CHAPTER III

Conditions Of Work And Health In Tea Plantations: A Historical Overview
This chapter draws a historical profile of the working, living and health conditions in tea plantations of Assam and Bengal. There are certain physical, climatic and health differences but despite these there are similarities example the organisation of production, that includes plantation hierarchy, migration, production and same agricultural crop cycle, intensity of work and production, the structure of discipline etc. are some of the similarities between Darjeeling and Assam.

The intention is to show the relationship between socio-economic conditions and ill health among the plantation labour. Nature of work, living conditions, and type of food intake are a clear reflection on the morbidity patterns and mortality data. Reports and survey data that provide an insight

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1 Interview with Sukbir Khawas, op. cit.
into this relationship are used along with narratives expressed by the ex-tea
garden workers of Phuguri Tea Estate. These narratives reflect the attitudes
and policies of the planters and the precariousness of workers' survival in the
plantations. Our previous chapter highlighted the conditions that led to the
emergence of a plantation labour force in Darjeeling. The relevance of the
historical chapter as a linkage to the ongoing chapter is to understand the
health implications of the conditions in which they were brought and made to
work and live. By looking at the health conditions of overseas plantations and
Assam we draw out some for Darjeeling. This chapter broadly explores the
link between the conditions of work, living and health in the tea plantations of
Darjeeling and Assam.

**Conditions of Work**

Conditions of work entails wage structure, type or nature of work etc. The
review of literature has highlighted these variables in the context of
Assam and overseas plantations which were more strongly reflected through
the mortality data of the late 19th and early 20th century. In this section
corroborating with the situation of the Assam and Bengal (Terai) plantations
we specifically attempt at highlighting the conditions for Darjeeling tea
plantations.

We have shown earlier that the *sardars* used all possible means of
enticement to work in the tea plantations. The worst was the 'indentured
system', which was the dominant practise in most plantations except
Darjeeling. Workers were cajoled and even coerced to work in plantations. All
forms of deceit and trickery were used to coerce them. By promising better
wages and paying advances to clear their debts, the recruiters compelled them
to enter into work contracts. The jobber, *sadar*, took advantage of their poor
economic situation and lured them to work in plantations. The journeys to the
plantations were often long and exhausting. Many on the way to Assam
succumbed to a range of communicable diseases like cholera, malaria,
diarrhoea and dysentery.

Labour in Darjeeling plantations, was shifted from one garden to
another according to the requirements of the planters for their respective

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2 See Chapter II on Types of Recruitment, p 28.
gardens. From an account of a tea planter\(^3\) in Darjeeling during the late 19\(^{th}\) century it was found that some labour was resident for example in the gardens of Lingia and Tumsong, but additional labour was employed from outside i.e. the *bustees* (villages) and *khas mahals*. These casual or outside labourers were very independent, and could leave the job whenever they pleased. As labour employed on field work then received contract rates and they naturally preferred work, which entailed minimum effort for the rates paid.

There is further evidence from a report of the Indian Tea Association (ITA) of 1900, that the planters and managers in Darjeeling had the right to transfer the *sirdars* along with their gangs from one place to another when required (ITA 1900: 392-395). There was nothing called permanent employment. This meant that the coolies brought by a *sardar* lived in the same area. It is said that the areas or localities were named after the respective *sardars*. There also existed a system called *hatta-bahira*, as discussed earlier in the plantations of Darjeeling. In Assam, ‘armed policemen were deployed, while in the Dooars and Darjeeling region, planters organised the North Bengal Mounted Rifles’ (Dash op. cit.: 146) to control labour. A family-recruitment system in the tea plantations prevailed with the realisation of ‘low-cost of reproduction of labour’. Thus women and children were drawn into employment. The earlier reviewed studies have shown the conditions under which women workers worked in plantations. The following paragraphs briefly address these aspects of women and child labour in plantations.

**Women and Child Labour**

*agari tokro, pechhari kokro⁴*

Kaumati Khati, an ex-tea garden worker of Phuguri T.E. narrated that women earlier carried a basket in the front and a cradle on their back. In the initial years of setting up of plantations, the number of women employed in tea plantations was less as compared to men. As plantation work was similar to agricultural work, women were easily employed. Containment of the male workers, a steady reproduction of labour, female workers showed dexterity in plucking were some of the main reasons for the use of family employment. As

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\(^3\) Lt. Col. ED. L. Hannaqan (F.R.H.S.): Darjeeling Planting-Then and Now, an account of the tea gardens in Darjeeling and the work of Andrew Wernicke [n. p.]

\(^4\) As said by Kaumati Khati about the earlier conditions of women workers. Interviewed on 21\(^{st}\) December, 2000.
entire families were hired, wages too were constantly low. As Engels (1995) study demonstrates, women were even made to settle as ‘family units’. Depot-marriages were common where single men and women were sent as families to the tea districts of Assam.

