

## CHAPTER – V

### COMMERCIALIZATION OF FORESTS

From the policy formulation and activities of the Government in general and particularly of the Forest, Public Works and Revenue Departments it is evident that the major aim of the colonial government was to commercialize the forests all over India, and the Bengal Government taking a cue from it worked to gain profit from forests. Before the commencement of the conservation of Darjeeling (British-Sikkim) forests in 1864 and after for a considerable period the felling operations were done by the contractors of private companies under lease. We have dealt with it in details in chapter No. VI. The British documents show that there were several important revenue-yielding forests in Darjeeling district, which were conserved and placed under charge of the Forest Department. The total area of these reserved forests was returned by the Deputy Commissioner of Darjeeling in 1870 at about 120 square miles.<sup>1</sup> In a memorandum of 1882 Dr. W. Schlich to recapitulate operations of the past in Darjeeling noted, “Until the year 1876 the forests were worked by private enterprise, the Forest Department selling selected trees at certain rates and firewood at a fixed rate per 100 maunds, the purchasers undertaking the cutting and carriage. Under this system the Forest Department had to see that only trees properly marked were cut and that the royalty on firewood was paid, the latter being then Rs. 5 per 100 maunds. The effect of the system was, that all large and sound trees in the vicinity of Darjeeling were removed, while what remained in the forests was composed of hollow or otherwise diseased and crippled trees. While the Department was considering how the system could be improved, a decided change was introduced by the Deputy Commissioner of Darjeeling. Owing to repeated complaints on the part of the residents of Darjeeling as to the difficulty of getting firewood, and of a good description especially, the Deputy Commissioner, who then held charge of a part of the Goompahar forest, commenced in 1876 to supply the residents of Darjeeling with firewood by direct agency. He employed contractors, who cut the firewood, burnt the charcoal, and delivered the material at Darjeeling; the *tahsildar* and other subordinates being made use of to supervise the work. The fuel was sold at comparatively low rates, and the effect produced was that all private contractors, who had so far supplied Darjeeling closed or considerably reduced their operations.”<sup>2</sup>

The poor management of Darjeeling forests had not happened in one day. In fact, the British did not know how to manage forest administration. From the outset they failed to chalk out a plan to make forests a profitable one, but they had a wishful aim to use forests for financial gain. The British, for a considerable period, were not so much efficient to take the burden of

forest operations, and they were dependent on the contractors and private enterprises. From the very beginning they worked haphazardly and had no belief in their own abilities. In spite of these, various operations and conservancy carried on by the Forest Department. The haphazard working of forests is evident from the Progress Report of 1865-66 prepared by Dr. Anderson. He wrote, "One thousand sleepers have been felled in the temperate forests, and have been stored close to cart-road. These sleepers cannot be removed until slip leading from the cart-road to the Terai is opened, or until the cart-road below Kurseong is completed." This shows that the Forest Department had no plan at all. They cut the trees for railway sleepers but did not know how to transport these immediately to the plains. Operations of such type of working carried on by the department may be described as to put the cart before the horse. At this stage, their main buyer was the Railway Department and they hoped to commercialize the forests on the basis of the demand of the railway sleepers. The said report noted, "The Eastern Bengal Railway Company have agreed to take 500 sleepers of Oak and Chesnut (sic) on trial delivered at Goalundo, at the rate of Rupees 3 per sleeper. Samples of the timber nine of the best kinds of temperate trees were sent to Calcutta and were submitted to the Agents of the East Indian and Eastern Bengal Railway Companies. The Agent has ordered some tons of Chesnut (sic) and Magnolia for the experiment of making Railway Wagons from these woods." In fact, there was no infrastructure to transport the railway sleepers to any destination; still, the department made experiment and failed in its attempt. The report narrated the event as follows: "In April 1865, 160 sal sleepers and 40 sleepers of cheer, *Pinus longifolia*, were felled in the valley of the Great Runjeet, a short way above the junction of the river with the Teesta. The attempt to float these sleepers down the Runjeet and the Teesta failed in consequence of the very insufficient nature of the rope used to secure the sleepers to the floating material, bamboos, and all the sleepers started became disengaged from the bamboos before even reaching the Teesta." To avoid the repetition of the same and damage resulting from the inexperience Dr. Anderson suggested, "Were the sleepers fastened by a strong rope of cane, such as is used in making the cane-bridges, I am certain that they could be easily and cheaply floated for many miles." Regarding forest exploitation with commercial purposes and problems associated with it Dr. Anderson reported that the cutting of sal sleepers in the Teesta valley was commenced in November. The site where felling operations were carried on, was a fine forest close to the bank of the river about eight miles above the exit of the river from the hills into the plains. 4,482 sleepers were cut in this valley during the season by sawyers, who contracted to deliver a large number of sleepers before the expiry of the working season. He added, "The Assistant

Conservator has received the greatest annoyance from these native contractors; none of them would commence work without an advance, and one or two have absconded without fulfilling their contract.” As to the further forest operations and problems of commercialization he informed the Secretary to the Government of Bengal that “In the Terai and the outer hills 3,403 sleepers of sal were cut. Part of these sleepers were brought out of the forest and were stored, but from the great unhealthiness of the season a number were left in the forest; these will, however, be removed in the next working season. 100 trees of Sissoo were felled on the banks of the Balasun in the Terai, and will be brought to the depot next year.”<sup>3</sup>

This shows that timber depot was constructed to store sleepers and actual beginning of timber trade, however small in quantity proved that every cloud has a silver lining. The report noted, “Five maunds of wood of *Cornus Species* were sent to the Gunpowder Agency at Ishapore, as it was supposed that it might be a good substitute for the Dogwood of Europe, *Cornus sanguinea Linn* which affords the best charcoal for the manufacture of powder for Enfield Rifles.” To facilitate this trade the British in 1865–66 laid weight on the construction of roads. The Government was informed that eight miles of a most important road intended to be passable by carts in the cold weather were completed by the end of the working season. “This road extends from the cart-road near the Punchnaie River to the Teesta; about a mile more will finish the road when it will be joined to the fair-weather road from Siligoree to the Teesta Valley in course of construction by the Public Works Department. These roads, when completed, will much facilitate all operations of forest conservancy and working.”<sup>4</sup>

The financial result of the working of the Sikkim forests during the year 1865-66 shows that the Government was running on losses, and it was impossible thoroughly to organize a system for collecting revenue during the year. Another hindrance was that the forest rules which Dr. Anderson drew on the basis of Forest Laws of 1865 had not received the sanction of the Governor General before the expiration of the year, and accordingly some valuable sources of revenue were unavoidably neglected. As a result none of the timber felled and sawn by the Forest Department could be brought to the sale depots during the year, and accordingly no return was obtained during the year on the timber felling operations of the department. It is interesting to note that the revenue collected by the Deputy Commissioner of Darjeeling within the forest boundaries had been, by the sanction of the Governor-General-in-Council, credited to the Forest Department. The amount was Rs. 3,259, to which was added Rs. 634, the amount realized by the Forest Department. The value of the timber felled by the department, and part of which was stored on the side of the cart-road in the hills and near the forest roads in the Terai and the Tista Valley was estimated at its value, at those places the amount was Rupees 11,606. The

Conservator hoped, "Some of this timber will probably be sold at the temporary depots, but the greatest part of it must be transported to the main depot at Siligoree on the Mahanuddee." The expenditure in the Sikkim Division necessarily much exceeded the income since important works were undertaken in order to open up the forests. These works included plantations, fair-weather roads to render the forests accessible, boundary pillars, and boundary lines. These were absolutely required under a sound system of forest conservancy, "and the capital expended on them will certainly be repaid with interest." The expenditure in the Sikkim Division during the year amounted to Rs. 28,916, of which Rs. 23,237 were spent on purchase of tools, such as saws, furwabs, pick-axes, blasting tool etc. on plantations, communications, salaries, establishments and sundries, such as office furniture etc.

Many of these were preliminary expenses which did not incur again. The sum spent on timber operations was Rs. 5,679.

Statement showing financial results of the working of the Forests in British Sikkim in 1865-66<sup>5</sup>.

Heads of Disbursements	Amount			Heads of Disbursements	Amount		
	Rs.	As.	P.		Rs.	As.	P.
Timber expenses	5,679	0	3	Sale of timber, firewood, bamboo and charcoal	604	12	0
Purchase of tools, plants, & c.	5,386	2	4	Fisheries	1,033	12	0
Plantations	814	11	11	Land Revenue	510	0	0
Experiments to test the value of timber of different kinds	57	8	0	Grazing Dues	1,716	0	0
Communications, & c.	7,543	5	1	Miscellaneous Receipts	29	14	0
Office Establishments, & c.	7,837	8	5				
Travelling Allowances	848	5	1				
Office rent, carriage of tents and Office records	612	0	0				
Sundries	137	12	0	Total of Receipts	3,894	6	0
Total of Expenditure	28,916	5	1				
Total of Receipts	3,894	6	0				
Excess of expenditure over Revenue	25,021	15	1				
Deduct estimated value on 1 <sup>st</sup> May 1866 of sleepers felled during the year 1865-66	11,606	4	0				
Estimated loss to Government	13,415	11	1				

The above table shows that estimated value of sleepers stored in temporary depots or in forests was Rs. 11,606 and 4 annas. 1,000 of these sleepers in the temperate forests were valued at Rs. 1-8 per sleeper according to local rates for sawn timber sold in the forests. 7,885 Sal sleepers in the forest and temporary depots were valued at Rs. 1-4 each and 200 sleepers of *Pinus longifolia* at the same rate.

In the Great Runjeet (Rangit) Valley 160 sal sleepers and forty cheer (*Pinus longifolia*) were cut out for an experiment of floating out timber by this river. The cutting of railway sleepers in the Tista Valley was commenced in November 1865, and eight native contractors agreed to deliver by the end of March 30,900 sleepers, and received an advance on this account. In some cases part of the advance was lost, as none of these contractors had no property to seize, and took every opportunity to get across the frontier in a few hours. Only 4,482 sleepers were cut during the season, out of which number 1,095 were rejected and not paid for, because they were below the measurement agreed on. "The latter timber", wrote Gustav Mann, Asst. Conservator of Forests, Sikkim, "is in most cases sound, and although short of measurement will fetch a price sufficient, I hope, to cover the losses incurred by having made advance to men who were too ill to fulfil their contract."<sup>6</sup> In fact, because of fever prevailed to such an extent that most of the men were unfit to fulfil to the contract. On the outer hills, immediately above the Terai, even more sickness prevailed, and of 34,500 sleepers which four native contractors agreed to deliver, only 3,403 sleepers were cut, of which 372 were rejected falling short of measurement. In the Tista Valley all the sleepers were got out of the forest and stored on the banks of the river ready for floating out. Of the Terai sleepers only 375 could be brought out of the forest before the end of the season, as sickness prevailed to such an extent that within a fortnight all men were unfit for work and had to hurry back to the hills to save their lives.

However, taking into account all the activities of the Forest Department in 1865-66 it was to be expected that while the department is so young and so much has to be done in the way of organization before profits can be realized, the expenditure should for some years be increasing, and much in excess of receipts. Therefore, progress in snail-pace may be excused. And no amount of praise is adequate for Anderson's imagination and creation of basic infrastructure.

Next Conservator of Forests, Lower Provinces was H. Leeds and he was the first permanent Conservator. He in his Administration Report for the year 1867-68 informed the Secretary to the Government of Bengal concerning the timber extracted from the Forests in British-Sikkim during the past year:

Logs	.....	.....	.....	No	5,580
Sleepers	.....	.....	.....	„	30,638
Planks	.....	.....	.....	„	1,503
Shingles	.....	.....	.....	„	4,70,110
Scantlings	.....	.....	.....	Running Feet	36,484

In this report he gave a valuation statement of timber in hand on 31<sup>st</sup> March 1868.<sup>7</sup>

Description of timber at different depots	No. of logs, sleepers or pieces	Rate			Estimated Value		
		Rs.	As.	P.	Rs.	As.	P.
Sal and Sissoo Logs	4,724	16	0	0	75,584	0	0
Sal and Oak Sleepers	31,104	1	8	0	46,656	0	0
Sal Planks	1,113	1	8	0	1,669	8	0
Shingles	3,01,860	4 Per Thousand			1,207	7	0
Oak and Magnolia Scantlings, running feet	865	8 Per Hundred running feet			69	3	2
Total Rupees	.....	.....			1,25,186	2	2

The Government of Bengal was not satisfied with this valuation statement and observed that the mode of pricing the trees without reference to their size was a rough and provisional expedient adopted by the Forest Department on the first introduction of measures of conservancy.<sup>8</sup>

By 1868 the Forest Department observed that certain collections on Forest produce other than from timber in *Unreserved Forests*, were made by the Civil District Officers. These collections were finally incorporated into the Forest Revenue; but as no expenditure was incurred by the Forest Department on account of them, the amounts which were considerable, were set apart from Departmental operations when considering expenditure and receipts. In short, it meant that the collections by civil officers were excluded in estimating financial results of the Forest operations.

