | 295              | 290.08 | 582.75 <sup>a</sup> | 16                | 2.59 | 0.6   | 3                       | 2.59 | 20.72 | -                         | -   | -     | 56                 | 56.98  | 5.18  | 36                    | 56.98 | -     | 406                 | 409.22 | 609.25 |

Source: Centenary Commemoration Volume

The total forest area in 1901 was 1554.2 sq. km. that declined continuously during the first four decades of the 20th century and stood at 1414.1 sq. km. in 1941. In 1911 the area under Tea Garden Forests in Darjeeling and Kurseong subdivision was 255.91 sq. km. and declined to 191.83 sq. km. in 1921, which further fell to 123.57 sq. km. in 1931. The loss of the forests land under Tea Garden Forests was not matched by any corresponding increase in other category of forests during the same period. We may thus infer that the forests land which was leased to tea gardens often in excess to its area under tea plantation were transferred for purposes other than forests.



Source: Census (Various Years)

Table 6.3 and Figure. 6.3 reveals long term changes in classified forest cover which have occurred in Darjeeling district over the 20th century. The most substantive change over this extended time-horizon as mentioned above is seen to have taken place between 1911-1931, with leasing of considerable tracts of forest land to the tea gardens particularly after IFA 1927 became law, being accompanied by parallel extension of *khasmahal* settlements. Among the three forest divisions in the district, hill forests in Kalimpong have however consistently accounted for higher forest cover, a feature attributed mainly to the absence of tea gardens in that region. Although all forest divisions show decline in forest cover over the century, the fall has been much sharper in the Darjeeling and Kurseong divisions and moderate in the Kalimpong division. Substantial loss of forests in the district between 1911-1931 was followed in fact, by marginal recovery of forest cover between 1941-1961, attesting to largescale forest conversion activity during that period. Lands, which had been cleared of mixed forests over the earlier period were converted both to tea and to monoculture of coppice *sal* and teak in commercial forests. The deforestation trends over the first half of the century thus appear to have been shaped primarily by the revenue motive. While forests in the region were being clear-felled almost continuously as a result, the losses in classified

forest cover represent land transfers outside commercial forestry and tea, *i.e.* to direct revenue use. The brief recovery between 1961-71 was followed by another downtrend in forest cover in all three forest divisions between 1971-1991. It is however interesting to note that classified forest cover in Kurseong division was stationary for nearly five decades beginning 1931 and only after 1971 commenced another decline that appears to be related to the growth of urban settlement in the *terai*, particularly in Siliguri.

The current legal status of forests land in the district shows that 93 percent of the forests are of RF category and the rest of the Protected and Unclassed State Forest area in the district has been transferred to D.G.A.H.C under the Darjeeling Social Forest Division. However, it should be remembered that the existence of classified forest cover in the land settlement records in itself does not guarantee the preservation of forest canopy over an equivalent area.

**Table 6.4 Forests cover quality in Darjeeling district (in sq. km.)**

| Year | Dense Forest | Open Forest | Total Cover |
|------|--------------|-------------|-------------|
| 1987 | 1316         | 16          | 1332        |
| 1991 | 1109         | 326         | 1435        |
| 1993 | 1093         | 362         | 1455        |
| 1997 | 1099         | 356         | 1455        |
| 1999 | 1096         | 359         | 1455        |
| 2001 | 1417         | 779         | 2196        |
| 2003 | 1365         | 856         | 2221        |
| 2005 | 1365         | 856         | 2221        |
| 2007 | 1377         | 912         | 2289        |

Source: SFR various years

**Table 6.5 Changing Natural Forest Cover in the Darjeeling Hills**

| Rural PS Areas       | Land area | Forests cover (in sq. km.) |       | Forest cover change | % of forests cover |       | % change in forest cover |
|----------------------|-----------|----------------------------|-------|---------------------|--------------------|-------|--------------------------|
|                      |           | 1991                       | 1981  | 1981-91             | 1991               | 1981  | 1981-91                  |
| <i>DARJEELING SD</i> |           |                            |       |                     |                    |       |                          |
| Sukhiapokhri         | 67.15     | 9.4                        | 11.1  | -1.62               | 14.06              | 16.48 | -2.42                    |
| Pulbazar             | 310.29    | 155.2                      | 184.6 | -29.33              | 50.02              | 59.48 | -9.45                    |
| Darjeeling           | 117.5     | 5.2                        | 10.8  | -5.57               | 4.9                | 10.11 | -5.21                    |
| Rangli-Rangliot      | 272.99    | 52.6                       | 52.7  | -0.03               | 19.28              | 19.29 | -0.01                    |
| Jorebunglow          | 153.76    | 44.7                       | 45.3  | -0.6                | 29.07              | 29.46 | -0.39                    |
| <i>KALIMPONG SD</i>  |           |                            |       |                     |                    |       |                          |
| Kalimpong I          | 610.4     | 83.5                       | 209.4 | -125.95             | 23.16              | 58.1  | -34.94                   |
| Kalimpong II         | 224.1     | 33.2                       | 101.8 | -68.68              | 13.74              | 42.21 | -28.47                   |
| Gorubathan           | 218.61    | 177.9                      | 178.2 | -0.36               | 40.25              | 40.33 | -0.08                    |
| <i>KURSEONG SD</i>   |           |                            |       |                     |                    |       |                          |
| Kurseong             | 361.27    | 117.1                      | 114.6 | 2.41                | 34.61              | 33.89 | 0.71                     |

|                   |        |       |       |         |       |       |       |
|-------------------|--------|-------|-------|---------|-------|-------|-------|
| Mirik             | 100.48 | 23.6  | 18.7  | 4.86    | 25.1  | 19.93 | 5.17  |
| Total Hill Region | 2436.6 | 702.3 | 927.2 | -224.87 | 29.42 | 38.84 | -9.42 |

Source: District Census Handbooks, Darjeeling District, 1981 & 1991: Primary Census Abstracts

With overall forest events through the present century having already been outlined, more detailed examination of the regional spread of forest and population in the Darjeeling Himalaya is now called for in order to identify potential pressure zones as far as the CPR economics is concerned. Table 6.5 accordingly presents a breakdown of census data on decadal changes in forest cover over different police-station [PS] areas in the hill region of Darjeeling district. This region comprises the three hill subdivisions of Darjeeling, Kalimpong and Kurseong, with constituent areas as mentioned. However, the municipal areas under Darjeeling, Kalimpong and Kurseong townships have deliberately been excluded so that attention can be focused on the extent of rural population dependence on local forests. Inclusion of town populations in the table would severely distort this assessment.

Two other points of caution need to be observed in the interpretation of State Forest Report [SFR] forest figures in the Table 6.4. Firstly, Tables 6.4 and 6.5 are strictly not comparable because the plains forests of Kurseong forest division which come under the Siliguri administrative subdivision are excluded from the latter table. Secondly, forest cover as reported in Table 6.5 excludes other forms of vegetative cover such as tea, etc., and therefore provides much better indication of the actual state of forests in the region than the gross figures for total vegetative cover and recorded forest cover reported in Tables 6.4 and Figure 6.3, respectively. However, the village-wise forest data which have been aggregated into Table 6.5 are not always consistent between censuses, because of partial lacunae in the reporting process. It is because of this reason that we have not considered village wise forest data from Census 2001 because of the overlap of PS areas in a Community Development Block [CD]. In several block forests in Kalimpong subdivision for instance, the 1981 Census reports 100 percent forest cover over the entire block area; on the other hand, figures in the 1991 Census greatly reduce forest figures in these areas to indicate only partial cover. Despite such difficulties, much better idea of the locational spread of forests and deforestation in association with the recent growth of population may be gained from the breakdown Figureures in this Table, than from the figures reported earlier.