From the following narratives, it can be observed that more than age the height of the child was used as the main indicator for employment. This could be reasoned to the height of the tea bushes as expressed by Padma Tamang, aged 100 years, an ex-tea garden worker of Phuguri Tea Estate. She said while recollecting the conditions as:

They would pick us according to our height and stature. My maili (second daughter) was shorter than her third younger sister (saili). Although she was younger, saili got the job instead of her elder sister! Earlier the conditions were different. It was very tough. Tea bushes during our times were big and were very high. Nowadays the bushes are small. We literally had to climb the tea bushes. Working conditions were horrible. If we reached late for counting (attendance) in the morning then they ( overseers) would ask us to return home. This whole area was mostly jungle. (She says pointing towards the area around her house). Then houses as such never existed as we have today. They were mostly kuccha houses. Now the workers have all the facilities they want. We came to Phuguri when Finlay sahab was here. He was married to a chhokri. I think I was 30 years of age then. (She is talking about the year 1930). My husband followed later. Kaman Singh Sardar brought us here. He had set up thirty to thirty-five houses. The Kamis were already here. They mostly came to work as kal-walas (fitters). Kamis mostly lived in Godamdhura (long house near the godown). There were also a large number of Tamangs here in Phuguri.

I had been working since the age of 12 years. Those days work was only for five days. Saturday and Sunday were holidays. A chhokra got two annas as hazira. An aurat got three annas, marad four annas. Tirpal was not provided during those days. Women would ask the men to hold their kokro while climbing uphill. Crèche was established only during the late British rule.

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5 Derogatory term given by the locals in the garden to a local girl married to a Britisher.
6 Interview with Padma Tamang, an ex-tea garden worker of Phuguri T.E., op. cit.
7 A small basket made of bamboo in which women carried their children while plucking the tea leaves.
8 It is not surprising to notice how far they were alienated that despite India’s freedom from the British rule dominance in the tea plantations still continued as British companies still remained in the tea plantations. Phuguri is an important case, as James Finlay and Company owned the tea garden till 1955 when it was sold over to Daga and Company. The workers’ perception was that the British still ruled them, as crèche was established only after 1954 with the implementation of the Plantation Labour Act of 1951.
9 Interview with Bir Maya Zimba, (76 years of age) an ex-tea garden worker of Phuguri T.E., 5th December, 2000.
In Darjeeling, child labour was used “to pick leaves and in case of small children to catch caterpillars from the plants Rupees 2-14-5\(^{10}\) was given in 1929” (Engels in Robb: 1996: 233). Around circa 1900, a Darjeeling planter mentions the use of child labour as

There is not doubt that mosquito is spreading in the hills. All sorts of remedies have been proposed: lighted torches carried through affected parts at night, children catching mosquito & c. but nothing will stop this plague when it once starts... beetle a small reddish yellow insect seems to attack heavy pruning or young tea more than any other pieces. It bites or rots away. When thee little pests appear, put some children to pick them off, and give 1 anna a 100 of the beetles are plentiful... (Notes on Tea in Darjeeling by a Planter: 51)

According to the Report of the Royal Commission of Labour Inquiry (RCLI), 1931 one manager in Assam admitted that “children started work at 4, 5 or 6 years of age, and another said that children started on light tasks ‘as soon as they could walk.’ Some stated that their children did not become workers ‘before 9, 10 or even 11 years of age. The rationale behind the planters’ employment of children was the ‘workers being agriculturists were accustomed to allow their children to start work at a very early age’ (RCLI 1931: 415). As the work of plucking involved use of ‘nimble’ fingers, planters thus, justified hiring children. The concept of family-employment was the reason given for such low wages.

**Wages**

In the 1850’s the wages on Assam plantations were Rs. 2½ per month. In 1860-64 it increased to Rs. 4 or 5 as cash wages and was supplemented by grants of land and some concessional rations as per contracts with labour. Piece-rate payment was also prevalent. A good worker could earn as much as Rs. 8 per month on piece rate. In 1866 labour rules along with maximum bonus was adopted by Indian Tea Association. In Assam “bonus was paid mainly as inducement to renew agreements for fresh engagements” (ILO 1989:22)

According to a letter of the manager of Soom Tea Estate in Darjeeling in 1871, wages were reduced to cut down costs (Soom Tea Estate Report 1871:4). As there were more women employed their wages were reduced from

\(^{10}\) The value of one rupee was 16 annas and therefore the increment was of 14 annas each i.e. less than a rupee.
Rs. 5 to Rs. 4-8 a month, thus increasing savings (ibid). The wages for men remained unchanged of Rs. 5-8 a month. In 1873, the wages of a labourer in Darjeeling district 'for a full month of twenty-six working days for a child was Rupees 3, woman-Rupees 4-8, man or strong woman got Rupees 5-8, with a "pice a day for each coolly as sirdari" (Morton 1873: 17-18).

Women labourers in Bengal tea plantations during the early 1920s, earned between Rs. 4-9 for eighteen days (average number of working days in a month) while the cost of living was estimated at Rs. 6 per month (Engels in Peter Robb 1996: 233). It is said that in Darjeeling the wages were higher, as number of working days were more. It was natural that with more working days in a month, total monthly wages would invariably increase. Free quarters and rent-free land were provided for workers and their families. According to Engels (1996), this was not enough to live on but necessary for the families' survival (ibid). Low wages were always linked to land as a form of extra income.

According to the RCLI, 1931 in Darjeeling wages were fixed on piece-work basis and workers were paid weekly. The minimum earnings of workers were about 7 annas 6 pice11 a day for men, 6 annas for women and 2 annas 9 pice for children (RCLI 1931: 399). Provision of garden land was cited as the reason for low wages.