The following statement gives the results of financial operations for the last three years:-<sup>9</sup>

**Financial results during past three years —**

1	2	3	4	5	6
Years	Expenditure	Receipts	Cash deficit.	Difference of assets at commencement and close of year	Net deficit
	Rupees	Rupees	Rupees	Rupees.	Rupees
1865-66 ...	35,773	3,894	31,879	11,606	20,273
1866-67...	1,04,429	8,866	95,563	80,003	15,560
1867-68...	1,65,605	19,649	1,45,956	1,09,241	36,715
Collections on Forest Produce by Civil Officers .....			1865-66	1866-67	1867-68
			34,691	41,690	56,039
Deduct yearly net deficit .....			20,273	15,561	30,278
Net Forest Revenue. ....			14,418	26,129	25,761

These results appeared unsatisfactory, for they showed a considerable cash deficit and also net deficit, after valuing the difference of assets at the beginning and close of the year. By setting off the collections on Forest produce in all divisions against this deficit, which was the result of past operations in Sikkim alone, a net yearly revenue from Forests in the Lower Provinces as shown in the above statement, was obtained. The results shown above were capable of some explanation. Expenditure was too great; but that it was impossible to avoid at the commencement of operations when great difficulties had to overcome, and the cause of the apparent unsatisfactory results lay chiefly in that; the real value of timber brought to market was not properly considered and thus it was sold and made over to Public Department at very low and unremunerative prices. The Forest Department thought that a fair valuation of timber was absolutely necessary and Government was moved with a schedule of proposed rates. Even, against these heavy odds the collections on forest produce were annually increasing and the Forest Department was making every effort to balance receipts and expenditure.

With this end in view the Forest Department of Bengal thought of exploring the Calcutta market in 1867-68. But the result of the experiment of transporting Sal logs to the Calcutta market direct by this Department was not very encouraging as shown in the statement below,<sup>10</sup> but the cause of pecuniary loss on that transaction was that the timber despatched was not of large enough girth or scantling to suit the Calcutta market:-

Quantity and description	Rate	Amount		
		Rs.	As.	P.
40 Logs of Sal Timber	Rupees 30 each	1,200	0	0
15 Logs of Sal Timber	Rupees 25 each	375	0	0
41 Logs of Sal Timber	Rupees 21 each	861	0	0
167 Logs of Sal Timber	Rupees 20 each	3,340	0	0
04 Logs of Sal Timber	Rupees 16 each	64	0	0
267 Total		5,840	0	0

Expenses incurred in sending the above 267 logs from Siligoree to Calcutta.<sup>11</sup>

	Rs	As	P
Felling and removing, at Rs. 10 – 8 – 6 each	2,811	13	6
Carting , at Rs. 8 each	2,136	0	0
Floating , at Rs 8 – 8 each	2,269	8	0
Jute for lashing , at Annas 4 per log	66	12	0
Expenses of superintendence	86	12	0
Charges and commission of Messrs. Mackenzie, Lyall and Company	520	0	0
Total	7,890	13	6
Deduct amount realized by sale	5,840	0	0
Loss sustained by the Department	2,050	13	6

To get the better of the business the forest officials thought that it would be practicable to introduce with advantage and profit to the Department certain classes of Sal timber of large size into the Calcutta market by careful selection of the most suitable scantlings, and by a reduction of the cost of production and transport. They further held that the attempt might also be made to send timber to Calcutta by the Tista and Brahmaputra rivers, offering it for sale at the chief marts on the way. "The supply of timber, however, for many years to come will not probably be more than sufficient to meet the demands of places much nearer the sources of supply than Calcutta."<sup>12</sup>

Further, the Forest Department could not improve its timber trade because of peculiar Railway rule. The Railway Companies did not, as a rule, deal directly with the Forest Department. This Department was compelled therefore to sell the Railway sleepers to contractors who could only afford to pay such prices as would leave them a fair margin of profit when the sleepers were again sold to the Railway Companies. The profit to the Department on such transactions was not more than one Rupee on each sleeper, and this profit was almost, if not altogether nullified by the quantity of rejected sleepers always left on hand. Under this system the Department planned to carry on sleeper cutting operations only so far as was necessary to utilize timber, which owing to its situation was not available for conversion into scantlings of more general utility. The Forest Department was desperate in all hands in their attempt to improve the timber trade. That was reflected in the establishment of forest depots in important places. By 1869 the principal forest depots in the Sikkim Division were Sukna on Mahananda and Sivok on the Tista at the points where these streams emerge from the hills. Logs were occasionally floated down the Mahananda and stored either at Siliguri or lower down that river, at a depot established at Bokamari near Kishangunj. In the Western Duars a timber depot was established at Domohoni where the Dolla stream joins the Tista, but it was proposed to remove it to Jalpaiguri, the Head-Quarters of the Civil as well as of the Forest Division, and the principal mart for timber. The department intended to have a depot at Falakata on the river Mujnai and one near Alipurduar on the river Kaljani. These places are situated near the line of timber transport from the richer forests. During this period the streams available for floating timber in the Western Duars were the Tista, Jaldhaka, Mujnai, Torsa, Kaljani and Sonkosh rivers. The Forest Department further held that Goalanda situated at the junction of the Ganges (Padma) and Brahmaputra and the proposed terminus of the Eastern Bengal Railway would probably be the best place for the establishment of a main depot for Government timber from the Assam and Bhutan Forests intended for the Calcutta market. As a result of making such sustained efforts the Forest Department first time saw a little profit in timber trade.

The following figures show the actual financial results of the transactions of the Forest Department during the year 1868-69:-<sup>13</sup>

	Rs.	As.	P.
Receipts	1,71,184	7	1
Expenditure	1,26,256	7	0
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Surplus, Rs.	44,928	0	1

To this balance, in favour of the Department, was added the difference between assets and liabilities at the commencement and close of the year, amounting to Rupees 68,586-1-1. The sum of these amounts (Rs. 44,928-0-1 + Rs. 68,586-1-1) Rs. 1,13,514-1-2 represented the net revenue realized by the operations of the Forest Department during the year 1868-69. It was usual at this stage to give Forest Department credit in the provincial accounts for the collections of forest revenue made by the District Officers in the various Divisions of Bengal which during the year amounted to Rupees 53,362-4-1. The sum obtained by the addition of these figures to those of the annual departmental account (Rs. 1,13,514-1-2 + Rs. 53,362-4-1) represented the total surplus revenue derived from the forests of Bengal during 1868-69, amounting to Rupees 1,66,876 - 5- 3. In other words, this was the grand total of net surplus revenue of the forest produce of Bengal during the year 1868-69. On this Rivers Thompson, Offg. Secretary to the Govt. of Bengal noted "this large surplus is satisfactory."

But this satisfaction lasted for a very short time. The financial results of the Departmental operations during the next year (1869-70) were as follows:-<sup>14</sup>

	Rs.	As.	P.
Receipts	40,200	0	0
Expenditure	95,874	0	0
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Deficit Rs.	55,674	0	0

The difference between assets and liabilities at the commencement and close of the year was Rs. 18,942, which reduced the deficit to Rs. 36,732. The Collections made by civil officers on account of forest produce amounted to Rs. 73,552 during the year. Thus, the net revenue received from the forests in the Lower Provinces during 1869-70 was therefore (Rs. 73,552 — Rs. 36,732) Rs. 36,820.<sup>15</sup>

The financial position of the Forest Department improved a bit in the year ending 1<sup>st</sup> April, 1871, but it was trailing much behind the financial results of 1868-69. The results of departmental operations during the said year were:-<sup>16</sup>

	<b>Rs.</b>	<b>As.</b>	<b>P.</b>
Collections by officers of the department	61,143	6	6
Forest produce collections by civil officers.	58,534	2	5
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Total	1,19,677	8	11
Deduct			
	<b>Rs.</b>	<b>As.</b>	<b>P.</b>
Charges of the department	84,359	9	10
Difference between assets and liabilities	13,820	5	0
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	98,179	14	10
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Showing a total profit on the year's operations of	21,497	10	1

The causes of this unsatisfactory result were many and various. First, increase of expenditure on account of establishment without any increase of remunerative works; added to this, in the Lower Provinces almost all accessible and remunerative timber disappeared and to remove those which remained was very costly. Second, three thousand sleepers were burnt at Sukna by a jungle fire in March 1870. One thousand four hundred and seventy six sleepers were carried away in July 1870 by the strong floods on the Mahananda during the storms which then occurred. However, many were recovered after the river went down. Third, eighty-eight thousand shingles, the remainder of a batch of 4,70,110 Shingles which were cut for Public Works Department in 1867-68, but which the Executive Engineer refused to take over. These were kept on the Rungbee road about four miles from Darjeeling. As no one purchased them, they became useless and were struck off stock. The value of the losses incurred, estimated at former years' rate, and amounted to Rs. 11,309-12. Fourth, the amounts realized by sale were at much lower rates than those estimated for the timber since the timber brought out of the forests was of very inferior to that sold in previous years. Last but not least, negligence and errors committed by the newly appointed Forest Officers caused loss to the Department. As a considerable quantity of timber felled during previous years, and sleepers, remained in the forests, instructions were issued forbidding the felling of any timber during the year, and desiring that all work should be concentrated in bringing in the felled timber to station depot.

The Assistant Conservator was also desired to inspect all the places where stock of timber were lying in the forest depots and ascertain the quantity. This very necessary inspection was ordered in 1868-69, but was neglected by the officer who relieved Mr. Mann on his transfer to Assam (Mr. Oakley). He neglected it again in 1869-70. His supineness in this and irregularities in other matters caused his removal from the Cooch Behar Division, and ultimately he left the department, but mischief had already been done to the department. Another Assistant Conservator, then newly appointed, committed the error (common to all who had no experience) of cutting timber without considering cost of removal, believing he had done great work when the timber was felled, whereas it had better have remained standing in the forests. As a result of all this the department suffered and incurred heavy loss. However, miscellaneous collections on bamboos, fire-wood, cattle-grazing et al, amounted to Rs. 5,771 during the year ending 1<sup>st</sup> April, 1871 was an improvement over previous years.<sup>17</sup>

H. Leeds in his concluding remarks raised the question of the utility of maintaining a large forest establishment. In the first place, he informed the government that depending on the demand of Calcutta the timber trade could not be improved in Lower Provinces of Bengal since Calcutta and neighbouring markets were supplied by sea from all parts of the world, and the prices of timber were regulated by these markets.<sup>18</sup> In the second place, he wrote that the districts up-country were supplied for the present either from Calcutta or Nepal, as they contained no forests, and plantations could not yield supplies from eighty to hundred years; other divisions, such as Assam, Cooch Behar, Dacca, and Chittagong contained forests enough to supply timber for all local purposes. He continued "Under these circumstances it may be asked whether it is necessary to maintain a large forest establishment to watch over the forests. Could not the civil authorities collect all revenue on forest produce at little cost for extra establishment?"<sup>19</sup> He hoped that the views he had formed should be subject of discussion by those who were authorized to decide upon the future operations of the Forest Department in Lower Bengal.

During the year ending 1<sup>st</sup> April, 1872 the financial results did not show any improvement. Total surplus was Rs. 31,429 including receipts by civil officers, but the Forest Department alone, with its heavy expenditure on fiscally unremunerative establishment, showed a cash deficit of Rs. 29,779.<sup>20</sup> This slow progress was a source of constant anxiety to the Conservator, but the growth of forest administration was to a certain degree necessarily slow. The Conservator again found some hindrances to accelerate motion, namely, dearth of experienced officers, disadvantage of division large and at great distances, immense extent of the territories was being traversed, and the tardy communication by post, tended to create delays

and defeated the most anxious desire for quicker progress. Over and above, markets were all supplied more cheaply from Nepal and by sea that could be done from the government forests. Moving timber from British forests was very costly, and also accompanied with many risks of loss. As a cumulative result of all this return was very little. Thus only experimental and limited operations could be opened out with advantage.