### **6.5 Population growth and its implication for resource use**

Population density in the Darjeeling hill areas stood at 281 persons per sq.km in 1991, having grown by an average of 55 persons per sq.km between 1981 and 1991. Increments in density

across PSs show considerable variation. Among relatively settled areas, the sharpest increments having occurred in Darjeeling and Mirik, both located in predominantly tea-growing regions where rapid urbanisation is also taking place. Population and density increments in Kalimpong II and Gorubathan, both relatively unsettled areas, have on the other hand been negligible. The Table therefore indicates deepening polarisation in the settlement profile between eastern and western parts of the district.

Figureure. 6.3 shows that the preceding decline of classified forest cover between 1971 and 1991 had maximum areal impact on Darjeeling and Kalimpong forest divisions. Buffer forest areas have traditionally recorded a higher presence at the eastern and western extremities of the district because of altitudinal factors and the proximity of international borders. Pulbazar and Kalimpong I have accordingly shown highest forest cover, verging on 60 percent till 1981. Kalimpong II and Gorubathan, also under extensive forest cover uptil then, are both also located in the relatively less-populated east of the district. On the other hand, the Darjeeling PS area with one of the highest concentrations of population in the Himalaya, had nearly inconsequential forest cover of just over 10 percent in 1981. Forest cover was also relatively low in other tea-dominated areas such as Mirik, Sukhiapokhri and Rangli Rangliot. The most alarming feature brought out by the Table is the sharp reduction in forest cover that has occurred over most hill areas in just one decade following 1981, Gorubathan and Kurseong being the only exceptions. While the decline of forests in the Pulbazar and Darjeeling PS areas has been around 9 percent and 5 percent respectively, the fall is far more precipitous in the Kalimpong I & II areas, even after adjusting for possible lacunae in reporting forest areas in the 1981 Census.

Comparison of forest cover to increments in population over PS areas during the decade 1981-1991 and 1991-2001 draws attention to the population-forest dynamics of the Darjeeling Himalaya. Intercensal growth rate in population has been the highest in Siliguri subdivisions because of the rapid expansion of the Siliguri Corporation.

**Table 6.6 Intercensal Change of Population in Darjeeling district**

| Subdivision     | 2001           | 1991           | 1981           | Change        |               | Growth rate p.a. |            | Area (sq.km.)  | Population Density |            |            |
|-----------------|----------------|----------------|----------------|---------------|---------------|------------------|------------|----------------|--------------------|------------|------------|
|                 |                |                |                | 1991-2001     | 1981-1991     | 1991-2001        | 1981-2001  |                | 2001               | 1991       | 1981       |
| Darjeeling      | 388107         | 347912         | 281346         | 40195         | 66566         | 1.1              | 2.1        | 932.25         | 416                | 373        | 302        |
| Kalimpong       | 225220         | 190266         | 158738         | 34954         | 31528         | 1.7              | 1.8        | 1061.8         | 212                | 179        | 149        |
| Kurseong        | 177264         | 157076         | 121738         | 20188         | 35338         | 2.1              | 2.6        | 514.58         | 344                | 305        | 237        |
| Siliguri        | 818581         | 604665         | 462447         | 213916        | 142218        | 3.1              | 2.7        | 822.11         | 996                | 736        | 563        |
| <b>District</b> | <b>1609172</b> | <b>1299919</b> | <b>1024269</b> | <b>309253</b> | <b>275650</b> | <b>2.2</b>       | <b>2.4</b> | <b>3330.74</b> | <b>483</b>         | <b>390</b> | <b>308</b> |

Source: Census 2001 and 1991.



Intercensal growth of population has been highest in Darjeeling, Kalimpong I and Kurseong PS areas, since these verges on the three main municipal settlements of the region. Darjeeling PS however has witnessed the highest incremental population growth of 28054 persons over the smallest land area leading to the highest degree of settlement concentration. This has raised non-municipal population density in 1991 to 1127 persons per sq.km, and with this proliferation of settlement, forest cover has also been halved, as evident from the Table. Kurseong, with third-highest intercensal population growth of 23735 persons in 1981-91, shows much lower non-municipal settlement density of 292 persons per sq.km because of its larger land area. Intercensal growth in density has therefore been 66 persons per sq.km, but since settlement is concentrated by the presence of tea and the area was relatively less settled to begin with, forest cover has in fact been augmented between censuses. A sharp contrast is seen however in case of Kalimpong I. Here the intercensal increase in population by 25336 persons over the decade has taken place over a much more dispersed area, and the density increment on non-municipal population density of 236 persons per sq. km. in 1981 has been by 42 persons per sq.km. It should however be noted that, in absence of tea, this population increase had to be absorbed by *khasmahal* settlement, leading to a very high rate of forest depletion. Deforestation at these high rates has also been responsible for the recent recurrence of landslides in the area.

**Table 6.7 Growth rate of population during twentieth century**

| Subdivisions    | Population |        |        | Growth rate p.a. |           |
|-----------------|------------|--------|--------|------------------|-----------|
|                 | 2001       | 1951   | 1891   | 1951-2001        | 1891-1951 |
| Darjeeling      | 388107     | 169631 | 79041  | 1.4              | 1.3       |
| Kalimpong       | 225220     | 93441  | 26631  | 1.5              | 2.1       |
| Kurseong        | 177264     | 65713  | 44645  | 1.7              | 0.6       |
| Siliguri        | 818581     | 116475 | 72997  | 3.3              | 0.8       |
| <b>District</b> | 1609172    | 445260 | 223314 | 2.2              | 1.2       |

Source: Census (Various years)

The two halves of the twentieth century show some interesting feature of population growth in the district. The rate of growth of the population has almost doubled in the second of the century. In the first half the growth rate was highest in the Kalimpong subdivisions as vast areas were distributed for agriculture. Kurseong with almost eighty to ninety percent land under forest had little room for settlement. The growth in Darjeeling subdivision as mentioned above was more urban or in areas contiguous to the town. Siliguri subdivision had a high population in 1891 and vast tract of agriculture land were held in *jotes* provided no incentives like Kalimpong subdivision, for immigrant agriculturist.

## 6.6 Forest communities in the hills

The population was roughly 100 in the Darjeeling hill tract of 357.42 sq. km. in 1935. Dense forest and lack of communication kept the population from growing. In all practical sense there is little or no information about the composition of rural communities living in Darjeeling district before 1935. The area was sparsely populated with the Lepchas in the hills and Koches and Meches in the *Terai*. These communities were animistic and practised *jhum* cultivation. Most of the tools were primitive and use of plough was unknown. The original inhabitants were the Lepchas who made a living from *jhum* cultivation in the lower hills using crude tools and highlanders like *Bhotias* who made a living from animal grazing. The decision of the British Government in India to develop Darjeeling encouraged peoples in neighbouring Nepal to immigrate in large numbers. Soon the original inhabitants were outnumbered by settlers from Nepal, Sikkim and Bhutan (Census, 1951). In 1850 the number of inhabitants increased to 10,000 and a rough census undertaken in 1869 showed that the population was over 20,000. In 1860, after an annexation of the territory from Sikkim the boundary of Darjeeling hill tracts was extended up to Nepal in the west. Subsequently as mentioned, *Terai* tract was also included in 1874 when it was reported to have 544 *jotes*. The census of 1872 showed the total population of *Terai* to be 47,985<sup>iv</sup>.