Sukbir Khawas, 76, and Kaumati Khati, 65, both ex-tea garden workers in Phuguri Tea Estate narrate the conditions of work in plantations. Sukbir Khawas says:

I started working at the age of eight, (year 1932) as a lokra. By the time I turned thirteen years of age I became a chhokra. We had to begin work with 3 annas as weekly wages. It then increased to 4 annas along with the aurat. After this we reached the category of a marad with 5 annas per week. According to our heights and stature we would be categorized. The kamdaris would check our heights. Whatever it is we had to first work with the women. Other workers like tea maker, dafadar, rotiwala, chowkidar earned Rupees 9 per month. The dakwala earned Rupees 14 per month as his work entailed a lot of travel. Sunday was a holiday for him. Wages were paid on a weekly basis. A lokra got 6 paise; a chhokra got 8 paise or 2 annas. An aurat got 16 paise or 4 annas and a marad got 20 paise or 5 annas. I do not remember how much the super (senior) staff workers earned then. Sunday would be a holiday but at times when the flush

11 One pice is equivalent to 1/16th of an anna
would be high they (the manager) would ask us to work. Till date this is practiced. In Phuguri there were sixty-seventy labourers including the chhokras. The nature of work for the chhokras was of clearing the overgrowth of grass and weeds around the tea bushes. Plucking too was an important task for them. Those days tea bushes were high and big. We would work mostly barefoot. We would get blisters in our feet during the rains.\textsuperscript{12}

Kaumati Khati worked as a plucker in Phuguri T.E. since the age of ten in the year 1945. She says,

There were no schools then. My father was a chia wala (tea-maker) and my mother a plucker. Those days there labour was scanty, so they would call us to work from our houses. The wages were structured on the basis of age and gender. A lokra got 1 anna, chhokra got 2-3 annas, an aurat got 4 annas, a marad 5 annas. The weekly payment amounted to 1½ rupaiyah. Earlier during winters labourers would collect cow dung from their own houses and store it in the maalgodam (godown). These would be used as manure for the tea bushes. Work in tea garden otherwise involved plucking and clearing. There was no ventilation in the factory. The workers looked pale and worn out as if they suffered from jaundice. In winter they gave us light work for around six months like road making, clearing etc.\textsuperscript{13}

The above descriptions reflect the working conditions of the tea plantation labour in Assam and Bengal. Apart from these the living conditions of the workers were equally difficult. Living conditions include housing, sanitation and water supply, food etc. the following sections covers on these aspects.

**Conditions of Living**

**Housing**

Low wages were always justified with family employment and providing basic amenities like housing etc. Housing conditions was usually overlooked and was never of immediate concern to the planters. Housing and sanitation hardly received any attention as long as labour was made available by the sardari system. The Report of the Soom tea estate, Darjeeling, 1873 states, “although the coolie lines were better constructed with ventilation, but problems of sanitation and hygiene were acute in these coolie lines” (Report-Soom Tea Estate 1873: 11-12). From the table below, we observe the level of

\textsuperscript{12} Interview with Sukbir Khawas, op. cit.
\textsuperscript{13} Interview with Kaumati Khati, op. cit.
importance given to construction for housing, repairing coolie houses from their estimate of expenditure of Soom Tea Estate:

Table No.: 3.1
Annual Estimate of Expenditure of Soom Tea Estate for the year 1873

<table>
<thead>
<tr>
<th>Items of Expenditure</th>
<th>Rupees</th>
<th>Annas</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Establishment (including Superintendent on leave I acting Manager 2 Assistants and an acting Secretary.)</td>
<td>8,662</td>
<td>8</td>
</tr>
<tr>
<td>Native Do---- --------</td>
<td>1,622</td>
<td>8</td>
</tr>
<tr>
<td>Coolies including Sirdarree</td>
<td>19,000</td>
<td></td>
</tr>
<tr>
<td>Charcoal 2500 mds. Including carriage @ 11 ans. per md.</td>
<td>1,718</td>
<td>12</td>
</tr>
<tr>
<td>Planking for 2500 boxes</td>
<td>1,182</td>
<td></td>
</tr>
<tr>
<td>Making Do. -----</td>
<td>525</td>
<td></td>
</tr>
<tr>
<td>French nails</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Clouts</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Dowals</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Solder</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Iron hoping</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Tea Lead</td>
<td>1,355</td>
<td></td>
</tr>
<tr>
<td>Carriage of Stores from Calcutta</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Baskets, Mats, Trays, and c., for Factory</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Repairs of Coolie lines</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Contingent charges -----</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Office Do. --------</td>
<td>475</td>
<td></td>
</tr>
<tr>
<td>Transit of Tea including fare to Calcutta</td>
<td>4,120</td>
<td></td>
</tr>
<tr>
<td>Commission and shipping charges @ 1 per chest</td>
<td>1,050</td>
<td></td>
</tr>
<tr>
<td>Doctors and Auditor's fees -----</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Manager’s commission of 5 percent on the nett profits of 1872</td>
<td>1,025</td>
<td></td>
</tr>
<tr>
<td>Rupees</td>
<td>43,502</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: Report of the Soom tea Estate, 1873, p 10.\textsuperscript{14}

Note: (area of cultivation 400 acres, surface measurement) calculated for 1200 maunds of Tea.