It is true that the activities and possibilities of the Forest Department in Bengal were not equal to what was hoped for, still the department took it as Marrengo to reach Waterloo. The Department knew that the future must always be uncertain but the plantation scheme was not neglected. Expenditure on plantation in Sikkim (Cooch Behar Division) during 1871-72 was Rs. 3,470, as detailed in the Statement below.<sup>21</sup>

Bamun Pokree Plantation		Rungbool plantation		Miscellaneous		Total		
Description of work	Amount		Description of work	Amount				
	Rs.	A. P.		Rs.	A. P.	Rs.	A. P.	
Clearing jungle and hoeing ....	1,446	6 0	Clearing jungle and hoeing ....	530	15 0	Collection and Carriage of seed...	51	9 0
Transplanting...	409	13 0	Transplanting...	778	12 0	Salary of watchers, coolies and others....	137	11 0
Purchase of seed and seedlings.....	.....		Purchase of seed and seedlings.....	115	2 0			
Total.....	1,856	3 0	Total.....	1,424	13 8 (sic)	Total.....	189	4 0
								3,470 4 0

Sustainable effort on this line was going on for a long time. In the early stage after reservation, a great many exotics were experimented with from time to time. These are of both historical and practical interest and so a list giving their names and the degree of success attained in each case is reproduced from the second working plan (Darjeeling) and Hatt's working plan (Darjeeling).<sup>22</sup>

Another aspect of Forest Administration should be noticed. It is seen that the regular budget estimates did not tally with the actual Receipts and Expenditure. For example, the regular budget estimates for the year 1873-74 were —

	<b>Rs.</b>
Receipts .....	1,47,400
Expenditure .....	<u>1,33,888</u>
Surplus .....	13,512

But the actuals of the year were – <sup>23</sup>	<b>Rs.</b>
Receipts .....	1,79,366
Expenditure .....	<u>1,37,498</u>
Surplus .....	41,868

As compared with last year's results the figures stood as follows :- <sup>24</sup>	<b>Rs.</b>
Receipts in 1872 – 73 .....	1,49,852
Ditto in 1873 – 74 .....	<u>1,79,366</u>
Increase in 1873 – 74 .....	<u>29,514</u>
Expenditure in 1872 – 73 .....	99,617
Ditto in 1873 – 74 .....	<u>1,37,498</u>
Increase in 1873 - 74 .....	<u>37,881</u>
Surplus in 1872 - 73 .....	50,235
Ditto in 1873 - 74 .....	<u>41,868</u>
Decrease in 1873 - 74 .....	<u>8,367</u>
Net results of work in 1872 – 73 .....	39,986
Ditto ditto in 1873 - 74 .....	<u>47,937</u>
Increase in 1873 - 74 .....	<u>7,951</u>

It is seen that the receipts increased by Rs. 29,514, the expenditure by Rs. 37,881, causing a falling off in the cash surplus of Rs. 8,367; but at the same time the net value of the year's transaction increased by Rs. 7,951, so that the results stood more favourable than those of last year.

During this year receipts under Cooch Behar Division was Rs. 51,684 and expenditure was Rs. 56,147, and naturally, the deficit was Rs. 4,463. The deficit in the Cooch Behar Division was not only of a temporary nature, but it might also be called an artificial one. In the first instance the accounts of a former contractor, Mr. Kruger, were adjusted during the year, showing a sum of Rs. 7,074 against the year under expenditure; secondly, an officer and establishment were entertained for the examination of the Eastern Duars sub-division, which however yielded

no revenue at all. But thirdly and chiefly, owing to the commencement of the Northern Bengal State Railway, the Government of Bengal prevented the Conservator from satisfying numerous applications from private parties for timber. There was not the slightest doubt that the falling off during the year 1873-74 would be more than made up for in 1874-75. Sleepers and beams were already under preparation for the Railway, and the Buxa forests would be worked up to 3,000 Sal-trees per year at once, and up to 5,000 trees gradually. The Conservator expected that Cooch Behar would henceforth yield a net revenue equal to that of Chittagong (Rs. 72,042) — but with this difference, that the Cooch Behar forests would be worked so as to increase gradually in yielding capacity, whereas it appeared more than probable that the Chittagong forests were being worked out gradually.<sup>25</sup>

This is to be mentioned in the same breath that in one head the health of the Forest Department improved. The outstanding amount of the Department had been decreased during the year from Rs. 17,924 to Rs. 8,842. The Conservator hoped “A further reduction will be attempted in 1874-75.”<sup>26</sup>

However, the Bengal Government observed and expressed satisfaction in 1875 on the Progress Report of 1873-74 and resolved, “The work is meanwhile progressing steadily, if slowly”<sup>27</sup>; the Government held, “In the present state of Forest Administration in Bengal, the financial results of the year are of secondary importance. What is required in the first instance is to demarcate the Government Forests under the control of the Forest Department, to define or commute any adverse rights or privileges of third Parties with which they may be burdened, and to collect such statistical data regarding their capabilities as are required to regulate their working.”<sup>28</sup> The said Resolution further noted “The Lieutenant-Governor is glad to observe that steady progress has been made during the year in the formation of “reserves” in the Cooch Behar Division.” The Resolution further included the opinion of the Conservator regarding the yield. The Resolution runs, “concerning the yield of the forests in the Cooch Behar Division, the Conservator remarks that owing to large quantities of timber having been felled in former years and left lying in the forest, although shown in the books as lying in so called depots, the department is still occupied with the sale and clearance of these old cuttings, at prices generally much below the rates at which they are entered in the stock accounts.”<sup>29</sup> The Conservator informed the Government of Bengal “that the value of timber in stock at the beginning of the year 1872-73 was Rs. 2,65,431, and Rs. 1,66,439 at the close of it; Rs. 1,66,439 and Rs. 1,47,531 at commencement and close of the year 1873 – 74”.<sup>30</sup>

The financial results of the working of the Forest Department in Bengal since 1871 are given in the table :-

Year	Receipts Rs.	Charges Rs.	Surplus Profit Rs.	Area of reserve forests Sq.miles
1871 - 72	87,260	67,506	19,754	106
1872 - 73	1,16,690	62,554	54,136	106
1873 - 74	1,23,732	81,068	42,664	120
1874 - 75	1,85,914	98,654	87,260	1,467
1875 - 76	1,98,274	1,39,086	59,188	2,585
1876 - 77	2,22,401	2,11,689	10,712	3,390
1877 - 78	4,32,363	2,61,112	1,71,251	3,430

The above working of the department was treated as a whole. The financial results in connection with each of the forest divisions of our area of study may now be briefly noticed.

The Darjeeling Division — The division known in former years by this name was by this time sub-divided into three forest charges, styled the Darjeeling, Tista and Kurseong divisions. In 1878 in the division of Darjeeling proper there were 26 sq. miles of gazetted reserves. The receipts of this division in 1877-78 were altogether Rs. 49,790 and the charges Rs. 36,692; the result being a surplus of Rs. 13,098.<sup>31</sup>

The Tista Division — This division by 1877-78 was not fully formed. At this stage it was only 61 sq. miles in area. This was not however, as yet a paying division; its receipts being only Rs. 1,946, against an outlay of Rs. 10,188. But it was expected that the demand for timber, fire-wood and charcoal, likely to arise from the opening out of tea gardens in the Daling sub-division, would very soon bring the balance to the right side of the account.<sup>32</sup>

The Kurseong Division — This division comprised the reserves lying on the outer hills from Kurseong downwards and in the adjoining Terai. According to the Progress Report of 1877-78 the total area after adjustment with the Tista division, and including certain blocks purchased from private parties since the close of the year would amount to 75 sq. miles. This division supplied during the year large quantities of timber for the construction of bridges on the Ganges and for the Northern Bengal State Railway. The Conservator was of opinion that these forests were over worked and needed rest for a few years. The receipts of the division were Rs. 98,451 and the charges Rs. 45,930, showed a net surplus of Rs. 52,520 or Rs. 543 per square mile of the area actually worked.<sup>33</sup>

The Jalpaiguri Division — This division was created by the end of 1875. This division consisted of the forests between the rivers Tista and Torsa in the Western Duars. The area was at

the close of the year 1878 amounted to 169 square miles. It stood at 140 square miles on the 1<sup>st</sup> April 1877 and 12 sq. miles were added to it in 1877-78. These forests were much exhausted when taken up and it was intended not to work them for large timber for at least 25 or 30 years. But the demand for sleepers for the Northern Bengal State Railway compelled the cutting of Sal both in 1876-77 and 1877-78. The receipts of the division in 1877-78 were Rs. 12,580 and the charges Rs. 16,546. It was hoped to make it pay its expenses in future by the sale of fire-wood, charcoal etc, to the tea gardens in the neighbourhood.<sup>34</sup>

The Buxa Division — In 1877-78 from Jalpaiguri Forest Division Buxa Forest Division was created. The Buxa reserves covered an area of 250 square miles between Torsa and Sonkos rivers in the Western Duars. In this division an attempt was made to protect the reserves from fire by planting a thick belt of Sal, 100 feet broad, along the boundary. Good progress was made with this, but mean time the injury done by fires was very great. No less than 36,440 acres were burnt in the year out of an area of 103,900 acres sought to be protected. This division also felt the demand for sleepers and timber for the Northern Bengal State Railway, and 2776 green trees and 1,932 dry trees and pieces were cut during the year. The actual receipts were, however, only Rs. 37,153 against charges amounting to Rs. 50,658. This deficit was however owing to the fact that Rs. 12,095 were disbursed during the year on account of former years, and that a large stock of sleepers cut and carted during the year were only made over and paid for in April. The division was really a surplus division.<sup>35</sup>

The financial results of the Forest Department in Bengal from 1871 to 1878 given in the above table showed that the revenue was double during the year under review (1877-78) and the cash surplus had risen from Rs. 10,712 to Rs. 1,71,251. The value of stock on hand had fallen by Rs. 1,56,338, as compared with Rs. 87,468 in 1876-77, so that a great improvement had taken place in every respect. The Conservator felt confident that the surplus in future years would be still greater, and that the Government Forest Estates in Bengal “may now be said to have become a source of permanent and increasing returns to the state.” In fact the new Forest Code, which came into force on the 1<sup>st</sup> April, 1877 was a great help to Divisional Officers in the conduct of their office work. The working of the department was more or less favourably reviewed by the policy makers in the following words: “Although the timber returns may perhaps be somewhat more complicated than necessary, the conservator found that on the whole, the business of the department is conducted in the manner prescribed by the code.”<sup>36</sup>

But the financial results of 1877-78 and 1878-79 are apparently perplexing as well as confusing:-

Year	Receipts Rs.	Charges Rs.	Surplus profit Rs.	Area of Reserved Forests Square miles
1877 - 78	4,32,363	2,61,112	1,71,251	3,434
1878 - 79	4,16,027	3,38,675	77,353	2,967

The table shows that in 1878-79 charges increased much and the area of Reserved Forests decreased drastically. This was because of heavy charge of Rs. 63,492 which was incurred in 1878-79 for the purchase of land in Kurseong from Mr. W. Lloyd. This purchase, however, was made on very advantageous terms, and ought to result in a considerable increase of revenue hereafter.<sup>37</sup> If this extraordinary disbursement is left out, the comparison stands thus:-

				<u>Surplus profit</u> Rs.
1877 - 78	.....	.....	.....	1,71,251
1878 - 79	.....	.....	.....	1,40,845

Regarding the cause of the drastic decrease in the area of reserved forests in 1878-79 explanation may be given by projecting the following table<sup>38</sup> :-

		Square miles	Square miles
Area on 1 <sup>st</sup> April 1878	.....	.....	3,430
Added in 1878 - 79	.....	41 ½	.....
Excluded	.....	504 ½	.....
Area on 1 <sup>st</sup> April 1879	.....	.....	2,967

To be specific, at the beginning of 1878-79 the area under the Forest Law was 3,430 Square miles. From this were finally excluded the Damin-i-koh in the Santal pargana and two trifling areas in Darjeeling and Jalpaiguri and temporarily in Hazaribagh and Shighhum forests, — altogether 504½ square miles; while 41½ square miles were added in Darjeeling, Tista and Kurseong Division. Thus, at the end of the year the total was 2,967 square miles.<sup>39</sup>

Be that as it may, the number of trees felled during the year (1878-79) was 6,481 and the quantity of timber, exclusive of fire-wood, brought to depot from the forests was 78,082 cubic feet. Altogether 30,989 sleepers were supplied to the Northern Bengal State Railway, nearly all from the Buxa and Kurseong Divisions. Considerable quantities of timber were also supplied for ✓

the Rungpur-Dhubri road. To quote the resolution, "The attention of the Lieutenant-Governor has just been drawn to the supply of excellent timber in the Nepal forests, of which the Durber are anxious to encourage the export. It may be possible, incase of need, to supplement the out turn of our forests from this source, and it is not unlikely that an extension of the trade might arrest the destruction of fruit trees and other small timber in the plains."<sup>40</sup>

During this year the Darjeeling forests supplied 1,81,727 maunds of fire-wood and charcoal with an average clear profit of Rs. 6-2-3 per 100 maunds. The profit on each cubic foot of timber supplied from Kurseong and Buxa Divisions was 12 annas 3p and 11 annas 4p respectively.<sup>41</sup>

Regarding the mode of delivery, rates etc., the Conservator informs the government that the work of supply of fire-wood and charcoal is carried out by contractors, in all cases Nepalese. Tenders were called for in the usual way, and the local rates for hire of carts, pay of axe-men etc., having been ascertained, a tolerable correct idea was gained as to the amount which should be paid for the contracts. Eventually the following were agreed on:-<sup>42</sup>

(a) For Darjeeling. — whether to the depot in the bazaar or to residents' houses —

Fire-wood — Rs. 17, per 100 maunds.