The Kalimpong area that was annexed in 1865 had an estimated population have 3,563 inhabitants. This number increased to 12,683 in the year 1881 largely because of immigration. Lands were distributed to settlers from Nepal, Sikkim and Bhutan and as well to the Lepchas. While tea flourished in the hills, in *Terai* plains or at the foot hills ordinary cultivation was carried on mainly by the Rajbansis, Dhimals and other minor communities and castes.

The rural areas in the district can be categorised into two main categories; the first is the plantation areas, and secondly those worked by the small cultivators controlled by the Revenue Administration or the *Terai Jotedar*. The plantation areas are the RF, tea gardens and Government Chinchona plantations. They are the areas which have witnessed huge capital investment meant primarily to exploit the natural resources of the region. Large tract of areas worked by the small cultivators was the Government *Khas Mahal* lands. However, in the *Terai Khas Mahals* the Government never dealt directly with the *ryots* but only with the middlemen.

Between 1891 and 1901 large immigration from Dinajpur, Rangpur and Jalpaiguri took place to fill the vast agriculture areas in the *Terai*. During 1896 to 1901 there was a severe crisis in tea industry forcing closure or huge lay-off of employees. This naturally had an adverse effect on growth of the district. O'Malley in his Census Report of 1911 had already pointed out that since all lands suitable for tea cultivation within the area reserved for it has been taken up, therefore no considerable increase in population in tea estates can be expected. Also during the decade 1911-21 there was the influenza epidemic in the district. All these resulted in a fall in population during 1911-21 (Census, 1921).

The most numerous tribe in the district are the Rais who originally hailed from Eastern Nepal. Though Rais and Limbus were not warrior classes yet they put a stiff resistance against the invading Gurkhas for which they were awarded by the British Government. Another important tribe of the Darjeeling hills are the *Khas* who adopted the title of Chettri. They are reported to be careful and successful cultivator in the hills. In the plains there are tribes like *Sanyasis* who adopted the title Giri.

However, as mentioned the earlier, inhabitant of the district are the Lepchas, who called themselves *Rong*, i.e. the squatters. *Lepcha* or *Lapche* was actually labelled by the Nepalese and means the people of vile speech. Lepchas dominated the area, and at the time when British acquired the Darjeeling tract it was reported that two-third of the population in Sikkim were Lepchas. In the middle of the seventeenth century when Tibet invaded Sikkim they were driven to the lower valleys and gorges. Later in 1706 the east tract of Tista was captured by the Bhutanese further pushing them into a small piece of land west of the Tista to Little Rangit in the east. Reservation of forest lands seems to be the last nail on their coffin thus depriving them of their livelihood and natural resources. They were not efficient cultivators like the Nepalis and found it difficult to cope once their symbiotic relationship with natural resources was severed. Advancement of state forestry in the district like the rest of the country has been a story of systematic exploitation of local resources and people.

### **6.7 Evolution of forestry in Lower Province**

Prior to 1863, Bengal and Assam was designated as "Lower Province" and little attention was paid for conservation of forests in this region. This was because till the middle of the 19th century, Calcutta imported its timber from the North Provinces and Burma (Stebbing, 1921). The vicious relation of rising price - increased rate of harvest - sharp decline in supply of timber and fuelwood from areas where exploitation were done earlier, necessitated that new

forest areas be brought under the state management to fulfil the imperial interest. To study the potential and means to ensure uninterrupted flow of forests produce Brandis was requested by the Government to take an account of the forests in the Province on his way from Burma to join the Government headquarters. He discussed about the course of future policy with Dr. T. Anderson towards the end of 1862. In January, 1863, the Government of India requested the Bengal Government to give attention to the conservation of forests and to find the best course which could be taken to increase the efficiency of the FD. The Bengal Government entrusted Dr. Anderson to carry out the task of preliminary investigation of the forests in Eastern Himalaya and the belt of *sal* forests in the Terai and Duars at the foot of the hill. Dr. Anderson's work was interfered due to the Indo-Bhutan war during the same period. On completion of his investigation he was appointed as Conservator of Forests of the Lower Provinces for a period of two years in addition to responsibilities as Superintendent of the Botanic Gardens in Calcutta. Dr Anderson's first Memorandum of October, 1864 on forests work was based on the note drawn up by a joint consultation with Brandis. His Memorandum had detail outline of the proposal for the setting up of the FD and experiments to be undertaken to find a profitable line of extraction of the output from the forests. An important issue being addressed at the same time was, how best to use the land cleared of forests. As the Revenue Survey of the British Sikkim was not completed at the end of 1864, Anderson could not provide an accurate statement of the extent of the forests belonging to Government in that district.

An early account drawn up at the end of 1864 of the North Bengal forest is given in Stebbing's Vol. I pp. 519-520 in a tabular form:

**Approximate Tabular statement of the Nature and Extent of the Government Forest situated in the District of British Sikkim**

| Sl. No. | Class of Forest                                     | Probable area in acres | Species of timber-yielding tree in Forest   |
|---------|---|------------------------|---|
| 1       | Forest of the Terai                                 | 25,000                 | <i>Sal, sissoo, chilauni (Schima Wallichii) Gumber (Gmelina arborea)</i>  |
| 2       | Forests of the Tista Valley in Sikkim and Bhutan    | 16,000                 | <i>Sal, chilauni, tun</i>   |
| 3       | Forests of the British portion of the Great Rangeet | 4,000                  | <i>Sal, chilauni, tun, Pinus longifolia, very rare, abounding on the opposite bank of the river in Independent Sikkim</i> |

|   |                                    |         |  |
|---|------------------------------------|---------|--|
| 4 | Temperate Forest on British Sikkim | 600,000 | 2 species of Oak, 1 of chestnut, 6 of Magnolia, Maple, Walnut, and <i>Bucklandia</i> |
|   | Total forest acreage               | 105,000 |  |

Note: The first three forests types could be exploited through the river and the last could be profitably done through the cart road.

Source: Stebbing, E.P. (1921): *The Forests of India*, Vol. I, p. 520.

Forest conservation began in Bengal with the appointment of M.T. Anderson as conservator of forests for the Lower Province in 1864. In 1867 Mr. Leeds was appointed as the first fulltime Conservator of Forests and was succeeded by Dr. William Schlich in December 1872. Five forest divisions fell under his jurisdiction, namely, Cooch Behar, Assam, Dhaka, Chittagong and Bhagalpur. Following reorganization in 1876, the Bengal Forest Department began operation through five forest divisions: Darjeeling, Palaman, Jalpaiguri, Sundarbans and Chittagong (Mustafa<sup>v</sup>, 2002).

#### 6.7.1 State Forestry in Darjeeling district

The State forestry in this region has evolved in three distinct phase under the FD. The first phase is the period of surplus allowing trees to be cut-down by contractors as forest was in abundance and therefore no heed was paid to the damages caused by such practices. In the second phase trees were cut by FD but the transport of the produce was done by contractors as it was not economical for the FD to transport the produce to the markets. In this phase loss of trees was not acceptable. The third phase witnessed ‘depots’ being created as it was economical for the department to bear the transport expenses of its produce.