\textsuperscript{14} Likewise, there are a number of tables in the Report that can similarly be used to assess the indirect expenditure on labour.
The above table shows that investments in housing (repair of coolie lines) and medical facilities (doctors) were lower than the commission earned by the manager. Importance was given to the productivity of tea rather than the productivity viz. the labour. Engels (1996) says earlier "...the Nepalis and Santhals built better houses maybe because they were forced to develop the necessary skills in the hills" (Engels op. cit.: 237). In one plantation in Darjeeling, a standard house was experimented - a mud floor, 13 feet by 20 feet, 7 feet high bamboo walls, a corrugated iron roof which was 10 feet high at the ridge. It also had a verandah. The houses were spaced 50 square feet per person. While in Duars, around the 1920's, labour houses were made with iron frames and corrugated iron or asbestos roofs and walls were made of ekra, with mud plastering. Bricks or wood were also used for protection against the rains and with the short supply of the traditional raw materials, as most of the wastelands in Duars had been cultivated (ibid). Engels (1996) argues that the traditional house walls could be destroyed and rebuilt unlike the iron framed or mud houses where germs and insects lived for longer periods. The labour preferred the former as the latter were badly ventilated (Engels op. cit.: 241). With regard to the type of housing, Curjel says that "hill folk prefer clay and bamboo huts, with an ordinary verandah and thatched roof. They also prefer their homes to be surrounded by a plot of land for cultivation, and their cattle and other domestic animals are kept near by" (Curjel 1923: 26).

In Assam, houses around 1930's were constructed on mud plaster with thatched roofs. According to the RCLI, 1931, the employers constructed 8-15 houses at one stretch. As far as repairing was concerned, the labourers did it themselves during the slack season, with thatch provided free of cost. Small families were allotted one room but when there were more members, both rooms were given over to one family (RCLI 1931: 408). Problems were that plinths were seldom provided, floor and cubic space were often inadequate, and question of light and ventilation were entirely ignored. The workers always preferred the thatched house, which was 'cooler in the hot weather and warmer in the cold season' (ibid). Workers were more comfortable with the traditional type of housing.

Das (1931) showed that 834,588 out of 1,053,944 workers i.e. 79.2% were resident labour on the plantations of tea, coffee and rubber in 1928-29
in India (Das 1931: 64). They were called resident labour. "Coolie lines were the main structure of housing for Assam and Bengal tea plantations. These lines were overcrowded, built very close to one another without a proper outlet for conservancy and ventilation. This resulted in poor sanitation and epidemics. Besides overcrowding, insufficiency of accommodation for all the members of the family was great. 'Decency', 'convenience' and 'comfort' lacked in most plantations.

A comparison of housing construction in Darjeeling shows that prior to the First World War, houses were constructed of wooden plank walls and corrugated iron sheet roofs. After 1939, houses were made of bamboo and mud walls with thatched roofs, as wooden planks and iron sheets became very scarce. Even after 1939 there was still a complete absence of drainage. "The incidence of phthysis was high in these gardens as a result of dark, dingy and ill ventilated quarters" (Labour Investigation Committee Report (LIC Report 1967: 313). The field interviews from Phuguri T.E. tell us a different story of this period. Sukbir Khawas, resident of Phuguri Tea Estate, Darjeeling says,

There was no permanent house for the workers. Wherever they would get jobs they would go. Houses were built of thatched roofs fenced with titepati. We then had no feelings for the houses in which we lived. It was made of hay and was barbed with titepati. We were sent from one area to another to live. All we had was sacks to cover ourselves while we slept. No one felt bad when one had to leave one's house. Flogging was rare. But if anyone created any problems then they would order the chowkidars to thrown them out of their houses. Such a system of eviction was called hatta bahira. The British would send such notices of eviction. The company provided us with nothing. We would sleep on sacks and even cover ourselves with sacks or our mother's sari and sleep.15

Padma Tamang, aged 100 years recollects and says,

We had nothing else to sleep on except paral ko gundri9 (straw mat). There were hardly any facilities given to us.16

What was officially documented and experienced by the workers themselves was quite different. Such temporary housing led to a number of problems especially during the rainy season. Incessant rains damaged the roofs and water leakage was a constant problem for the workers. It is said

15 Interview with Sukbir Khawas, op. cit.
16 Interview with Padma Tamang, op. cit.
that the workers were put to bed early to be able to rest enough for work the
next day. The tea garden workers are accustomed to the sound of the alarm
every morning. Breman’s (1968) study shows how the workers were not even
allowed to leave the estates for gambling as a recreation. The workers were
coerced on the pretext of being disciplined. An important aspect of living
conditions which have a direct relation to health is sanitation and water
supply.

Sanitation and Water Supply

Prevalence of diseases like cholera, hookworm had a direct link to the
lack of a sanitary system/conservancy, water supply. Accounts especially in
the case of the Assam plantations are well documented in different official
reports. In most gardens latrines were uncommon. In fact planters argued
that the factories were seasonal and built in open spaces, therefore the
workers had easy access to the jungles.