Charcoal — As. 8½ per maund.

(b) For Jalapahar. —

Fire-wood — Rs. 15 per 100 maunds.

Charcoal — As. 8½ per maund

During the year 1878-79 Rs. 13 - 8 was paid, but in 1879-80 it was raised to Rs. 15 as the former rate was found too low.

(c) For Jore Bungalow. —

Fire-wood — Rs. 7 per 100 maunds.

Charcoal — As. 6 per maund

A proper stamped agreement is entered into with the contractors just before the end of the official year generally, of which agreement the following are some of the conditions (other than the ordinary ones, regulating the supply according to orders, the rates, dates on which payments are to be paid, and the usual penalty of the damages to the extent of Rs. 200 to be

levied for non-fulfilment, besides loss of claim to any wood or charcoal lying on the ground, but not delivered on the day on which the contract may be cancelled) viz.:-

- (a) No trees are allowed to be felled unless marked by a Forest Officer. In the event of an unmarked tree being felled, the price is deducted from the contractors' bill.
- (b) No branch of wood of a less diameter than 4" is allowed to be brought to depot.
- (c) All trees to be cut one foot above ground.
- (d) All dry and fallen trees or parts of trees are required to be utilized for fire-wood.
- (e) Fire-wood to be cut into billets 18" X 12" X 4"

The Conservator notes that the wood is cut up into these billets in the forest, and carried to the road side by coolies, whence it is carted to its destination. The cutting is done with the axe. Great endeavours have been made to get the men to use saws, but they have hitherto failed, except in one or two small instances, axe-men having apparently insuperable objection to change their own implement for the saw.

- (f) No wet or half-burnt charcoal is accepted. Forty two seers are taken as representing one maund.
- (g) Within three months of the beginning of the work the contractors are required to deliver over and above the daily requirements a reserve stock of charcoal in a godown belonging to the Department, and this charcoal is held in stock during the pleasure of the Forest Officer. The object of this is to provide a reserve in case of supplies may fail.
- (h) No huts or building of any kind are allowed to be erected in the forest with out permission, and no saplings, & c., allowed to be cut to construct them, it being found that the charcoal owners cause great damage among the young growth if not carefully looked after.

Regarding payments the Conservator notes that payments are made once a month to the contractors. No advances or part payments of any kind are made on any account. This was difficult to arrange at first, owing to its having been the custom to give advances to contractors, but with a little trouble the practice was stopped.

The system of accounts is as follows:-

A purchaser requiring a quantity of fuel remits the money in advance (no credit being given) to the Divisional Officer only, who gives a receipt. An order is then issued through the Forest Ranger to the contractors for the delivery of the quantity, which is usually sent in within

two days. A *challan* is sent with the carts, which *challan* is signed by the recipients and is taken back to the Forest Ranger at Jore Bungalow, forms the voucher for contractor's bill and on which he is paid.

The fuel being weighed out into the carts at Jore Bungalow, it follows that the quantity entered in the *challan* is expected to arrive at Darjeeling. Should, however, there be a discrepancy, the contractor is made to pay for it at Rs. 8 per 100 maunds wood and annas 7½ per maund for charcoal i.e. the difference between the price paid to him for delivery and that received from the public by the Forest Department. Thus, for fire-wood the department receives Rs. 25 per 100 maunds and pays Rs. 17 for delivery, for charcoal Re. 1 and pays annas 8½ for delivery.

“In the case of the depot agent the procedure is somewhat different. He gives an indent one day for the quantity required to be sent in the next day. For this also a *challan* is sent, and this he signs, and it is treated in the same way as those signed by residents.

He dose not pay in advance, but is required to give a daily statement of sales, keeping up a book in English for the purpose, the entries in which must agree with the receipts or *challans* signed by him. The amount received by him is daily paid to the Divisional Officer. His commission is then paid to him and the balance credited in the cash book.

As, however, his sales are always a little below his receipts, it follows that there is a small amount outstanding against him at the end of the month, and he is thus never a debtor to any large extent.”<sup>43</sup>

Darjeeling delivery — consists of —

- (a) That made to the bazar depot.
- (b) That to the residents' houses i.e. as near to the houses as carts may be allowed to go.

As regards the former, a large godown, capable of holding in the lower storey some 1,200 maunds of wood if filled (about eight days' supply), and in the upper 300 maunds of charcoal, was erected in a convenient central position in the bazar. “The object is to supply the bazar and other poorer residents who are not in a position to send for large quantities of fuel at one time.”<sup>44</sup>

“The Manager of the Happy Valley tea estate just below Darjeeling also takes his supply of charcoal from the depot, generally 1,000 to 1,200 maunds annually.” Primarily, this depot was managed by a departmental munshi; but this was found very unsatisfactory arrangement, “and now it is in the hands of an agent to whom all fuel is sold at rates a little below the usual ones, the difference being his profit. Thus the usual price of firewood being Rs. 25 per 100 maunds, it is sold to him at Rs. 24. Charcoal, usually Re. 1 per maund, is sold to him for 15 annas 6p. per maund.”<sup>45</sup>

This was found to work satisfactorily, and there was no loss of wood and charcoal on the depot accounts.

Results (Darjeeling and neighbourhood) – The following were the actual results obtained during the two years 1877–78 and 1878–79 as taken from the annual reports :-

Purchasers	<u>Fire-wood</u>		Quantity in 1878–79 Mds.
	Quantity in 1877–78 Mds.		
To the Public Works Dept.	3,533	.....	12,962
To the Commissariat Dept.	71,381	.....	49,000
To the residents of Darjeeling, Jalapahar, and Jore Bungalow.....	<u>92,259</u>	.....	<u>1,07,124</u>
Total .....	<u>1,61,173</u>	.....	<u>1,69,086</u>
	<u>Charcoal</u>		
To the Gielle tea estate .....	500	.....	1,286
To the residents of Darjeeling, Jalapahar, and Jore Bungalow .....	5,372	.....	11,194
To the Public Works Dept.....	.....	.....	<u>160</u>
Total .....	<u>5,872</u>	.....	<u>12,640</u>

The financial aspect was as follows for the two years :-

Particulars	1877–78			1878–79		
	Rs.	A.	P.	Rs.	A.	P.
1,73,046 maunds 20 seers of firewood and charcoal sold; realized on an average per 100 maunds .....	24	2	3 <sup>46</sup>	.....	.....	.....
1,81,727 maunds 6 seers of firewood and charcoal sold; realized on an average per 100 maunds.....	.....	.....	.....	27	4	9 <sup>47</sup>
Total expenditure on an average per 100 maunds, including share of estab- lishment, & c. ....	16	2	11	.....	.....	.....
Ditto ditto for 1878–79 .....	.....	.....	.....	21	1	1
Average surplus per 100 maunds	7	15	4	.....	6	3 8

By this time Government had no reliable data regarding the out turn of wood and charcoal per tree. In the record of 1877-78 it was shown that 89 maunds of fire-wood were obtained per tree and 128 in 1878-79; charcoal, 4 maunds in 1877-78 and 16 in 1878-79. But these figures were hardly to be depended on, especially as regards fire-wood, as large portion of the quantity obtained was from fallen trees, & c., which were not shown in the return as trees felled, and the number was not set off against the fire-wood.

On this C. W. Bolton, Under-Secretary to the Government of Bengal wrote, "In my opinion the quantity of firewood per tree on an average will probably be most correctly put at 100 maunds and charcoal 15 maunds; the trees used for charcoal being generally smaller, as charcoal is better and easier made from green stems, which can be at once cut into short round logs and do not require splitting."<sup>48</sup>

One thing should be pointed out here that up to this period with the exception of that for a few minor forest products, the market was a local one, the timber or fuel being consumed at Darjeeling and Jalapahar, or used in the tea industry of the neighbourhood.<sup>49</sup> Export, in the true sense of the term, was far off.

It has already been mentioned that in 1874-75 Jalpaiguri Division (probably in place of the Cooch Behar Division) was formed. In this year Jalpaiguri Division including Buxa (not a separate division then) had 390 square miles as Reserved Forest area. From 1874-75 to 1876-77 before the separation of Buxa from Jalpaiguri Division there was a deficit; the receipts and expenses in 1874-75 being Rs. 19,784 and Rs. 23,513 and in 1876-77 Rs. 15,534 and Rs. 54,726. In 1877-78 Buxa was separated from Jalpaiguri Division and created a new division of the same name. For Jalpaiguri the receipts in 1877-78 were Rs. 12,580 and expenditure Rs. 16,545 and in 1879-80 Rs. 10,417 and Rs. 11, 593. For Buxa Division the figures were Rs. 38,153 and Rs. 50,658 for 1877-78 and Rs. 64,351 and Rs. 56,089 for 1879-80.<sup>50</sup> It was reported that the greater expenditure in Buxa was due to the departmental working.

The financial analysis of the decade (1870-80) shows that at the beginning of the decade there was a meagre profit, but from the middle the financial results were unfavourable and a downhill trend was noticed. At the same, it should be pointed out that the deficit showed a trend at a reduced rate. And if departmental charges could be controlled and forest operations and commercialization could go hand in hand there was a possibility of profit in near future. Timber theft should also be checked to make forest a profitable business.

But unfortunately the forest departments of Jalpaiguri and Buxa Divisions immediately could not rise to the occasion. Faced by various difficulties specially of opening of new markets fed by the ranges of other divisions the Jalpaiguri and Buxa Divisions failed to show steady profit even in the next decade. The following statement shows the result of the working of the reserved forest for the next twelve years since 1882-83.<sup>51</sup>

Jalpaiguri Division				Buxa Division			
Year	Revenue	Expenditure	Net receipts	Year	Revenue	Expenditure	Net receipts
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
1882-83	11,805	17,057	.....	1882-83	80,443	68,711	11,732
1883-84	8,077	14,660	.....	1883-84	75,045	64,942	10,103
1884-85	8,993	16,550	.....	1884-85	55,641	65,276	.....
1885-86	7,835	20,589	.....	1885-86	27,740	44,742	.....
1886-87	12,421	20,483	.....	1886-87	53,503	50,487	3,016
1887-88	12,060	14,293	.....	1887-88	30,589	26,101	4,488
1888-89	14,328	12,262	2,066	1888-89	12,920	20,004	.....
1889-90	24,635	15,666	8,969	1889-90	31,296	22,725	8,571
1890-91	31,998	15,967	16,031	1890-91	23,398	23,913	.....
1891-92	23,697	25,656	.....	1891-92	12,465	22,188	.....
1892-93	29,189	29,648	.....	1892-93	12,556	23,296	.....
1893-94	40,185	25,705	14,480	1893-94	10,185	23,165	.....

The above figures speak for themselves. They show that year after year Government was losing money for the upkeep of these forests save and except a few financial years. Obstacles to the commercialization were not one but many and of various nature. (1) Rates for timber and other forest produce were high; (2) practically, no facility was afforded to the public for obtaining timber without trouble and delay; (3) managers of tea gardens (they began to procure fuel from 1884)<sup>52</sup> and others were usually compelled to supply their requirements of wood for tea boxes by procuring it from Japan and Burma; (4) tea gardens did not use the fuel from nearby forests but bring coal from Ranigunge. In order to facilitate commercialization and make forest operations profitable D. Sunder in 1895 suggested, (a) opening of good cart roads leading into every forest; (b) speedy measurement of timber when purchased, instead of present delay and obstruction caused by Forest Rangers; (c) prevention of present unnecessary harassment and intimidation of people who reside in the vicinity of forests by Rangers, Foresters and Forestguards; and (d) greater supervision by Gazetted Officers in charge of forest divisions, and closer touch with planters and the people generally. All these suggestions were not given proper importance immediately but being wise after event adopted in much later days doing much harm to the forests and commercialization of forests.