The region was blessed with abundance of natural forests. From Captain Herbert (1930) to General Lyod (1937) all early travellers have reported the district being entirely covered by forest prior to British annexation of the area (O’Malley<sup>vi</sup>, 1907; p. 98). Dense vegetative cover is but natural for a region which is almost uninhabited (WP<sup>vii</sup>, 1967). It was the conversion of these forests into cultivated lands, tea gardens and as well as for colonial expansion that a large population influx took place in this region. The initial objective of the colonial administrators was to “expedite the conversion of the forests land into cultivated fields” (O’Malley, 1907; p. 98). Without doubt, the reckless exploitation of the vast stretches of forest took place after the British first came into possession of the district (O’Malley, 1907; pp. 97-98). The formal introduction of the “scientific forestry” began in December 1862, when Brandis submitted proposals for conservation of forests in Bengal in consultation with Dr. Anderson to halt this unmindful destruction of forest. This led to the appointment of

Dr. Anderson as Conservator of Forests and the creation of conservancy of Bengal in August 1864.

The early history of the reservation of forest is given in Mr. Mansons Working Plan for the Darjeeling Division as follows:-

*"The Government Forest Act VII of 1865 was promulgated \*\*\* and under section II of that Act a notification, dated the 13th May, 1865, was published in the Calcutta Gazette of the 2nd August (pg. 1288), declaring certain tracts in Cooch Behar and Darjeeling to be Government forest under the said Act. Again on the 24th January, 1866, at pg. 204 of the Gazette, a notification, dated the 23rd January, was published, strictly reserving certain tracts of land in the Sikkim Terai for forest purposes".*

The first reservations were notified in the Official Gazette, 1865, according to the provisions of Act VII of 1865 in the forest areas of Darjeeling Division under the Waste Land Rules. In Forest Act, 1865 the only reserved forest in Bengal was on the Senchal dome between Jorebunglow and Kurseong. During 1868-69, the total area of State forests for British Sikkim (Darjeeling Division) in the hills and plains was to the extent of 44 sq. km. Rules for management of the forests under Act VII of 1865 was published in the Calcutta Gazette dated 1 March, 1871. These rules clearly recognised two distinct classes of forests viz., open and reserved forest. In 1870-71 the entire North Bengal forests came under the Cooch Behar Forest Division. The British Sikkim forests comprising 187 sq. km. was notified as Forest Reserve in 1871-72. Forest Reservation gained momentum under Dr. Schlich who was appointed Conservator of Forests in 1872-73. During 1874-75 Jalpaiguri (Bhutan *Duars*) and Darjeeling Forests Divisions were created. In 1874-75 the area under reserve forest was 275 sq. km in Darjeeling. In 1877-78 the division was further divided into Tista, Kurseong and Darjeeling Divisions for better management and discharge of duties. The new Darjeeling Division had an area of 67 sq. km. Meanwhile in 1878 a new Act was passed and fresh notification was made under scheme 34 of the Act. Under this notification 110 sq. km. of forest was designated as RF in the Darjeeling Division. The Singalila forest was purchased in 1882. But Mahaldaram and Chattakpur blocks were transferred to Kurseong Division in 1910 and 1919 respectively.

In subsequent forest policies other areas of the district were brought under the reserved forest category. During the period 1865 to 1879-80 the forest in the district was worked under the

permit system. In this system all the best trees were removed and the rate per tree was fixed, leaving behind the hollow and defective ones contrary to normal silvicultural practices.

The first working scheme for the period 1880-1890 was drawn by Sir D. Brandis in 1879 which was later revised in 1882 by Sir William Schlich. The scheme prescribed selection felling above 2,134 meters<sup>viii</sup> and partial clear felling below it. The ridges above Ghum to the Lepchajagat road and the Rangbi road will never be cleared altogether. Below these roads poles and saplings are to be left though all other trees may be removed. These suggestions were not followed by the then Conservator of Forests, Bengal, Mr. Gamble. He remarked, "*Windfalls get numerous if the ridges are thinned.*" Hence, generation of revenue was pursued at the expense of environmental degradation.

The first attempt to bring Darjeeling Forest Division under the regular Working Plan<sup>ix</sup> [WP] was made by Mr. F.B. Manson. This plan covered the period 1892-1902, and prescribed rotation of 160 years in five periods of 32 years. The periodic block I and V were to be closed for grazing, and block II and V to be worked over by improvement (so-called amelioration) felling (WP<sup>x</sup>, 1940). In 1902 the survey of the forest area was complete to the scale of 4 inches. It was then that the Manson's Plan was revised by Osmaston in 1902-12 and the revision undertaken was basically the method in which the forests had to be worked. He suggested a revision of the plan after 10 years to look into the possibility of removal of the whole crop in a single regeneration felling. This could be done by gaining experience on the successful plantation without shelter of any kind.

Grieve's plan was introduced for the period 1912-17. He excluded all areas open to grazing as being unworkable, and clubbed all areas worked under the Manson and Osmaston's Plan into a separate 'Plantation' Working Circle [WC]. These areas had even aged crop and hence unsuitable to selection system which he proposed. The rest of the forest was divided into a High Forest and a Coppice WC which was to be worked on a 30 years' rotation, for the supply of firewood to tea garden<sup>xi</sup>. For High Forest (Darjeeling WC) he prescribed selection felling<sup>xii</sup> on a rotation of 150 years with a 25 years felling cycle. Grieve's had immense confidence on natural regeneration<sup>xiii</sup> as a method to meet future demands for timber. Further, under the selection felling one-half of the Class I<sup>xiv</sup> trees were to be removed in groups. But such allocation of one-half of the trees on a given area into anything that could be called group<sup>xv</sup> is extremely difficult because the average distance between the Class I trees were about 20 meters only (*ibid.*, pp. 20-25).

As state forestry progressed more and more, access rights were curtailed in the hills. Two notifications No. 9008 For dated 22.12.1917 under section 29 (later replaced by section 30 of IFA, 1927) of the IFA, 1878 the Government declared the PF on the ridge of Jalapahar Cantonment as RF. Further, the notification prohibited all cultivation and grazing activity. In another notification No. 2202T.R dated 24.10.1917 under section 29 (later replaced by section 30 of IFA, 1927) of the IFA, 1878 the Government declared all trees in Labong Cantonment PF to be reserved trees with effect from 31.10.1917 and prohibited all other human activities.

From 1920 to 1928 the Division was worked under the Baker's plan. Unlike Grieve's, Baker is sceptical about the capability of natural regeneration method to produce valuable species in sufficient quantity. Natural regeneration is considered to be of little practical use as "(i) *it is too slow, too uncertain, and insufficient quantity, for any reliance to be placed on it as a method of regenerating the forests after exploitation, (ii) that at elevations below 7,000 feet, where frosts are never very serious there is no danger to be feared from clear-felling followed by planting, at any rate where field crops can be grown; and taungya wherever possible was therefore prescribed in this plan*" ( Baker's revised WP (1921), p. 3).<sup>xvi</sup>

Under this plan two WCs were made. (i) Long Rotation WC (rotation period fixed at 125 years) included forest to be worked for production of timber, and (ii) Short Rotation WC (rotation period fixed at 60 or 40 years according to elevation) included areas along the both sides of Hill Cart Road and the Ghum-Sukiapokhri Cart Road for the supply of firewood to Darjeeling. Such WC was also constituted in Hum and Lingding for fuel supply to Takdah Cantonment. (Baker's revised WP (1921), p. 4).