Unsanitary conditions, lack of proper drinking water and general water
supply resulted in a large number of deaths on the journey to the Assam tea
plantations. Cholera was one of the most fatal diseases, especially affecting
the emigrants going to the tea districts of Assam. Between 1861 and 1863,
overcrowding, insufficient and improper food supplied on the voyage and total
neglect of the coolies both with regard to medical treatment and cleanliness
caused high mortality. Overcrowding was so excessive that many were
‘crushed’ on board the steamers. There was not even standing space for them.
‘Depots’ with a space for 100 sometimes had 900 people cramped together.
There was no supervision of such depots. The water supply was provided from
wells but was mainly drawn from the tank, which according to a Detailed
Report of the ITA (1889) was ‘foul in the extreme’. The report further states,
“The coolies defecate anywhere and everywhere, a yard from the depots, and
on the margins of the tanks. There were terrible epidemics every year on at
least half of the voyages made by steamers carrying coolies on the

‘Insufficient coolie accommodation’, ‘undue delay in the preparation of
meals’, ‘absence of toilet facilities on wet decks’, prepared grounds for the
outbreak of cholera and other diseases (Behal and Mahapatra 1992: 147).
There were large-scale desertions. Between 1863 and 1866 out of 85,000
labourers imported into Assam, almost half of the population (41.12%) had
died or deserted (ibid). The cause of cholera outbreak according to the Detailed Report of the General Committee of the ITA 1897 was traced to two sources: - a) foul water supply in the Calcutta depots, through which the coolies were infected with cholera; and b) defects in the water supply on board the Brahmaputra steamers, by which the disease, once introduced, was quick to spread among the uninfected coolies (ITA 1889: 51). In the recruiting depots, trains and steamers, cholera was common among the coolies taken to work in the plantations (Detailed Report of the General Committee of the ITA 1897: 66).

On reaching the plantations, the labour became susceptible to hookworm (ankylostomiasis), as it was highly prevalent in the tea plantations of Assam. Curjel (1923) mentions that the notion was, that it was not customary to provide any sanitary conveniences in the tea estates. The reason given for such absence was the 'danger of upsetting the labour force' that was 'ignorant and resented interference with their habits', and that such provisions involved considerable expenditure (Curjel 1923: 26-27). The latter can be taken as a more vital reason for lack of sanitary measures. As regards the provision of toilets, it was never kept in mind while constructing the 'labour lines'. According to Curjel, the usual type of latrine was a deep pit dug in the ground covered by a wooden platform. Bamboo and matting walls were placed around and a thatched roof supported on bamboo poles protected the whole. Once the pit was, when required, filled up and covered over with sufficient earth, and the wooden platform, walls and roof would be moved to another site. As there were no the sweeper castes in the hills with the above arrangements such difficulty could be overcome.

According to Das (1931) it was due to lack of proper conservancy, which in turn caused anaemia, affecting efficiency and thus labour productivity in Assam plantations. He further stated, "contrary to the prevailing notion, the Assam Labour Enquiry Committee of 1921-1922 had found the worker willing to take advantage of latrine accommodation and had noted that whenever the latrines have been provided the result has been accompanied by appreciable fall in the incidence of anaemia" (Das 1931: 104).

17 A hookworm disease. An infestation of the human intestine with ankylostoma, giving rise to malnutrition and severe anaemia.
It was only when there was a rise in the incidence of hookworm that conservancy measures, although inadequate, were taken. Poor sanitation and drinking water supply were important reasons for the staggering mortality that was witnessed during the process of recruitment to the Assam tea plantations. Provisions of sanitary measures are discussed in the later sections on the prevention of diseases like hookworm in the tea plantations.

Provision of drinking water was very poor in the tea plantations. Impure drinking water from the wells and tanks were important cause for outbreaks of diarrhoea, dysentery and cholera. Though the RCLI stated in 1931, that supply of good drinking water was reasonably satisfactory, impure supply was possible from surface tanks or ponds-even when these are ‘properly fenced-and from surface wells’ (RCLI op. cit.: 407). In the Dooars and Terai regions of Bengal, kutcha and pucca wells formed the source of water supply. In the case of the hills, the RCLI in 1931 suggested that as water was mostly drawn from hill streams, ‘protection could be possible by conducting the water through pipes to the house lines’ (ibid). In Darjeeling workers depend on the small springs (locally called dhara/jhora) running through the gardens, which dry up in summer and cause hardships to the labourers (LIC 1967: 313). Proper or clean drinking water was one of the immediate requirements for the plantation workers.

Diet and Nutrition

Diet and nutrition are important indicators of the health of the population. In Assam tea gardens, Edgar (1868) notes, “The want of sufficient food was a great cause of sickness and mortality among the coolies” (Edgar: 1868: 26). Between 1862 and 1866, the number of imported labourers far exceeded the supply of food. Arnold (1994) maintains that initial surveys on food and diet hardly “inquired into what people actually ate, how much they ate and what good it might or might not do them. As long as revenue flowed from the land as long as Western medicine remained generally aloof from the lives of the people there was little incentive to be more inquisitive” (Arnold 1994: 5). Research on diet and nutrition shifted only in the inter war period (between two world wars) from jails to industries-plantation workers-women and children.