In fact, the working of the Jalpaiguri Division did not begin to show a steady profit until 1893-94 and in the Buxa Division the expenditure exceeded the revenue in thirteen out of twenty two years from 1882-83 to 1903-04. Jalpaiguri Division from 1898-99 and Buxa from

1904–05 had been doing well and had made handsome profits. The table below gives the figures from 1898–99 to 1907–08 for ten years.<sup>53</sup>

Year	Jalpaiguri Division			Buxa Division		
	Revenue	Expenditure	Net profit	Revenue	Expenditure	Net Profit
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1898 – 99	54,568	24,131	30,427	17,452	23,315	.....
1899 – 00	56,780	34,378	22,402	28,826	33,683	.....
1900 – 01	55,345	37,101	18,244	43,228	37,135	6,093
1901 – 02	56,774	44,918	11,856	62,675	40,032	22,643
1902 – 03	68,621	41,089	27,532	57,334	55,917	1,417
1903 – 04	55,199	31,738	23,461	63,255	76,694	.....
1904 – 05	88,521	50,434	38,097	1,20,789	84,783	36,006
1905 – 06	99,403	43,807	55,596	1,32,434	91,671	40,763
1906 – 07	1,33,630	48,740	84,890	2,15,037	97,351	1,17,686
1907 – 08	1,04,730	41,662	63,068	2,20,893	1,21,220	99,673

It is seen that in 1906–07 the two divisions between them made a surplus of over two lakhs of rupees, and in 1907–08 of over one and a half lakhs. The forests had been carefully preserved by the Forest Department and the result of the good work done was becoming apparent; the Buxa Division was capable of still further development but its working was hampered by the difficulty experienced in getting the timber to the markets of Eastern Bengal and Calcutta. There was a demand of timber for houses, railway sleepers, railway carriers, car bodies, ships, boats and country boats, furniture, packing cases, tea chests, and over all fuel – but these demands from larger economy on the forest resources could not be met due to the lack of developed transport system and absence of clear cut government policy. The government did not pay seriously any heed to the suggestions given by Sir Brandis. As a result of these and others noted above the forests of these two divisions suffered for a considerable period in future.

A few words more should be said particularly about the commercialization of Buxa forests. The Conservator's Annual Report for the year 1871–72 gave a picture of the potentiality of Buxa forests. In that report it was stated that there were 12 blocks or patches in Buxa and area 103,690 acres (tallies with the acreage of Hunter). The report gave a description of the forest as follows: "..... it contains sal timber mostly, with a few sissou, khair (champ), magnolia, also India-rubber trees mixed with many kinds of common jungle trees. There are large patches of heavy grass where there are no sal and sissou and a few magnolia – the latter near the foot of the Buxa hills on the sloping ground. Area 103,690 acres. The best timber is met with on the northern parts of the tracts. It would be impossible to say what quantity of mature timber these tracts would yield, as I have not been able to go carefully through them tract by tract, but they would yield a large number of logs."<sup>54</sup>

Next important report on Buxa forests was furnished by Dr. W. Schlich. In 1874 he drew up a preliminary Working Plan for the Buxa Reserve which prescribed the fellings of sal trees to be under taken in the different compartments into which the forest had been divided. One of the difficulties in working this Reserve was the absence of water in the dry season in the northern part of the forest. The carting season was short, lasting from December to March, and the sowing season from October to the end of April. Elephants could drag out timber at all seasons except during the hot weather months. The trees were either drawn to the roadside and then sawn up into sleepers or, if the material was of first quality, it was carted to Alipur. Dr. Schlich's Working Plan prescribed that 5,520 trees should be felled per annum. The average number of trees cut annually upto January-February 1879 was only 2800, whilst numerous logs were lying on the roadside and large quantities of timber remained in the forest. E.P. Stebbing in giving an account of the Buxa forests writes that in Compartment VIII, where 1,742 sal trees had been felled, 1200 logs still remained in the forest, and in Compartment X 1400 logs out of 1623 trees felled. These were 1876-77 fellings, and in addition there were the fresh fellings of 1878-79. In 1877-78 Buxa was separated from Jalpaiguri Division and stood as an independent forest division.

Next important event was the visit of Brandis. Brandis visited some of the northern forests of Bengal including Buxa in between January and December, 1879. His report on his inspection of the forest furnishes an instructive picture of the chief lines upon which conservancy was proceeding in the Buxa Division. He submitted his report in 1880. He issued instructions to defer further felling in Buxa until all the timber in the forest should have been removed. Secondly, that in future the fellings should be regulated by the possibility in annual extraction. Another reason for postponing fellings was that the project to construct the Rangpur to Dhubri Railway, for which large indents of sleepers had been made, was deferred. Timber was, however, wanted for the Kawnia-Kurigram tramway.

In addition to the old depot at Alipur, sale depot for Buxa timber had been established at Gachidanga on the Kaljani river and at Kawnia on the Tista river (the sleepers being floated down the Brahmaputra river and then taken 50 miles up the Tista to Kawnia). Another depot had been established at Dacca to facilitate the timber trade of Buxa forests. For the time being this depot could not function. Mr. Gamble subsequently reported that the second class Buxa sal timber sent there could never compete with the magnificent sal from Nepal. Some 1000 sissu trees had been cut, but only 200 logs had been dragged from the forest of Buxa and the demand for that timber was limited.<sup>55</sup> It was thought that efforts were to be made to interest Calcutta merchants and the Ordnance Department in this timber. Its quality was, however, held to be

inferior to that of Oudh also. The whole of this work was departmental. Purchasers were allowed to remove dry timber on payment, a girth limit of 5 feet being fixed, above which no tree could be sold. Brandis pointed out that this restriction was wasteful because, in areas where no departmental operations were being undertaken, the larger trees rotted and their value was thus lost. A special rate should be fixed for logs over 5 feet girth and the Divisional Officer be empowered to sell them to purchasers. He also suggested that an attempt should be made to sell some of the other species associated with the sal or sissu in these forests, to be tried as railway sleepers. The financial results of Buxa inspired the Forest Department. For Buxa the receipts in 1877-78 were Rs. 37,153 and expenses, Rs. 50,658 and in 1879-80 Rs. 64,351 and Rs. 56,089.<sup>56</sup> It has already been noted that the great expenditure in Buxa was due to departmental working.

To save the Department from losses the Government thought of changing its policy of departmental operations of forests in Buxa Division by 1882-83. Earlier the policy of working the forests by private enterprise bore fruits which gave satisfaction to the department as well as government. Similar method was taken up in Buxa. The Conservator informed the government in 1883 that "In the Buxa Division a commencement has also been made by merchants from the Goalpara district, Assam, in purchasing standing timber for export, and the result of the speculation will be watched with interest as an opening which may result in the withdrawal of departmental operations in favour of private enterprise in this division also." The notices regarding sales of timber etc. issued during the year were as follows:

"Timber may be obtained on permit in the forests of the Buxa Division situated in the Western Duars, Jalpaiguri District, by application to the officer in charge of the Division at Alipur, Buxa Duars and other forest produce on application to the subordinates in charge of the ranges viz.-

The Forester at Chilapata for the Borojshar Range

Ditto Haldibari „ „ Haldibari „

The Forest Ranger at Rajabatkhowa for the Buxa Range."

The following were the rates in 1882-83 in force for the sale of timber and other forest produce from the depot and forests of the Buxa Division :-

Depot	Depot Sales																	
	Group A						Group B						Group C					
	Class – 1			Class – 2			Class – 1			Class – 2			Class – 1			Class – 2		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Alipur	1	4	0	0	12	0	1	0	0	0	10	0	0	10	0	0	8	0
Kawnia	1	12	0	1	4	0	1	0	0	0	10	0	0	10	0	0	8	0
Dacca	2	0	0	1	4	0	1	4	0	.....			1	0	0	.....		
Rajabatkhawa	1	0	0	.....			.....			.....			.....			.....		
Buxa Roads	0	14	0	.....			0	10	0	.....			.....			.....		
Kurigram	1	12	0	1	4	0	1	0	0	0	10	0	0	10	0	0	8	0
Mogalhat	1	12	0	1	4	0	1	0	0	0	10	0	0	10	0	0	8	0
Mynaguri	1	4	0	0	12	0	1	0	0	0	10	0	0	10	0	0	8	0

Group A – includes Sal.

Group B – includes Saj, Tun, Champ, Chilauni, Sisu, Oak, Chestnut and Pipli.

Group C – includes all other kinds.

In the eye of the Government and Government Officials Jalpaiguri and Buxa were twin sisters. They were called in the same breath. Both were interdependent in many respects, and in many cases the financial as well as commercial position of both was calculated jointly for a considerable period. When Ribbentrop was requested to furnish a statement of outturn of timber for these two areas he prepared it including both the areas jointly. It is fact that from 1865 to 1877 Buxa was within Cooch Behar and later within Jalpaiguri Division. But in preparing the statement from 1875–76 to 1887–88 Ribbentrop considered both jointly. The statement is interesting to have an idea of timber operations in those forest tracts.<sup>57</sup> The Statement is shown in Appendix – H.

The statement speaks for itself. There was some causes for concern on the part of the Government because of the continued decrease in the outturn from the Reserved forests of the Buxa and Jalpaiguri Divisions. E.P. Dansey, Conservator of Forests found out some causes behind it in his Progress Report of 1891–92. First was “the cattle disease of the previous year, which not only killed of a large proportion of the local transport animals but frightened outsiders away.” Secondly, “To a certain extent the falling off in Buxa is due to the small rainfall, which rendered it impossible for the timber merchants to make the usual use of the Kaljani and other rivers for floating the produce out of the district.” Third cause was attributed “to the low prices which at present prevail in the Dacca and Sirajgunj markets.”<sup>58</sup>

Regarding the low outturn in the Jalpaiguri Division he reported that “The extensive Tondou forest in the Jalpaiguri Division was practically closed to purchasers from the moment that Government made a free grant of the available mature sal tree contained in it to the Bengal Duars Railway Company.” He further pointed out the major obstacles to the commercialization

of these forests and noted, "The quantity of sound mature timber in those two Divisions is, moreover, relatively very small." In spite of this rooted weakness he informed the Government that "Arrangements have now been made for carrying out a systematic series of improvement fellings in the Buxa forests, and also for treating parts of the Jalpaiguri forests on a somewhat similar method."<sup>59</sup> He expressed hope that by these measures, and by a reduced sale of rates corresponding to the generally inferior quality of timber which these "improvement fellings" might be expected to yield, "induce purchasers to come forward in large numbers." To conclude his report Conservator wrote that the forests of the Jalpaiguri District were overrun by wild elephants which, apart from any damage done by them to the trees, "tend to frighten away the timber contractors."<sup>60</sup>

The expectation held by the Conservator about the improvement of forest operations and commercialization in Buxa belied at least in near future. The timber thieves could make a fortune out of this forest, but the forest department could not. It was alleged that there was a considerable demand of poles amongst the planters,<sup>61</sup> but due to administrative inefficiency that demand was not met. "A reference is necessary to the Veneer Factory of the Buxa Timber and Trading Company which was erected at Rajabhatkhawa in the Buxa Division. One object of the undertaking was to enter the three-ply tea-box market. Owing to the war the supply of Venesta and similar boxes ran short and there appeared to be a great future before such a factory, it being considered that the mixed forests in the neighbourhood contained suitable timbers."<sup>62</sup> The company had, unfortunately, gone into liquidation. E. P. Stebbing writes, "The layout of the factory and quarters for the management appears to have been on rather an ambitious scale – but the trade depression and inexperience may have played a considerable part. The Conservator is still hopeful of success being ultimately achieved."<sup>63</sup> In 1925 E.P. Stebbing saw some beautiful three and five-ply boards in the factory.

We have seen above that the Buxa forest began to profit from 1900–01 and that was due to the change of the system. In 1900 departmental operations were again started after a recess and sleepers sawn for the Eastern Bengal Railway until 1912, upto 1906 under the selection system, and from 1906 onwards under Mr. Hatt's working plan which was in force upto 1919–20. This prescribed selection fellings on a 15 year cycle with a 6 feet 3 inches exploitable girth combined with improvement fellings. The improvement fellings bore on inferior sal and other species interfering with promising sal and also on sal which was so obviously defective that it could not grow into a good tree of the exploitable girth.

At first, trees of other species were felled at considerable cost, often in the interest of a few saplings. As there was then no demand for them they were allowed to lie where they fell. About 1911, as it was found that these fellings tended to increase the already dense evergreen undergrowth, it was decided to deal with only such trees as were actually interfering with established sal and these were girdled instead of being felled.