Choudhuri's Plan for the period 1929-30 to 1936-37, prescribed clear-felling and artificial regeneration system in all accessible areas to be continued, except in most of the Tista Valley and Rangit Valley forests where the main prescription was selection-felling. Under this plan the Cryptomeria WC was formed in parts of (a) Ghum Simana Range, Tapkedara Block, and (b) Lopchu and Lingding Blocks. For (a) the rotation was fixed at 60 years, and for (b) it was fixed at 40 years. The main objective of the WC was to produce softwood timber for box-planking required in tea packing. But, in 1931 it was found that this timber was not suitable for the purpose. An alternative use of the timber was its popularity for rough interior house construction (WP<sup>xvii</sup>, 1940). A serious objection to this plantation was raised by the local people as this species was totally unsuitable for fuel or charcoal. Further, this specie in close stand (monoculture), does not allow growth of vegetative cover much need for fodder of



cattle. On the other hand the argument put forward by the champions of *Cryptomeria* was high productivity of the crop per acre that could be generated at low expenses (*ibid*, p. 24).

The debate over the subject ultimately led to a visit by Sir Gerald Trevor, Inspector-General of Forests, in 1934. To improve the quality of the output he suggested lowering of the rate of growth of the specie<sup>xviii</sup> for which he prescribed closer planting of the trees.

During the period 1937-38 to 1939-40 Curtis Working Scheme was introduced. The main change prescribed in Curtis's Scheme was the application of the contour strip system of felling in the hill forests. Clear fellings were to be carried out along contours, and not more than 3 chains in width down the slope on average ground. The plan was to protect over exposure and thus erosion.

Curtis in his Working Scheme observed that the *taungya* system in hill plantations had in fact increased soil erosion particularly when potato is the field crop. Another drawback of the system is the practice of complete destruction of original coppice, which otherwise would have put additional value to the artificially regenerated crop in the Short Rotation WC (*ibid*, p. 24).

Macalpine's Plan for the period 1940-41 to 1959-60 was more or less in the general pattern of Choudhuri's Plan. The major departure from the earlier plan was that clear-felling with artificial regeneration was prescribed for the Tista Valley WC and rotation for firewood species was increased to 60 from 50 years<sup>xix</sup>. There was serious objection to further expansion of *Cryptomeria* plantation and such plantation was therefore not prescribed. *Cryptomeria* WC was omitted and included in the Long Rotation WC to produce timber of better quality following Sir Trevor's prescription (Xth Plan, Part-I, p.74-75). This once again vindicates the point that "scientific forestry" was more in response to changes in demand than as a measure to meet the needs for conservation as had been put forward by the Imperial administration.

Macalpine's Plan had provided for seven WC, viz., (a) Short Rotation Hill WC with a rotation period 60 years to supply fuel to Darjeeling town and Tea Gardens, (b) Long Rotation Hill WC with a rotation period of 125 years was created to produce timber for local consumption and export, (c) Tista Valley WC meant to produce *Sal* timber had a rotation period 150 years, (d) Rangit Valley WC with a rotation period of 80 years was developed for the purpose of producing miscellaneous timber, (e) Giel Short Rotation WC had a rotation

period of 50 years, (f) Protection WC, and (g) Undeveloped WC. For the first five WC clear-felling with artificial regeneration with *taungya* was prescribed.

Though in the IXth Plan for the period 1962-63 to 1966-67 the number of WC was kept at seven yet there was reorganization of these Circles under this plan. The seven WCs demarcated in the plan were, (a) Fuel-cum-packing Timber WC had a rotation period of 60 years with four periods of 15 years each. This WC is more or less identical with Short Rotation Hill WC of the VIIIth Plan, (b) Hill Timber WC which is more or less identical with Long Rotation Hill WC of the previous plan excluding the *Cryptomeria* areas – rotation period is fixed at 99 years with three periods of 33 years each, (c) *Cryptomeria* WC: This WC was once again revived as it was felt that *Cryptomeria* specie requires less time to attain marketable size so it cannot be clubbed together with species that requires longer rotation period to attain the same (Xth Plan, Part-I, p. 76). There has been a change in the policy of the government after independence. In 1952 high forestry was prescribed and that may have resulted in the revival of the *dhupi* plantation, to generate capital for an infant nation that was capital starved, (d) Selection WC were introduced to generate more output.

### **6.2.2 Formation of the Kurseong Forest Division**

After the formation of the Darjeeling Division in 1874, in 1877 the forests under the present Kurseong Division with the exception of Mahaldiram and Chattakpur blocks were made into a subdivision of the Darjeeling Division under the administration of Divisional Forests Office DFO, Darjeeling. As this arrangement was found inadequate, the Kurseong Forest Division was created in the year 1890 (IIIrd WP<sup>xx</sup>; p.17). The Boundary of the forest division is outlined by Tista river in the east, in west is Mechi river, south lies forest of Baikunthapur Forest Division as well as cultivation and Tea Estates of the Siliguri plains. The Darjeeling Civil Sub-division formed the northern boundary.

After reservation in 1865 the forest between the rivers Mechi and Tista constituted the Sikkim Division. In the year 1870 the forests of the Darjeeling District and of the Jalpaiguri District were lumped together into one charge the Cooch Behar Division. In 1874 this unwieldy charge was split into two and the forests relating to this Plan together with two other blocks of forests were made into a subdivision of the Darjeeling Division under the general control of the Divisional Forest Officer, Darjeeling. This arrangement was found unsatisfactory and in 1890 the Kurseong forest division was formed. Between the year 1881

and 1891 the Sivoke hill forests formed part of the then Tista Division, but they were restored to the Kurseong Division in the latter year.

The boundaries of the forest division in this region underwent shuffling and reshuffling several times. The mode of acquisition of forests lands were either direct proclamation of the government under various Acts, or through purchase<sup>xxi</sup>, or resumption for default of rent<sup>xxii</sup>. In some cases lands were handed over to the Forests Department after prior acquisition by other departments of the government<sup>xxiii</sup>.

On the Indian Forest Act VII of 1878 superceding the Government Forest Act 1865, a fresh notification was issued under section 34 of the Act; more accurate description was given therein against each reserve, but reliable Figureures of area could not be found until a complete survey was made by the Survey of India in 1902. Rights were enquired into between the years 1890 and 1896, after which the Government of Bengal in its letter No. 996-T-R, of 29th October 1896, to the Conservators of Forests, approved of the proceedings of the Forest Settlement Officer eith regard to the forests reserved under section 34, which in effect raised them to the status of areas reserved under section 19 of the Act. (V-th WP<sup>xxiv</sup>, pg. 7).

The earlier objective of state control of these forests was to exploit forest produce to meet the ever increasing demand from industries. The areas where trees are felled are not to be left for natural regeneration but instead artificial regeneration was prescribed to afforest the area with the help of the *taungya* system. This system was prescribed to convert a mixed forest into a monoculture plantation<sup>xxv</sup> with valuable exotic species like the *teak* and *dhupi* (*cryptomeria japonica*). The plan also made provision for softwood to meet growing demand from matchwood and plywood.

Monoculture has been prescribed on the following grounds. First, to keep the cost of extraction low which in turn will make the value of output certain, and also there is no need to clear fell trees of other species for the extraction of a particular commercially valuable species. Secondly, the *tangya* system fell short of its target which means that supply of cheap labour was diminishing so an alternative cheap method of extraction was needed, this could be done by mechanized forestry for which the plants should be planted at a much wider gap and of same species. The plan does not provide for a separate fuelwood WC. The demand for firewood is expected to fall due to better availability of electricity, coal and fueloil. Moreover, the demand for fuelwood could be met from lops and tops during timber operations and during any thinning operations.