With the increasing incidence of famines since the late 18th century, there arose a need for famine foods, which helped to mitigate in times of
extreme dearth and hunger. Such foods, according to Arnold, especially after its importance was demonstrated during the famines of 1870's in Bombay and Madras were valued as an emergency ladder. What was ignored was the fact that this was what the hungry masses actually ate (ibid: 5-6). Hunter (1873) in his book *Famine Aspects of Bengal District* notes for Darjeeling, "there would be no danger of famine so long as there was no famine in the tarai or Districts to the south, but if prices rose steadily so as to reach 8 seers\(^{18}\) of Indian corn or rice for the rupee, or Rupees 5 a maund\(^{19}\), the Deputy Commissioner reported that he would send notice of the rise in prices to Sikkim, Nepal and the to the districts on the plains, and also make inquiries regarding edible jungle vegetables and fruits" (Hunter 1873). He further states, "The hill people would not be likely to suffer very much, as they would migrate to where they could obtain yams or other edible roots, if they could not get better food" (ibid).

The importance given to such famine food by tea planters till around 1930-1940 is evident from a narrative of Bir Man Zimba, aged 79 years of Phuguri Tea Estate, Darjeeling. He says:

I remember suffering from shortages of food grains. We would get rice and wheat from Baundagi in Nepal. I had to cross the Mechi khola (stream/ river). I would leave at two in the morning with a mashal and return only at five in the evening. Once my mother had even cried, as I had carried fifteen kilograms of rice on my back. I was only fifteen years of age then. While those days the Britishers would get beef meat for their dogs from Kurseong! Those days the management (British) would tell us to plant *gitta byagur* in our own backyard (kitchen garden) when there was food shortage. They even provided us with *baajra* (a type of millet) at one time when rice was not available. People survived on this when food was not available. We would boil the *gitta*. It was bitter to taste, then we would add *kharani* (ash) and boil it and have. It looked like boiled potato. We would then wash it in cold water and eat it. We sometimes even ate it thrice a day and at times there was no food to eat. We have survived on two bowls of boiled *iskush* (squash), fried maize, *chapattis* made out of millet. Our mothers would call us aloud to come and eat something. But as children we would reach late. She would say that the food was kept in the containers but then there would be nothing in it.\(^{20}\)

\(^{18}\) One unit of *seer* is equivalent to 2.057 pounds or 0.9225 kilograms.

\(^{19}\) One unit of *maund* is equivalent to 82.28 pounds or 36.926 kilograms.

\(^{20}\) Interview with Bir Man Zimba, op. cit.
Likewise Padma Tamang, 100 years of age says,

During the period of food shortages we would have *sisnu. Baajra* was given by the garden. We would fetch *gitta byagur* from the jungles and would eat it boiled. At Rs. 1.50 we got forty kilograms of rice in those days. From ration we would get wheat (flour) at a subsidized rate but during food shortage even this was difficult to procure. Sometimes the Britishers would throw coins and people would scramble for it. 21

Such parallels of consuming 'famine food' are seen in the African diets as described in Doyal's (1989) study. In the 1930's in Africa, colonial regulations required the compulsory cultivation of particular foods such as maize and cassava. Although these 'hardy crops' alleviate starvation but their 'nutritional value' was considerably lower than sorghum and millet, which during that period was replaced by the hardy crops (Doyal 1979: 110).

In the case of workers travelling from the labour catchment areas to the Assam plantations they faced a problem of a change in the diet especially in the case of workers from Upper India, from a wheat diet to a diet consisting of rice. Das (1931) says that this probably had "as much to do with the high mortality amongst them as the change from a dry to a damp climate" (Das op. cit.). On an average the diet of the coolies in Assam consisted of "... low-grade highly milled rice and a small quantity of vegetables and dhal; milk and milk products are rarely used but fruits are available in certain seasons.........Qualitatively the diet is very deficient in fat, poor in all vitamins, and its protein is almost entirely obtained from vegetable sources. As regards quantity it is decidedly less than provided in hospital or prison..." (Shlomowitz & Brennan 1990: 107-108). Likewise Behal states, "The variety was not nutritional enough to enable the cooly to 'resist the effects of the climate'" (Behal op. cit.: 17).

The Royal Commission of Labour Inquiry, in 1931 stated that the physique of new recruits in Assam was frequently a matter of concern to garden managers who sometimes found it necessary to issue free food for several weeks to new arrivals in order to improve their physical condition before they were put to work. Along with their staple rice, their diet consisted of milk, *dal* (pulses) and vegetables (RCLI 1931: 406). This Report provided suggestions on improving nutrition among the workers viz. 'provide supplies

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21 Interview with Padma Tamangni, op. cit.
of fresh milk, ghi, and vegetables' but did not present the actual food taken by the workers.

Arnold (1994) cites the study by M. Balfour of the Women's Medical Service on 'Maternity Conditions and Anaemia in the Assam Tea Gardens' in 1933. The latter's inquiry shows that anaemia was related to several variables like malaria, hookworm, and inadequate maternity leaves for women workers. But she also blamed the "estate managements for vitamin-and mineral-deficient diets that consisted largely of highly polished rice and few fresh vegetables" (Arnold op. cit.: 21). Diet of a certain number of families' showed that each adult received about 15 ounces of food yielding approximately 1,360 calories. According to Balfour, anaemia and stomatitis were common among tea labourers of both sexes in Assam (ibid). According to Behal and Mahapatra (1992), 'under nutrition and overwork' were important causes of death (Behal and Mahapatra op. cit.: 160).