In 1906 the bad effect on sal regeneration of the evergreen undergrowth induced by fire protection led to clearings being started to free sal seedlings. There was a good deal of discussion as to the efficacy of these clearings which were abandoned in 1910. Results in Jalpaiguri, where they were not abandoned until 1915, showed that they were of little value in comparison with their cost. In 1912 departmental sleeper work was abandoned, and from that time all sal timber was sold by auction.<sup>64</sup>

To maintain the chronological order of the creation of forest division let us now turn to Kalimpong. The forests of the Kalimpong Division came under the jurisdiction of the Forest Department between 1879 and 1881.<sup>65</sup> The First Working Plan for the division was written in 1896 and was in force until 1905 when the Second Working Plan was written. The latter expired in 1921. The detailed prescriptions of the First Working Plan related only to sal-bearing areas, and the large demand for fire-wood for tea-gardens in the Duars led to the writing of the working plan for the Mal forest in 1901. The First and Second Working Plans for Kalimpong Divisions showed that prior to 1880 the sal forests between the Tista and Lethi rivers had been worked and that the full-sized sal trees were left only in accessible places, while the forests on the left bank of the Tista were practically unworked till 1886–87. From the latter forests only a few sal trees were removed until 1891–92 when the system of selling trees by the Cubic foot was introduced. Prior to 1896 the felling of sal was entirely unregulated. The First Working Plan prescribed selection fellings of sal trees over 7 feet in girth in Tista and Chel ranges on a felling cycle of 10 years, and it also prescribed improvement fellings. Such selection fellings were carried out in Tista range north of the Rilli river, where about 90 per cent of the sal trees over 7 feet in girth were removed, but south of the Rilli little progress was made. In the absence of a demand improvement fellings were neglected.

The Second Working Plan prescribed selection and improvement fellings for sal on a 15-year felling cycle in Tista and Chel ranges. Under the selection method of this plan the number of trees, over a prescribed girth limit viz., 6 feet 4 inches, which it was considered advisable to remove, was laid down and annual coupes from which these trees were to be removed were allotted. In addition improvement fellings were prescribed which had been largely neglected. It

was understood later that sal would not establish itself under shade in this area. The result was that, in gaps caused by the fellings of selected trees, either clumps of bamboos or a shrubby undergrowth replaced the original sal tree. J.M. Cowan, the Deputy Conservator of Forests, Bengal wrote in 1924 "The selection system as formerly in force is therefore tending to lead to a crisis, which might culminate in the extinction of *sal*."

Under the First Working Plan unregulated fellings of species other than sal were permitted. The Second Working Plan prescribed selection fellings of these species in Tista and Chel ranges, passing over the area in 15 years. Elsewhere, except in the fire-wood coupes, unregulated fellings were permitted. Even in the non-sal-bearing areas of the lower hill forests, where miscellaneous species were marked on the selection method, there was little natural regeneration, and that the forests were not becoming more normal. The demand for trees for box-planking and building timber was large, and the supply was insufficient from the accessible areas. Here too a crisis was inevitable.

Regarding fire-wood coupes the Mal Forest Working Plan (1901) prescribed coppice fellings in Mal block. Similar fellings were extended to Mongpong, Lish, Churonthi, Ramthi, Lethi, Fagu, Eastnar and Khumani blocks in the second Working Plan. Fire-wood coupes were clear-felled with the intention of allowing the area to be regenerated by coppice.

✓ However, the Mongpong and Lish forests for commercialization were selected for working during the cold season of 1882–83 to supply the demand at Siliguri, and the Badamtam forest for the Darjeeling supply. From the financial results of the year 1882–83 it is found that timber and other produce were removed from the Tista (Kalimpong) Division by Government agency. In this head receipts were Rs. 2,117 and charges Rs. 10,390. Under the head 'Other Revenue' the receipts were Rs. 8,065 and charges 7,109. For formation, protection and improvement of forests the charges were Rs 10,406. Total receipts were Rs. 10,182 and total charges Rs. 27,905. The results show that in the year 1882–83 the Division was running in deficit; but the statement of 1881–82 shows the Division as surplus. That was because during 1881–82 the Division received Rs. 3,939 in advance for 1,954 sleepers to be supplied, having been credited as revenue in the accounts for that year. Without this item the results of the departmental operations for 1881–82 would have been deficit instead of a surplus and the actuals of the two years would be about equal.<sup>66</sup> The value of stock on hand gave Rs. 3,481 in favour of the year (1882–83) and it was confidently expected by the Conservator that future would show an actual cash surplus with energetic management and good supervision.<sup>67</sup> But this expectation belied in subsequent reports. In the report of 1892–93 Conservator E.P.Danseý wrote about Tista

(Kalimpong) Division, "In the case of the bulk of the forest of this charge, namely the upper hill forests of Oaks, Chestnuts, and other mixed species that are without any present export value." He further reported that there was "no demand whatever exists for major produce as this part of the Darjeeling District is sparsely populated, comprises but few tea corners, and is too remote and difficult of access to be of use to the plains country below."<sup>68</sup> Moreover, the Kalimpong forests were not so well situated for water transport.

The financial results of Kalimpong or Tista Division were not encouraging one. In 1894–95 the receipts were Rs. 22,734 and charges Rs. 22,848. In 1895–96 receipts were Rs. 24,702 and expenditure Rs. 21,148.<sup>69</sup> Here surplus was Rs. 3,554. But this was not steady surplus. In 1897–98 and 1898–99 the deficit was Rs. 3,350 and Rs. 847 respectively.<sup>70</sup> Yet the removals of timber from the forests of Kalimpong Division by purchasers improved to the extent of 48,153 cubic feet which was a record against the exploitation of forests in previous years.<sup>71</sup>

In 1902 the Government of India observed that contracts were enforced into to supply sleepers to the Eastern Bengal State Railway and the Bengal Duars Railway from the Tista, Buxa and Jalpaiguri Divisions. The number of sleepers delivered within the year was not, however, shown in the Progress Report for the year 1900–01, but it was observed that the full indent was not worked upto owing partly to the Tista Valley road being impassable. "The Government of India are glad to observe that His Honour the Lieutenant-Governor is desirous of establishing a regular demand for railway sleepers." It was further noted that every reasonable inducement should be held out to Railway Companies to purchase sleepers from the Department, and efforts should be spread to create or foster a permanent demand whenever timber "has hitherto failed to attract purchasers up to the limit of the possible annual yield." The Government of India gave a friendly caution to the Forest Department by noting that the Department should endeavour to carry out its contracts with punctuality, since failure to meet engagements inevitably "drives purchasers to seek other sources of supply."<sup>72</sup> Although the Government of India gave the Forest Department of Bengal a caution, yet the condition did not improve. A.L. McIntire, offg. Conservator of Forests, Bengal reported in 1903 that revenue decreased of Rs.10,000 in Tista (Kalimpong) on account of the delay in marketing sleepers.<sup>73</sup>

But the activities of this Division along with Kurseong Division improved by 1908 due to the change of policy of the Railway Board. Conservator McIntire informed the Government about it and wrote, "It may be mentioned that changes effected since the creation of the Railway Board in methods of buying sleepers for the different Railways, tend to accentuate the effects of an indifferent timber market. Before, when other markets were dull, buyers of trees could

usually with safety venture on cutting railway sleepers. But under the present system of tender only powerful companies which are in the habit of cutting and supplying railway sleepers, and can afford delays, can venture into the sleeper trade without running great risks of dropping heavily over the supply. In the case of sal forests of the Kurseong and Tista Divisions the Railway Board has been pleased to approve a special arrangement which should enable buyers from those forests to cut some sleepers when other sources of demand are not exceptionally active. But unfortunately such an arrangement could not be extended to Chota Nagpur and Orissa.”<sup>74</sup>

Before drawing curtain on the forests of Kalimpong Division it should be pointed out that Appendix XI of the Third Working Plan for the Kalimpong Forest Division gave a graph showing the past financial results constructed from the average figures of quinquennial periods from 1877-78. It should be noted, in this connection, that during the years 1877 to 1885 the Tista Valley Forest, west of Tista, were included in Kalimpong Division.<sup>75</sup>

The graph shows abrupt rise in expenditure under head ‘A’ (conservancy and works) during 1902-06. This was due mainly to extensive departmental timber operations and partly to the execution of the forest survey. Seventy per cent of the total cost of the latter amounting to Rs. 19,559 was charged to divisional expenditure. Departmental fellings were undertaken with a view to induce contractors to undertake such work by showing that a profit could be made. The fellings were discontinued during the next period, purchasers for standing trees having been found. A fall in expenditure under ‘A’ resulted.

The following table shows the past yield of the Kalimpong Division from 1906-07 to 1922-23 — its outturn of sal timber, including yield of dry trees and windfalls, outturn of other species of timber, fire-wood and minor produce.

### Past yield

Year	Outturn of sal timber, including yield of dry trees and windfalls.		Outturn of timber (other species).		Firewood.	Minor produce.
	No.	C. ft.	No.	C. ft.	C. ft.	Rs.
1906 - 07	624	55,720	1,583	139,689	943,656	7,288
1907 - 08	800	62,466	1,462	179,402	1,296,052	11,421
1908 - 09	278	15,126	1,402	192,918	915,401	13,274
1909 - 10	288	15,251	1,339	137,732	1,405,091	11,860
1910 - 11	1,121	82,922	1,742	219,704	1,020,452	12,424
1911 - 12	762	51,888	1,708	250,753	1,190,357	15,702
1912 - 13	2,236	207,221	1,655	224,871	998,424	9,236
1913 - 14	477	39,014	1,654	223,051	1,162,566	18,452
1914 - 15	1,441	143,957	1,861	205,642	1,416,190	21,387
1915 - 16	1,210	121,415	1,205	164,752	910,464	29,780
1916 - 17	1,317	102,243	1,597	259,807	1,485,865	17,708
1917 - 18	422	21,403	2,661	290,982	1,202,089	12,837
1918 - 19	1,419	82,742	52,144	381,110	1,045,464	12,287
1919 - 20	971	50,186	2,123	250,641	940,945	12,503
1920 - 21	1,419	79,856	2,863	214,783	860,186	8,712
1921 - 22	706	28,971	2,348	195,605	1,337,643	13,553
1922 - 23	778	26,002	2,602	201,253	1,459,421	14,791
<b>Total</b>	<b>16,269</b>	<b>1,186,383</b>	<b>34,989</b>	<b>3,732,675</b>	<b>19,590,266</b>	<b>2,43,215</b>
<b>Average</b>	<b>957</b>	<b>69,783</b>	<b>2,058</b>	<b>219,569</b>	<b>1,152,369</b>	<b>4,307</b>

The table shows that outturn of sal timber during the seventeen years was not uniform one and production was not steady enough. In 1909-10 in the case of sal timber 15,251 cubic feet only were produced, whereas in 1912-13 207,221 cubic feet were worked out by the same Department. In the cases of other species of timber, fire-wood and minor produce the outturn was more or less uniform except one or two years. This up and down in production was the result of two things - idleness and activity of the Department and rise and fall in demands of forest produce. The rise and fall in production was reflected in financial results of the Kalimpong Division.

The following table shows the revenue and expenditure of the Kalimpong Division from 1912-13 to 1921-22.