### 6.3.3 Formation of Kalimpong Forest Division

Kalimpong subdivision originally belonged to Sikkim but was occupied by the Bhutanese in 1706. Later it was formed with a part of the territory annexed by the British under the Senchula Treaty of 1865 as a result of the Bhutan Campaign of 1864. In August 1866, by a Government resolution it was added to the Darjeeling District under the name of Damsong or Dalingkot. The forests under the present Kalimpong Division was placed under the management of the FD between 1879 and 1881. In 1878 a portion of the Dalingkot subdivision was set apart as “forest reserves” with the reservation for the same lands required for cinchona plantation (p. 15). Other than the FD all other departments holding forests land had right of use of the forest but, all timber and other produce growing on the land are the property of the FD (IVth WP<sup>xxvi</sup>, pp. 15-17).

Prior to the WP i.e. up to 1880, only *sal* bearing forests between the Tista and Lethi rivers were worked under the permit system. Under this system felling was unregulated and all full-sized trees were extracted and only the trees in the inaccessible places were left unworked. The first working scheme for these forests was made by Brandis in 1880 but it included only the west bank of the Tista Division. From 1886-87 to 1890-91 only few trees were removed from the east bank of the river Tista under the selection system. The price of the trees was fixed according to the girth of the tree. The FD till 1884-85 extracted trees in the Chel Range but since then the girth system was introduced. This method of selling trees according to the size of girth resulted in the extraction of all trees with tall and clear boles. In 1890-91 the system of selling trees by the cubic feet was introduced. For all other species other than *sal*, selection fellings were made and though the sale was limited yet there was a tendency to overcut in areas more accessible adjoining to the tea-gardens.

The first WP (French, 1896-1905) of the Division was prepared in 1896 for the period of twenty years. However, in 1902 a separate WP (Grieve, 1901-1905) for the Mal block was accepted and was in force up to 1905. The area of the forests was 6107 acres and it required a separate WP due to a quantum rise in the demand for fuelwood from the tea-gardens in the Duars<sup>xxvii</sup>. The second WP (Thinne, 1906-1921) divided the whole division into six WC, viz., Tista, Chel, Lish, Neora, Jaldhaka and Pankasari. *Sal* trees over 1 foot diameter was completely enumerated and for the first time a limit was put on the yield of *sal*. From earlier 25 years rotation of coppice fellings was brought down to 20 years in the plan. Regeneration of coppice was supplemented with artificial restocking by burning, sowing in lines or

broadcast, or by *taungya*. However, neglect of the firewood coupe resulted in many place in reduced growth coppice for fuelwood.

The third WP (Cowan, 1924-1943) aimed at conversion of irregular forest<sup>xxviii</sup> into a regular forest with clear felling followed by regeneration by *taungya* wherever possible. For the first time in this forest division was a Tea Garden Long Rotation and Short Rotation Working Circle introduced with a 40 and 20 years rotation period respectively. Besides, there was a separate WC designated as Kalimpong Fuel WC which was intended to provide charcoal to Kalimpong where the demand for fuel was entirely in the form of charcoal, especially hardwood charcoal. However, it was later realized that species prescribed for charcoal were better suited for timber and those recommended for timber produced better charcoal. It was specifically for this reason that Cowan's WP was revised before the due date.

The fourth WP (Pal, 1934-35 to 1943-44) covering WW-II, witnessed a very high demand of timber to run the war machinery. However, during the plan period there was huge shortfall from the target area to be clear-felled. The reason put forward was scarcity of labour in the region. Though in later enquiry reports it was noted that throughout the WW-II large forces of labour were actually recruited regularly by the contractors from the Kalimpong subdivision and sent to Assam. The shortfall in Labha and Lulagaon felling series was because of "no demand due to inaccessibility". The fourth WP was extended up to 1946-47, vide Government order No. 6104, dated 27th July 1950.

The fifth WP (1947-48 to 1956-57) kept the earlier broad distribution of WC except that the two Tea WC of the earlier plan was clubbed together to form the Miscellaneous Timber WC. The sixth WP covered the period 1957-58 to 1966-67. After the expiry of the sixth WP the division was worked few years by annual plan. The seventh plan covered the period 1975-76 to 1985-86. The eight WP was formulated but was not forwarded to the CCF till 1997 and so lost its relevance. From 1984-85 to 1990-91 the Division was worked on the basis of annual scheme.

In Kalimpong Division, in the early years when forests were 'reserved', large area of forest (*Khasmahal* areas) was left out for the expansion of cultivation and supply of fuelwood to cultivators and tenants. It is in this area that most of the extension of cultivation has taken place since then. Over the period, these forests were further reserved and the rest was extensively worked to meet the growing needs of the burgeoning population. The local demand for forest produce are timber, fuel, box-planking, fodder etc. The demand for *sal* had

increased steadily up to the Great War but declined after that. It rose again during the Jute Boom of 1926-28 and fell during the period of Great Depression. But all along this period there has been a steady demand for *sal* for metre gauge sleepers from the Bengal-Duars Railway. In period of recession the low price of *sal* had adversely affected the timber sale from this Division. Difficult terrain and long distance from the nearest market has made *sal* from this Division uncompetitive vis-à-vis *sal* from the plains. It was only those trees which could produce first class sleepers that had a favourable market and all green *sal* below 1.5 metre girth along with the dead ones were usually converted into charcoal. (IV-th WP<sup>xxix</sup>, p. 22)

Though the demand for structural timber of miscellaneous timber has dropped with introduction of reinforced concrete, however, there has been an increase in demand for softwood for moulding purposes in reinforced concrete works.

In the tea gardens the box-planking was completely displaced by imported 3-ply wood. The demand for box-planking during 1930s was mainly confined to orange trade in Rungpoo, Tista Bridge and Kalimpong. However, there was a large market for packing cases in Calcutta but it could not be supplied at a competitive price from the Division owing to the high cost involved in extracting isolated trees (Pal, N. WP, Part-I, p. 22). This was another factor that led to growth of monoculture under the guise of scientific forestry. The main aim was to transform a natural asset into a capital asset which would yield a steady flow of revenue. By the time when the WP for the period 1934-35 to 1943-44 was drafted there had been a substantial decrease in demand of firewood from the tea-gardens due to introduction of crude-oil engines, though the neighbouring tea-gardens from the Chel, Neora and Jaldhaka Ranges continued to remove large quantities of firewood annually. The demand for fuel from Kalimpong was almost entirely in the form of charcoal and people preferred hardwood charcoal to softwood charcoal.

The high demand for bamboo was met with sufficient extraction from the forest. Grazing concessions were utilized to the extent possible and large quantities of fodder were extracted. Contractors collected long-pepper (*Piper longum*) and *manjita* (*Rubia cordifolia*) through leases secured by bidding under sealed tenders. The FD also made large profit as late as 1946-47 by selling elephants captured in the forest. Drift and waif wood, thatch, sandstone and leaf-mould also generated a certain amount of revenue for the Department (Pal, N. WP, Part-I, p. 23).

Lines of transport play two major roles in forestry practices. First, the earlier inaccessible areas are made accessible for working with expansion of transport network. Second, it also acts as the line of exports for the produce. Before new compartments are worked new roads were built and such evidences are widespread in all earlier WPs. In 1935, the Kalimpong Division itself owned and managed 310 km. of roads and paths. The progress in roads and paths is a measure of the progress in forestry in this region. Besides, opening of railways in the region had made possible for export of timber and other forest produce which were in high demand. The forest of this region supplied a huge quantity of sleepers especially of *Sal* (see Flint, 1997) to the railways that had facilitated the expansion of the network. Also, the railways made possible export of timber to distant markets at reduced cost. The Kalimpong forest was served by the Tista Valley Section of the Darjeeling Himalayan Railway and the Bengal Duars Railway. The Kalimpong-Rilli Ropeway made extraction of timber possible from those areas which were hitherto inaccessible. The construction of the Coronation Bridge over river Tista in Sevoke was effective in making supply of timbers from the Duars region more profitably.