Jones (1947) remarked that intake of first class protein among North Bengal plantation workers was more as compared to that of the Assam labourers. He reasoned that as games (wild pig, jungle fowl, and species of deer) were plentiful and the workers had separate independent holdings and not lines unlike Assam, they cultivated in their own plot (Lloyd Jones 1947: 6). According to him the most important single cause of ill health was the 'poor standard of nutrition' (ibid). He mentioned in his report that even the garden doctors did not realize the 'importance of a balanced diet'.

The above descriptions illustrate the conditions that the workers faced in terms of food shortage, under-nutrition, and their coping mechanisms during the colonial period. Lack of proper food, housing, sanitation and water supply, conditions of work, diet and weather conditions did have an impact on the health of the labouring population. It is questionable whether the plantation labour received 'two square meals a day'. There might have been a prevalence of both acute and chronic hunger among the workers leaving them exposed to a host of communicable diseases like malaria, cholera, dysentery, diarrhoea, hookworm and tuberculosis.

The following part broadly deals with the health conditions in plantations of Assam and Bengal including Darjeeling. These workers on reaching the plantations and on their journey succumbed to various diseases and even deaths. This was more so in the case of Assam as distances travelled
were long and exhausting. High mortality became a significant indicator for such conditions of work and life. In Darjeeling, cold and humid climate aggravated health but probably there was no such significant mortality as Assam. This section ultimately attempts to draw out linkages to the health with working and living conditions. The physical capacity to work was reflected in the labour rate of those recruited to work in the plantations of Assam as the next section shows.

Conditions of Health

Labour Rates Determined by the 'Physical Capacity to Work'

For most planters recruitment was, termed as 'high costs of cheap labour'. The Deputy Commissioner of Darjeeling in 1896 noted that the average cost of landing coolies on a Terai garden varied from Rupees 6 to Rupees 10, of which Rupees 5 was the travelling expense. Advances paid to the recruiters comprised a major part of the expenses for the planters. In 1896, according to the Secretary to the Terai Planters' Association, it is said that garden sardars were given advances of Rupees 8 to Rupees 10 per head and Rupees 15 per head to recruiting companies employed by only a few gardens. The average cost then varied between Rupees 8 to Rupees 15, while Rupees 6 was the travelling expense. And the Secretary of the Doars Planters' Association estimated the cost at Rupees 10, of which Rupees 5 were again travelling expenses. In this process the middlemen could profit about 'Rupees 20 on the poorest coolies, to Rupees 100 on the best' (Williams 1896: 34-35).

Such rates ('poor' and 'best) of the coolies were determined by their 'racially embodied' characteristics. According to Chatterjee (1995), from the 'labour catchment' areas the British assessed the adivasi (tribal) communities who would prove to be the 'best castes' of labour for their tea estates (Chatterjee 1995: 50). The criteria among other things were the 'notions of appropriate physical capacity to do manual work' and the 'willingness to remain on plantations'. The most suitable workers for this arduous tropical labour were classified as jungles (wild tribes) - attributed to the various adivasi communities of the Chota Nagpur Plateau and the Santhal Parganas.

22 Planters had to face high recruitment costs, though wages were low much below the level in which labour power could be reproduced. It was not that with the increase in wages, labour supply also increased. Labour supply was not dependent on low wages. Also increasing indebtedness was an important factor for entering into contracts/ agreements to work in plantations.
Tea cultivation began in India in the 1830s when the demand for tea was increasing in Britain but the British Parliament had abolished the East India Company's monopoly on the tea trade with China and there was growing frustration with China's monopoly on its tea. Earlier attempts to grow tea in Mysore and Java had failed, and an influential British expert insisted that tea plants would grow only in conditions similar to those where the best tea was grown in China: at an elevation of at least 3,000 feet (about 913 meters) and in a temperate climate that was warm but not tropical and had frost and snow in winter months. Consequently, the first English plantations in India were started in Assam and in Darjeeling in North Bengal, as well as in large areas of southern India. In fact, Darjeeling became India's "quintessential hill station" on land recently acquired from Sikkim. This map is by Eric Mudieley and is from Philip Woodruff's The Men Who Ruled India: The Guardians (London: Jonathan Cape, 1934), p. 206. The Bulletin of Concerned Asian Scholars has adapted the original map by adding the names and approximate locations of places featured in this article. The Chottanagpur Plateau is actually a much more irregular shape than shown but in general cuts a rectangular swath across what is noted on the map as Behar and Orissa into Bengal on the east and what is now Madhya Pradesh on the west.

**Source:** CHATTERJEE, PRIYA 1995 : 45

**Note:** This map shows the tea growing and labour - catchment areas
The characteristic *jungli* was associated by the colonizing 'self' with a primitive uncivilized other. Gradation of caste was directly linked to the type of recruit with *junglis* being most expensive—followed by Bengalis and 'northwesterners' (ibid: 51).