### Statement of the Financial Results of the 10 - year period 1911- 12 to 1921 - 22.

Year	RECEIPTS						CHARGES						Total receipts	Total charges	Surplus
	Produce removed by Government Agency.	Produce removed by purchasers.	Other receipts including drift.	Produce removed by Government Agency A I.	Produce removed by purchasers AII.	Reads and Buildings A VII.	Demarcation A VIII (a).	Sowing and planting A VIII (c)	Fire - protection A VIII (d)	Other charges under Organisation and Improvement	Establishment	Miscellaneous and Drift			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1912-13	28	93,005	7,067	1	677	11,221	725	1,470	294	926	24,910	899	1,00,100	41,123	58,977
1913-14	588	79,718	3,670	3	539	6,258	860	1,578	303	1,930	22,110	1,609	83,976	35,192	48,784
1914-15	94	90,724	2,465	0	651	4,274	1,045	3,248	316	2,025	21,294	573	23,283	33,426	59,857
1915-16	302	88,956	2,260	0	600	5,421	884	1,667	547	999	21,320	84	91,518	31,522	59,996
1916-17	212	99,072	2,970	0	479	4,368	596	0	421	3,846	21,264	220	1,02,254	31,194	71,060
1917-18	1,162	61,219	3,338	9,098	492	2,726	749	0	438	3,296	22,790	729	65,719	40,318	25,401
1918-19	34,067	1,03,257	2,964	16,119	576	3,927	655	0	439	4,424	25,514	794	1,40,288	52,448	87,840
1919-20	4,484	98,005	2,225	483	899	5,050	552	0	353	6,880	25,706	1,303	1,04,714	41,228	63,486
1920-21	0	90,784	2,455	0	554	7,796	630	30,533	76	1,625	22,076	1,499	93,239	37,309	55,930
1921-22	248	82,871	4,479	1,667	841	22,976	553	4,223	312	5,366	40,653	2,617	87,634	79,218	8,416
<b>Total</b>	<b>41,221</b>	<b>8,87,611</b>	<b>33,893</b>	<b>27,371</b>	<b>6,308</b>	<b>74,017</b>	<b>7,259</b>	<b>15,239</b>	<b>3,503</b>	<b>31,317</b>	<b>2,47,637</b>	<b>10,327</b>	<b>9,62,725</b>	<b>4,22,978</b>	<b>5,39,747</b>
<b>Average</b>	<b>4,122</b>	<b>88,761</b>	<b>3,390</b>	<b>2,737</b>	<b>631</b>	<b>7,401</b>	<b>726</b>	<b>1,524</b>	<b>350</b>	<b>3,132</b>	<b>24,764</b>	<b>1,033</b>	<b>96,273</b>	<b>42,298</b>	<b>53,975</b>

The great increase in the surplus during the 1912–16 period over the previous quinquennial period was due to the greater demand for and outturn of sal timber. In the next period, namely, 1916–21, departmental operations had again to be undertaken to supply timber for military purposes, resulting in a rise in expenditure under head 'A' (Conservancy and works). Increased prices were however not maintained. A fall in surplus was the consequence.<sup>76</sup> The total area of reserved forests in Kalimpong Division on 30<sup>th</sup> June, 1919 was 212 square miles.<sup>77</sup> And from the statement of revenue received and outstandings on account of revenue during 1919–20 shows that in Kalimpong Division value of sales and other revenue during the year was Rs. 1,04,757 annas 14 and paisa 4. Amount realized during the year was Rs, 1,04,713 annas 14 and paisa 4. And the outstanding was Rs. 44 which was the balance due to the Department at the end of the year.<sup>78</sup>

In 1890 Kurseong Forest Division was formed.<sup>79</sup> Between the years 1881 and 1891 the Sivoke hill forest formed part of the then Tista Division (Kalimpong Division), but they were restored to the Kurseong Division in the later year. Mahaldaram block was transferred to the Kurseong Division from Darjeeling Division in 1910 and Chattakpur in 1919.<sup>80</sup> The distribution of the forests of the Kurseong Division into ranges underwent shuffling and reshuffling several times. Beginning with three ranges the number of ranges gradually increased to six, was then reduced to two, but eventually again increased by gradual steps to the number of five by 1960–61.

Most of the old documents of this Division are not available since a fire in the office of the Conservator of Forests in the year 1897 had destroyed many important papers, including several working schemes prepared for these forests. It is possible, yet to depict the past systems of management and their results connected with the gradual growth of this Division with the help of available documents kept elsewhere. Before reservation the whole tract of the plains forest was much jhoomed by the Meches, and there was tea cultivation in the north of the Panchenai block. After reservation in 1865 the forest between the rivers Mechi and Tista constituted the Sikkim Division. Before 1877 the Kurseong, Tista and Darjeeling formed one Division, (this was done in 1870) called Cooch Behar Division. This Division was far too large to control efficiently. In view of the difficulty to manage this large division the Kurseong Division was formed by separating from the Darjeeling Division. It included "most of the forests below, roughly, the 4000-foot contour in the Himalaya and including the forests out in the plains at the foot of the hills."<sup>81</sup>

About the time of reservation (1865), Government granted a monopoly to one Mr. Dear to work the forests for railway sleepers. He removed all big trees except hollow and unsound

ones from the plains tract. After an examination of the forests in the year 1867, it was reported that sal trees over 5 feet in girth could only be found in the lower hills, but stumps up to 15 feet in circumference indicated that there had once been big trees in Terai. Although depleted of the big trees, the Terai was rich in smaller trees that would become valuable in 30 to 40 years — the Conservator of Forests, Bengal, reported in his Annual Report for 1867–68. He also pointed out that the regeneration of sal was so abundant as to “require check”. That being the condition of the Terai and the local demand being small, it was not likely that purchasers would undergo the expense of working the hills for bigger trees. The Government of Bengal at this time laid down, “no tree should be felled except by the direct agency of the Forest Department.”<sup>82</sup> This was perhaps the genesis of departmental operations. The Conservator of Forests opposed the decision on several grounds but in vain. Later on sale of trees over a certain girth on permits at a fixed price per tree was allowed, provided that trees were selected by responsible forest officers. On account of paucity of staff this condition could not be fulfilled; the result was that all good stems were removed from easily accessible areas. The contractors employed by the department in timber operations for the supply of sleepers to the railway and of building and bridge materials to the Communications and Works Department made further serious inroads into the forests inasmuch as they felled smaller trees in disregard of the girth limit rule. The Conservator of Forests, who inspected the outer hills between the Darjeeling hill cart road and the Mahanadi (Mahananda) river in 1870 wrote in his inspection report that the tract had been stripped of nearly every sal tree “sufficiently large and sound to yield one sleeper”. Sale by measurement of volume was introduced as an alternative but was not favoured by the local people as the rate per tree remained cheaper. Some dry timber was disposed of at the cubic foot rate but only when that rate was reduced by half.

After the preliminary examination in 1867 a rough estimate was made as to the number of mature sal trees that could be felled annually. *Kukat* (inferior species of timber tree) trees were allowed to be cut as wanted. This scheme was revised from time to time as further data became available. Thus, every year a plan of operations was prepared in advance, but such plans do not appear to have been strictly adhered to, the outturn fluctuating with the demand. Mature sal trees were felled departmentally for the supply of railway sleepers; other fellings were done by purchasers and localized near centres of consumption.

In 1877 the forests of Kurseong with the exception of Mahaldaram and Chattakpur blocks were made into a forest sub-division of the Darjeeling Division under the general control of the Divisional Forest officer, Darjeeling. The chief revenue in the Kurseong sub-division at this time was obtained from sal timber in the lower forests. “The number of trees cut

departmentally between 1877–78 and 1879–80 amounted to 2236, whilst for the same period 339 were cut by purchasers on permit, or 858 trees average per annum.”<sup>83</sup> As regards finance, it was not possible to separate the accounts of the three Divisions (Darjeeling, Tista or Kalimpong and Kurseong) before their formation. However, from the statement of timber brought to Depots from the different Forest Division during 1867–68 Sukna forest produced timber as follow:-<sup>84</sup>

Description of Timber	Pieces	Cubic feet	Total Pieces	Total cubic feet
Sal	1,268	29,005		
Sleepers	18,853	64,152		
Planks	303	763	20,424	93,920

In 1868–69 Sukna forest produced 31,172 pieces (1,06,071 cubic feet) sleepers; scantlings 1,066 pieces (2,264 cubic feet); and logs 338 pieces (6,525 cubic feet). Total pieces were 32,576 which amounted to 1,14,860 cubic feet.<sup>85</sup> In 1869–70 Sukna produced 1,763 (5,999 cubic feet).<sup>86</sup> It is to be noted that Sukna was small part of Kurseong forest sub-division and in the Progress Report for 1882–83 Kurseong was separately referred to in connection with indicating area of reserve forests in the several divisions. It is known from that report that on 31<sup>st</sup> March, 1883, Kurseong Reserve Forest was comprised of 89½ square miles. The same report noted that progress had been made gradually during the last three years in the introduction of a regular system of working, and the sale of forest produce by tender had been simultaneously commenced. The actual results of the year’s (1882–83) working were a profit of Rs. 12,209 or 22 per cent on the total revenue.

But over all, the condition of Kurseong forests was not encouraging one. After the formation of the Kurseong Division in 1890 the Conservator of Forests reported in 1893 that the Kurseong Division had been for the past few years in rather a bad plight. He pointed out several causes behind it, namely, low prices of tea, the increasingly bad climate of the Terai, growing scarcity of labour. All this reacted on the forests which were there to a great extent dependent on the requirements of the tea concerns. The Forests of Kurseong did not contain – in the hills at least – timber sufficiently valuable to be exported to a distance. In the lower hills and of the Tista Valley mature Sal timber was found in limited quantity, and from this source a small annual income was expected.<sup>87</sup> From the Progress Report for the year 1895–96 it is known that Kurseong forests supplied small quantities of sleepers to the Darjeeling Himalayan Railways. The financial results of 1897–98 and 1898–99 showed surplus in the Division. In 1898–99 the receipts were Rs. 39,021 and charges Rs. 33,796 and surplus Rs. 5225. In 1897–98 the receipts were Rs. 40,610, charges Rs. 33,864 and surplus Rs. 6,746.<sup>88</sup>

During 1899–1900 in the Kurseong Division all the *sal* trees of over 5 feet in girth were counted and recorded, while a detailed description of the forests, block by block, was prepared. Pending the undertaking of regular operations these records were being utilized for the framing of the annual plan of operations.<sup>89</sup> Perhaps this counting of *sal* trees in the Division was partially done, because in 1903 the system of counting as well as working plan for the Division was criticized by the Officiating Conservator. He wrote, “A Working Plan for the Kurseong forests was prepared by Mr. Hatt. But as it appeared from this plan that the yield could not be determined without enumerating *sal* trees, over a certain size, in the whole *sal* producing area, and as before preparing the plan, Mr. Hatt had been able to count such trees on only 30 per cent of that area, the completion and submission of the plan has, with the approval of the Inspector-General of Forests, been determined pending an enumeration of trees on the remainder of that area. It is expected that this enumeration will be finished in the course of next cold weather.”<sup>90</sup> He, however, noted that natural reproduction in Kurseong forests, especially that of *sal* continued satisfactory. During 1902–03 in this division 49,136 cubic feet of green *sal* timber, 18,086 cubic feet of dry *sal* timber with 27,360 cubic feet of green timber of other kinds were cut. As a result of this revenue increased of about Rs. 10,000 in Kurseong.<sup>91</sup> Full countings of *sal* trees in Kurseong forests were completed in 1904. This showed that the yield of *sal* actually obtainable from selection fellings was nearly double the yield which was proposed on the strength of the partial countings and former estimates. The cost of this Working Plan upto 1904 had been Rs. 93 per square mile. It is also found that in the Kurseong Division the *sal* selection coupes of the year 1918–1919 were not sold by auction but were worked departmentally. The first 800 trees worked out showed a clear profit of Rs. 83 per tree in spite of high extraction rates. Considering the high prices that could be obtained for *sal* timber, the prices realized by auction sale of *sal* coupes in the Jalpaiguri Division were low. This goes to show that departmental work was more profitable than outright sales. It is interesting to note that by 1919 the revenue increased in all Divisions except the Kurseong, where a decrease of Rs. 2,137 as compared with the previous year was due to less sales to purchasers. Even by 1920 the Kurseong Division showed a considerable decrease in receipts and the main cause behind this was the shortage of rolling-stock on the Darjeeling Himalayan Railway and consequent delay in the supply of trucks. This accumulation of stocks led to shortage of revenue. Thus the deficit was more apparent than real as stocks in hand represented revenue.