Whenever possible, coupes were sold through public auction to the highest bidder; otherwise trees were sold at rates determined by the FD. The trees were swan on the spot and then carried on shoulders to the nearest path or roads or even at times they were slid down to the nearest cart road or in the river. Ferrying by rivers was much cheaper compared to any other means of transport and only comparable to the charges of coolies.

Firewood *pil* measures 5' × 5' × 2½' in the plains and 4' × 4' × 2½' in the hills and sold on actual measurement. In case of tea gardens at times the payments were made on an area basis, determined by felling sample acres. A large quantity of firewood was converted to charcoal which was then removed in bags or baskets, whereas, the firewood was removed in carts.

The ninth WP for Kalimpong Forest Division for the first time introduces a Biodiversity and Wild Life Conservation and Preservation Working Circles. It is also for the first time that we find an official admission that state forestry since its inception has never considered the welfare of the local communities as its objective. In the forward to the ninth WP (1997-98 to 2017-18), G.B. Thaplyal, CCF, Planning & Monitoring, West Bengal, has mentioned in unequivocal words:

“... Whereas the sole objective of forests management over the last one hundred years, had been mainly guided by the maximum commercial return of high yielding timbers, and

conversion of the unevenaged natural forest into pure stands of even aged crop; growing concern regarding this system of management, surfaced during this period.”

Again in view of the Supreme Court order in 1996, the CCF writes, “... restriction of felling in higher altitudes and natural forests, brought a hitherto little cared for, new angle of conservation of Biodiversity into the field of forest management, and the aspects of management assumed multidimensional proportions with the advent of “Peoples participation in forestry management, in the form of Joint Forest Management, principles”.

This is a sea change in State policy from a policy of alienation and deprivation to a policy of cooperation. Prior to introduction of JFM, all access and use rights to the local communities was given as a concession rather than a privilege enjoyed by the people. A brief history of the curtailments of rights in forests of Darjeeling district is discussed below.

### **6.8 Status of grazing and usufructuary rights in forests of Darjeeling district**

Grazing rights were limited and was provided at the sole discretion of the DFO. In early years of reservation in nearby areas of Darjeeling town, large Government *bathans* were developed especially in Senchal forests. Grazing rights were selectively given so as to ensure adequate supply of milk to the town. All rights in the forests were curtailed henceforth (Revised WP<sup>xxx</sup>, p. 13).

The grazing rules were explicitly stated vide Government notification dated 21.02.1882, published at page 175, Part I, of the *Calcutta Gazette* of 01.03.1882. Adhering to the rule, the forest was divided into (i) lower forest and (ii) upper forest. The lower forest is forests along the valleys and upper forests comprising the remainder of the forest reserved or proposed to be reserved. Grazing in lower forest was not permitted except under monthly permits to be obtained on payments of such fees as the Conservator of Forest may fix from time to time. Grazing in upper hill was reserved primarily for cultivators who were tenants of the Government in the Kalimpong subdivision. Any person who desired to graze his cattle had to collect a quarterly pass for that purpose. *Mandals* had the privilege to graze their animal free of any charges. The permits also specified the block or compartments where grazing could be done. However, there were exceptions to this rule like Rai Ugyen Kazi Bahddur who was permitted to graze cattle free of all charges in the Paiengaon block during his lifetime (VI-th WP<sup>xxx</sup>, p. 139), because of his services.

The Darjeeling Grazing Rules was published on 10.10.1895 under section 75(d) of the Indian Forest Act (VII of 1878). However, in the Darjeeling division the whole of Singalila forests



except Little Rangit 9, Tonglu and Batasi blocks, were open to grazing (VIII-th WP, 1941). The grazing in Senchal Pasture and a part of Bara Senchal (about 157 acres) was leased to Edward Keventers, Ltd. For the rest of the division stall feeding was the rule. As amended by notification No. 3880 M.R., dated 22.11.1913, the maximum area open to grazing was 8008 acres and not more than 533 cattle were to be grazed both in summer and winter months. Grazing was reserved as mentioned earlier for supply of milk and butter to the people of Darjeeling, Jalapahar and Jore Bungalow and for draught animal not exceeding 150 heads. Much later, construction of bathans were prohibited vide CCF's No. 1920/CS/1G-1, dt. 22.02.1966. All existing bathans at the time if not properly utilized were to be closed for grazing. Grazing of small livestock was prohibited and no professional graziers were to be permitted to graze animal. Permissible cattle of the forest villagers were to be allowed but stall feeding was encouraged. Any trespassing of the cattle was to be severely dealt under the Cattle Trespass Act or Indian Forest Act (X-th WP<sup>xxxii</sup>, p. 77-78).

## **6.1 Availability of fuelwood and charcoal**

There was a high demand for fuelwood both from people of the locality and the tea estates. Initially, when supply was made from coupes that were near the town of Darjeeling, transport was not a major hindrance. But as distance increased it became more economical to transform fuelwood into charcoal<sup>xxxiii</sup>. From inception of the FD (1865) to the WW II, charcoal was supplied to the residents of Darjeeling from Darjeeling Forest Division. After the war it was imported from Kurseong Forest Division from 1 July, 1948, but distributed through the Darjeeling Forest Division. The distribution included a chain of 76 members of dealers in the Darjeeling town, each receiving 96 bags per month. There was a system of distributing one bag of charcoal to every four members of a family per month on the basis of Ration Card at a subsidised rate. Hotels, schools and others institutions bought in bulk quantity at a higher rate. Till 1958-59, the entire programme of conversion to charcoal did not recover the total expenses. But, since then till the time it was stopped in the 1960s, there was a surplus in revenue for each year (Xth WP<sup>xxxiv</sup>, Part-I, pp. 54-57).

### **6.1.1 Status of Forest Village**

It was a conscious policy of the FD to have a FV in each felling series. The number of households was to be decided on the basis of acres of land to be planted (one household for each acre per annum) and FV may be also established for protection and other works. However, such villagers were to be considered as tenants at will and shall be allowed to stay

as long as their service is required for forest works. The permanent FV settlements were subject to the following conditions (V-th WP<sup>xxxv</sup>, p. 149):

- (a) In the plains the area of wet cultivation and homestead per household [HH] shall not exceed 2.5 acres per HH of which the homestead land shall not be more than 0.5 acres.
- (b) Each HH can keep not more than 2 plough cattle or draught animals, 2 milch cows or buffaloes and 4 calves; 2 goats or sheep may be allowed provide they are stall-fed always. Grazing for cattle allowed in these rules was permitted free in only designated areas of the RF prescribed by the DFO.
- (c) In the hills where no wet cultivation is possible the cultivated land was 1.0 acre only and also the land must be terraced for cultivation.
- (d) The size of the livestock allowed was 2 plough cattle, 2 milch cow or buffaloes and 4 calves; 2 goats or sheep may be allowed provide they are stall-fed always.
- (e) In certain cases a villager may keep more number of cattle than he is allowed provided the average of the whole village does not exceed the maximum given.
- (f) The *Mandal* or headman of the village has an additional privilege and is allowed to keep not more than 1.5 times the area of cultivation and the number of cattle allowed to a villager in each case.
- (g) No person shall be considered for the privileges of a *mandal* unless he has settled and has control over at least 10 houses of approved villagers.