To observe and assess the over all commercialization of forests in Bengal upto 1919-20, it should be pointed out that, Government could not decide for a long time whether the forest operations would be made by the Forest Department or by private enterprise. Secondly, the Government were at a loss to perfect the transport system to carry the timber out of the forests

and reach the depots smoothly. Thirdly, for a considerable period the Government could not decide the method between improvement fellings, regeneration fellings and selection fellings, and prior to 1896 the felling of sal was entirely unregulated. The selection system in some areas failed since it could not establish regeneration to the normal extent. Thus the selection system as in force tended to lead to a crisis which in certain areas culminated in the extinction of sal. Fourthly, the Government failed to open new markets for the sale of wide variety of timbers and even Calcutta market could not be exploited by the Bengal Government. Fifthly, they even failed to create new demands for timber and other forest produce. And last but not least, the Government did not try sincerely to encourage the private traders of timber, let alone indigenous private traders to purchase forest produce including timber. Hundreds of rules and regulations hampered the process of smooth forest operations and commercialization of forests. In every step there were troubles, obstacles and interruptions. Lack of experience and dearth of efficient foresters made the things worse. Training centre for foresters and rangers was opened in 1906-07 in Kurseong but it could not function properly for a long time. Indiscriminate fellings in approachable area and lack of roads to the deep forest disturbed the balance of forest operations. And as a result of latter the Forest Department failed to bring good timber from deep forests to the market for a considerable period. Even in 1908 McIntire, Conservator of Forests, Bengal wrote that the obstacle to the rapid development of exports from most of the forests was the transport difficulty.<sup>92</sup>

Despite all these hurdles the Government along with the Forest Department got their teeth into the forests to over-come all difficulties. As a result of tireless efforts the receipts had risen steadily from Rs. 87,260 in 1871-72 to Rs. 5,61,340 in 1880-81. But the Government sounded a note of warning against the Forest Department that the expenditure must be proportionately reduced.<sup>93</sup>

For the improvement of timber business the Government of India were glad to observe in 1902 that His Honour "the Lieutenant-Governor is desirous of establishing a regular demand for railway sleepers. Every reasonable inducement should be held out to Railway Companies to purchase sleepers from the Department, and no effort should be spared to create or foster a permanent demand whenever timber has hitherto failed to attract purchasers upto the limit of the possible annual yield." The Government advised the Department and noted, "It is important, moreover, that the Department should endeavour to carry out its contracts with punctuality, since failure to meet engagements inevitably drives purchasers to seek other sources of supply."<sup>94</sup> The Government of India further observed that the financial results of the year 1900-1901 showed a surplus of nearly six and-a-half lakhs of rupees as against a little more than six

lakhs in the previous year. Apart from the Direction Division, all the 13 Divisions of the province, with two exceptions yielded surplus. The exploitation of minor produce continued to receive considerable attention from the Conservator with the result that there was an increasing revenue under this head; a satisfactory result, "which points to further expansion of this source of income being possible." Mr. Hardy concluded his report with the note, "That the Forest Department has its commercial side is a point that should not be lost sight of, and the Government of India have noted with pleasure the attention that this aspect of forest management is receiving from the Government of Bengal."<sup>95</sup>

The analysis of the financial results of the year 1903-04 made by A.L. McIntire is interesting one. He wrote that the decrease in removals by purchasers resulted in a serious fall in the income, which did not lead to any savings in expenditure. On the contrary, necessary improvements in administration, and works undertaken with a view to opening out unworked or little worked forests had led to increased outlay under several heads, and "expenditure would have been higher but for the fact that charges of an unusual nature were below the average." The actual increase in expenditure was largely due to departmental timber and fuel works.

Statistics of the Forest Department in 1903-04 suggested that the percentage of income of the province was 65.78, against 51.32 in the previous year, and an average of 49.72 in the five years. Of the income of the year 69 per cent was from sales of major produce, Rs. 2,79,698 or 27 per cent being from sales of bamboos and minor produce, whilst the remaining 4 per cent was from miscellaneous sources. Of the expenditure, 51 per cent was due to charges for the extension, constitution, improvement and exploitation of the forest property, 49 per cent having been spent on administration, protective and executive charges. The net income was 34.22 per cent of the gross revenue.

From the available data the following average amount of forest operations for five years in Bengal is known:-<sup>96</sup>

<b>Period</b>	<b>Timber and fuel in thousand of C. ft</b>	<b>Bamboos Nos.</b>	<b>Minor produce value Rs.</b>
1909- 10 to 1913-14	24,486	17,805,013	2,42,157
1914- 15 to 1918-19	20,577,	25,532,019	2,94,233

Owing to the First World War some timber sales had to be cancelled; for the same reason negotiations in some cases fell through. On 25th September, 1919 H.A. Farrington, Conservator of Forests, Bengal wrote from Darjeeling, "Recently prospects have improved considerably with general revival of trade and there is no doubt that the outturn will be increased in the next quinquennium."<sup>97</sup>

The average annual financial results for the quinquennium in question in Bengal compared as follows with those of the preceding one:-

Period	Revenue Rs.	Expenditure Rs.	Surplus Rs.
1909-10 to 1913-14	14,63,702	6,46,543	8,17,159
1914-15 to 1918-19	14,53,023	6,99,352	7,53,671

Here also the war appreciably affected the revenue and the resulting surplus; but there had been a recovery since, as the revenue in 1918-19 was over 4½ lakhs more than in 1917-18. In 1917-18 the total revenue collected was Rs. 15,01,670 and in 1918-19 Rs. 19,55,394. This was due mainly to departmental working in connection with the production of munitions. At the same time the expenditure increased only a little over half a lakh from Rs. 7,71,124 to Rs. 8,33,634. The surplus amounted, therefore, to Rs. 11,21,760 against Rs. 7,30,546 in the previous year. To make forests a more profitable one the Government took the policy of control and management of money. The average annual amount spent on roads, bridges, buildings and other works decreased from Rs. 87,853 during the previous quinquennium (1909-1914) to Rs. 70,408 (1914-1919) owing to enforced economies. And to increase revenue the disposal of coupes by auction or tender at outright prices continued in Darjeeling, Kalimpong, Jalpaiguri, Buxa and Sundarbans. Fuel continued to be sold on royalty everywhere but in the departmental coupe in Kurseong. In Kurseong Division, owing to departmental work, no *sal* coupes were sold to purchasers during 1919-20.

The total value of the year's sale (1919-20) as compared with those of the previous year (1918-19) was as follows:-<sup>98</sup>

	1919-20 Rs.	1918-19 Rs.
Timber .....	10,83,982	9,02,964
Fuel .....	2,00,611	2,18,651
Bamboo .....	74,092	85,328
Grazing .....	23,176	23,006
Minor Produce .....	2,21,023	2,30,923
Commutation fees ....	8,760	8,354
<b>Total :</b>	<b>16,11,664</b>	<b>14,69,226</b>

### **Outturn and Sources of forest produce**

The total amount of forest produce removed during the year, 1919-20, was as follows:-<sup>99</sup>

Class of Forests	Timber in thousands of C. ft.	Fuel in thousands of C. ft.	Bamboos Nos.	Minor produce value Rs.
Reserved	7,037	12,746	27,049,853	3,60,275
Protected	1,419	127	.....	16,730
Unclassed	788	360	3,180,786	11,217
<b>Total</b>	<b>9,244</b>	<b>13,223</b>	<b>30,230,639</b>	<b>3,88,222</b>

Timber - The main increase, which was in the Sundarbans Division, was due to the free grants made for cyclone relief. Increased demand in Darjeeling and Jalpaiguri also accounted for the increase in part.

Fuel - The decrease, which occurred chiefly in the Sundarbans Division was due to lack of demand, partly attributed to the cyclone and partly to the continued prevalence of high prices.

Bamboos - Stoppage of sale to purchasers of bamboos other than Dolu (*Teinostachyum Dullooa*) from the Kassalong Range in terms of Messrs. Andrew Yule & Co.'s lease and an outbreak of cholera in the Ringkheong Reserve were primarily responsible for the poor result in the Chittagong Hill Tracts Division.

Minor produce - The increased revenue was derived from the 64 elephants caught in the *khedda* operations which alone accounted for Rs. 84,700, the larger sale of Golpatta (*Nipa fruticans*) in the, Sundarbans Division, and free grants of the same in the cyclone-affected areas.

By 1919-20, in all Divisions except Kurseong there was a decrease in the extraction of box -planking trees and this was due to bad markets. The increase in miscellaneous trees showed that local demands were now greater. The decrease in sal was due to the discontinuance of the supply of timber to the Munitions Board.

A comparison of income and expenditure with those of previous year and with the average of the five preceding years is given in the following statement:-<sup>100</sup>

	1919 - 20	1918 - 19	Average 1913 - 14 to 1917 - 18
	Rs.	Rs.	Rs.
Revenue .....	20,02,819	19,55,394	13,89,438
Expenditure	{ A. 5,80,487	4,49,881	3,01,863
	{ B. 4,74,737	3,83,753	3,59,768
Total Expenditure	10,55,224	8,33,634	6,61,631
Surplus	9,47,595	11,21,760	7,27,807
Head "A" means conservancy and works.			
Head "B" means establishment.			

In spite of a considerable decrease in receipts in the Kalimpong, Kurseong, and Buxa Divisions (second named Division showing a considerable deficit over income) higher receipts obtained in other Divisions raised the revenue above the previous years. In the Kalimpong and Buxa Divisions the decrease was due to cessation of supply of timber to the Munitions Board. The major cause of the decrease in the Kurseong Division, as mentioned above, was the storage of rolling-stock on the Darjeeling-Himalayan Railway and consequent delay in the supply of trucks. This led to accumulation of stocks and shortage of revenue. Moreover, there were large

outstanding amount of revenue at the end of the year. If the outstanding amount and stocks are taken together both of which represented revenue, the deficit of Kurseong Division was more apparent than real.

The analysis of revenue and expenditure of the year 1919-20 shows 76 per cent from major produce, 21 per cent from minor produce and 3 per cent from miscellaneous sources, while on the expenditure side 55 per cent was spent on extension, constitution, improvement and exploitation of the forest property, and 45 per cent on administrative, executive and protective charges. The percentage of net income fell to 47 from 57 owing to increased expenditure.

Outstanding amount at the end of the year (1920) amounted to Rs. 1,50,834 or Rs. 75,055 more than at the commencement, due, in the Sundarbans and Buxa Divisions, to delayed payment of instalments on sales of timber and, in the Kurseong Division, to outstanding amount against the Eastern Bengal and East Indian Railways and the Munitions Board. Added to this, the value of stock of timber at forest and sale depot, and other forest produce showed a difference in favour of the year 1919-20 of Rs. 59,049. In connection with this, the Conservator in his annual report for the year 1919-20 noted that "Outstanding due by contractors and disbursers, representing advances for work not finally accounted for, amounted to Rs. 26,592 at commencement and Rs. 21,718 at the close of the year." In spite of all this weakness of the Forest Department the financial results of the year 1919-20 satisfied the Governor-in-Council, Bengal.<sup>101</sup> The Forest Department at last began to show signs of profit in Bengal after spending considerable period in financial wilderness in the region.

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74. Annual Progress Report on Forest Administration of the Lower Provinces of Bengal for the year 1907-08. Prepared by A. L. McIntire, Conservator of Forests, Bengal. Page 14. N.A.I., New Delhi.
75. Third Working Plan for the Kalimpong Division, P. 17. Prepared by J. M. Cowan, Deputy Conservator of Forests, Bengal. Collected from Divisional Forest Office, Darjeeling.
76. Ibid.
77. Annual Progress Report on Forest Administration in the Presidency of Bengal for the year 1918-19 by H. A. Farrington, Conservator of Forests, Bengal. P. 21. Form No. 7. B 43 P.R., N.A.I., New Delhi.
78. Annual Progress Report on Forest Administration in the Presidency of Bengal for the year 1919-20 by H. A. Farrington, Conservator of Forests, Bengal. Para 135, P. 47. The Report was submitted to The Secretary to the Government of Bengal, Revenue Department, dated Darjeeling, the 5th October, 1920. B 43 P.R., N.A.I., New Delhi.
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80. Ibid.
81. E.P Stebbing : op. cit., Vol. III, PP.200-201.
82. Vide Appendix – E, Annual Report, 1870-71, O.C.F.N.C., Jal., W.B.
83. E. P. Stebbing : op. cit., Vol. III, P. 201.
84. Forest Administration Report for the year 1867-68 from H. Leeds, Conservator of Forests, L. P. Bengal to the Secretary to the Govt. of Bengal. P. 14 - (No.-33A.,dated Darjeeling, the 13<sup>th</sup> October, 1868) O.C.F.N.C., Jal., W.B.
85. Progress Report of Forest Administration in Bengal for the year 1868-69. P. 37. Prepared by W. Stenhouse. O.C.F.N.C. Jal., W.B.
86. Progress Report of Forest Administration in Bengal for the year 1869-70, P. 16. Prepared by H. Leeds. O.C.F.N.C., Jal., W.B.
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97. Ibid.
98. Annual Progress Report on Forest Administration in the Presidency of Bengal for the year 1919-20 by H. A. Farrington, Conservator of Forests, Bengal. B 43 P.R., N.A.I, New Delhi. Forwarding letter was addressed to the Secretary to the Government of Bengal, Revenue Department. Letter No. 4453 — IR — 18.
99. Ibid.
100. Ibid.
101. Resolution No. 1801 For. Government of Bengal, Revenue Department, Forest Branch, Calcutta, the 5<sup>th</sup> March, 1921. Resolution was signed by W.S. Hopkyns, Secretary to the Government of Bengal (Offg.). It is kept within the Progress Report of 1919-20. B 43 P.R. N.A.I., New Delhi.