### **6.11 Joint Forest Management in the districts of North Bengal**

After the Union Government's adoption of the national JFM Resolution in August 1990, many States have adopted the JFM approach. In West Bengal two separate forest committees were made, viz., Forest Protection Committee [FPC] and Eco-Development Committee [EDC]. The former has been constituted in the RF areas and the latter has been constituted for the purpose of protection and development of PF areas. In Darjeeling almost all areas under forests baring the area SF Division under D.G.A.H.C. are designated as RF. The 1990 Resolution entitled the head of every household to be a member of the FPC. Subsequently, a Government Order of 1993 entitled the wife of the head of every household to become a member of the FPC.

JFM was introduced in the districts of North Bengal plain areas vide a FD Resolution No. 8554-For dated 15.11.1991. This resolution was partially modified by a Resolution No. 2756-For dated 17.08.2004. The fresh resolution categorically defines the composition, duties and functions of the beneficiaries of FPC. After enactment of The Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, a fresh resolution No. 5969-For dated 03.10.2008 in supersession of earlier resolutions No. 2340-For dated 14.07.2004, 2731-For dated 16.08.2004 and 2756-For dated 17.08.2004 was passed. The copy of the Resolution is given at the end of the thesis as Annexure I.

In the last decade of the twentieth century few significant changes has taken place *vis-à-vis* the dwellers of FVs. First, as mentioned above, was the introduction of JFM programme. Second, FV came under the local *panchayat* system. Third, Report of the Expert Committee contained in Part-III of the Order of the Supreme Court dated 12.12.1996. All this naturally called for a change in FD objectives, a fact that has been admitted in the latest WP. However, questions remain whether creation of Biodiversity WC as proposed in recent WP, are meant to maintain if not create more restriction to people's access as a *detour* to the Supreme Court's order? Moreover, to what extent has the well-being of the long isolated FV community changed after incorporating the FV under the *panchayat* system? Thus an investigation into household dependence on forests CPRs in the FVs is required to understand how far such participatory programmes have been successful in evolving co-operation in forests management. The study would also attempt to throw light on the lacunae in present forest management programme and what ought to be done to evolve a truly participatory forest management system. The findings of the case study are reported in in the next chapter.

---

## Chapter Notes and References

<sup>i</sup> Tirkey, L.P. (2005): "*Tea Plantations in the Darjeeling District, India: Geo-ecological and Socio-economic impacts in Post-Independence Period*", thesis submitted at the University of Manitoba

<sup>ii</sup> Ghosh, T.K. (1987): *Tea Gardens of West Bengal: A Critical Study of Land Management*, B.R. Publishing, New Delhi.

<sup>iii</sup> Note that forest in Siliguri subdivisions were under the charge of Kurseong Forest Division since the turn of twentieth century.

<sup>iv</sup> The census of 1872 was considered defective and there was substantial concealment of females in 1881. Many of them fled to on the census night over to Nepal and also very large number of labourers ran away from tea gardens out of unknown fear

<sup>v</sup> Md. Millat-e-Mustafa (2002): "A Review of Forest Policy Trends in Bangladesh: Bangladesh Forest Policy Trends", *Policy Trend Report*, pp. 114-21.

<sup>vi</sup> O'Malley, L.S.S. 1907: Bengal District Gazetteers, p.98

<sup>vii</sup> X-th WP, Part-I, p.21

<sup>viii</sup> All units as far as possible have been transformed into MKS system for easy comparison.

<sup>ix</sup> Forest Working Plans are planned document prepared by the FD to prescribe such forestry practises that may best meet the interests, and therefore the wishes of the Department; and indicates the means by which this

---

purpose may be accomplished. In other words, it is a forest regulation prescribing the application of certain cultural rules, and the execution of certain forest works, in order to produce a given desired result (D'arcy. W.E. 1895: *Preparation of Forest Working-Plans in India*. Issued from the Office of the Inspector General of Forests, Working Plan Section, Calcutta).

<sup>x</sup> VIII WP (1940), Part-I, pp. 20-25

<sup>xi</sup> The FD's concern is evident through their programme of constructing Coppice WC for the supply of firewood to tea gardens but no such initiative has been put forward for supply of firewood to the villagers. Though the lops and tops are transformed into charcoal to be transported cheaply to the residents of the Darjeeling town.

<sup>xii</sup> For the procedure of different types of felling see either Bryant Romancing Burma Forestry or Village Voices. Forest Choices by Poffenberger.

<sup>xiii</sup> One reason why he had faith on natural regeneration is because estimated supply may have taken care of future demand forecasted.

<sup>xiv</sup> Define Class I trees.

<sup>xv</sup> Does this have anything to do with the group system of Europe? What exactly is the group method?

<sup>xvi</sup> Baker's revised WP (1921), p. 3 – paragraph-4.

<sup>xvii</sup> VIIIth WP, Part-I, pp. 23-24

<sup>xviii</sup> Dhupi was introduced from Japan in 1891 in the Upper Hill forests of Darjeeling. The growth of the specie is much higher in Japan. It is not so suitable for tea-chests but rather finds its use for orange-boxes. (IX plan, Part-I, p. 37). The demand of the tea gardens is being met by plywood.

<sup>xix</sup> There is a reference that during this period alternative source of energy like coal was used in large quantities which decreased the demand for firewood and this might have prompted the planner to increase the rotation period. Rotation period is increased means that the harvest is postponed and this means some change in expectation on return from land.

<sup>xx</sup> IIIrd WP, Part-I, p.17

<sup>xxi</sup> In Kurseong division the Tukriajhar and parts of the Dalkajhar and Mechi forests were purchased.

<sup>xxii</sup> Bamanpokri block was resumed for default of rent.

<sup>xxiii</sup> Paglajhora block was originally acquired by the Public Works Department and subsequently handed over to the Forest Department

<sup>xxiv</sup> V-th WP for the Kurseong Forest Division; Part-I, pg. 7

<sup>xxv</sup> The question why in the first place monoculture? Answer is (a) cost of extraction will be low [the value of the output is certain, and no additional charges to clear trees of other species] (b) *Taungya* system slowly diminished which means that supply of cheap labour was diminishing so a alternative cheap method of extraction was needed, this could be done by mechanized forestry for which the plants should be planted at a much wider gap and of same species. So we need to see if there was increase in gap in plantation at some later stage especially after 1950's.

<sup>xxvi</sup> IVth Plan. Kalimpong Division, Part-I, p. 15

<sup>xxvii</sup> See the number of gardens that were established prior to this period in Jalpaiguri Duars. For reference see Pachimbanga Jalpaiguri Shankhya.

<sup>xxviii</sup> Irregular forest refers to natural mixed forests

<sup>xxix</sup> Pal. N. WP, Part-I, p. 22

<sup>xxx</sup> Revised WP for the Upper Hill Forests of the Darjeeling Forest Division, 1921.

<sup>xxxi</sup> VI-th WP Kalimpong, Vol. I, p. 139.

<sup>xxxii</sup> X-th WP, Part-II, pp.77-78.

<sup>xxxiii</sup> Need to search for conversion ratio of fuelwood volume: charcoal. My estimate from Figure in X Plan, Part-I, p.57 shows that firewood : no. of bags of charcoal = 9:1.

<sup>xxxiv</sup> Xth WP for Darjeeling Division, Part-I, pp. 54-57

<sup>xxxv</sup> V-th WP, Kalimpong Forest Division, Vol. I, p. 149.