The map (see overleaf) shows the long distances travelled by labourer from the North Western and Central Provinces to the tea districts of Assam. Similarly, in the case of the Nepali labour, as seen from a classification by a planter the physical capacity to work was of utmost importance. In the Assam plantations, “The Nepalis were characterized as unable to acclimatize to the tropical labor of jungle clearing in ‘unhealthy districts’” (ibid: 50). The planters "preferred paying the higher price for Chotanagpuris and keeping out North Westerners, whom they for the most part characterized as weakly, dirty and discontented...though they still seem of weaker stamina than the *junglis*, they are comparatively free from sickness" (ibid).

According to the Labour Enquiry Commission Report by H. C. Williams in 1896, the rates offered by a local contracting agency, Begs, Dunlop and Company were as under.

**Table No.: 3.2**

**Coolie Rates Determined According to their Physical Capacity**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Pure Aborigines or <em>Junglies-</em></td>
<td>Rupees 115</td>
</tr>
<tr>
<td>For Good, Hardy Coolies-</td>
<td>Rupees 100</td>
</tr>
<tr>
<td>For Coolies Suitable for Healthy Gardens In the Brahmaputra Valley-</td>
<td>Rupees 90</td>
</tr>
<tr>
<td>For North Western Province Coolies Suitable For Healthy Gardens in the Surma Valley-</td>
<td>Rupees 60</td>
</tr>
</tbody>
</table>


However, these rates were fixed in order to "keep down the costs of coolies" (Labour Enquiry Commission Report 1896: 34). An account by Mr.

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23 Chapter II, p 24-25.
Green, a manager\(^24\) of Panka garden in Assam (1870) reflected the susceptibility of the North westerners to diseases and deaths. In this garden, from July to December 1869, 25 of 116 workers i.e. 22.4% had died, of which the distribution of diseases was, 5-diarrhoea, 5- dysentery, 5-spleen, 4-cholera, 3-dropsy, 1- fever, 1-ulcers and 1- old age respectively. Out of these figures, three were imported in 1867, nine in 1868 and thirteen in January and February 1869. More specifically, in August 1868, 8 men and 11 women were imported; and of these 19 only 5 were alive. He noted that in the nearby Diffloo garden every inhabitant was swept away in one year by cholera. There were 90 deaths in 1869 in this garden, after which new importations were stopped. The mortality in these gardens was greater between July and December than between January and June.

The manager denied that improper food and drinking water were the cause, but mentioned that the coolies who died were ‘nearly all from the North Western Provinces’. While the native doctor said that the coolies who came were ‘sickly men’ and ‘two had died almost immediately on arrival’. General weakness was the reason given for such deaths. The understanding of disease and immunity was linked to race.\(^25\) Also race had an important bearing on the capacity to work in plantations.

In fact tea gardens in Assam were classified as healthy and unhealthy gardens. According to Das (1931) in 1880, there were 48 unhealthy gardens out of 1,055 i.e. 4.6%. In 1884 it increased to 93 or 8.8%, in 1889- 119 or 11.3% and in 1892 the number increased to 143 or 13.6% respectively.\(^26\) The


\(^{25}\) "Race in a dictionary definition, suggests groups of people having or supposed to have common ancestors. It exists as a sociological construct but to some authors have also assumed or attempted to prove that it has a biological or genetic component. The idea that race in a genetic or biological sense determines health is now discredited for all but a very small minority of specific ailments. Belief in racial determinism and particularly as regards superiority or inferiority of races in physique intelligence and potential – this trait was seen in writings of the 19th and 20th centuries and linked to an extent with the history of colonialism."(Thomas Rathwell and David Phillips (Ed.) 1986: 2) Stone puts it more succinctly "the classical sociologists understood the fundamental point: the study of race and ethnic relations has little to do with biological ‘race’ and a lot to do with patterns of social relationships and structures of power and domination" (J. Stone (Ed.) Race Ethnicity and Social Change, Duxbury Press, Massachusetts. Pg 11 in Pp 4-5 of Rathwell, Thomas and Phillips, David (Ed.): ibid).

\(^{26}\) Das notes, “a garden was declared unhealthy on the basis of the average mortality either for the garden populations as a whole or for the Act or the non-Act labourers taken separately, exceeded 70 per thousand and if the number of deaths from the average struck exceeded 10” (Das op. cit.:104).
North Westerners, the cheapest on examining the cost, Rupees 60 in 1896 were sent to the healthy gardens in Assam.

**Recruitment and Mortality in the Assam Plantations**

As noted by Edgar (1868) manager of a Assam tea garden about the workers:

“They had found themselves set down in a swampy jungle, far from human habitation, where food was scarce and dear, where they have seen their families and fellow labourers struck down by diseases and death, and where they themselves, prostrated by sickness have been able to earn less by far than they could have done in their homes” (Report 1868: xvii).

According to Behal and Mahapatra (1992), mortality was linked to the Penal Contract System. Due to penal sanctions, strict work regime, death rates increased more because they were not given sick leave (Behal and Mahapatra op. cit.: 159). The planters had quite a different explanation. “They do not die from diseases engendered by local conditions of gardens but from diseases engendered which are induced by their own inherent faults” (ibid).

The series of Detailed Reports by the Indian Tea Association during the period of 1889-1897 were letters of dialogue between the Government of Bengal and the Indian Tea Association. They bear witness to the situation of the emigrant labour going to the tea districts of Assam. Circumstances under which these emigrants were recruited were disheartening. Insufficient food, lack of proper clothing, untimely meals, are issues discussed in the aforementioned report. Travel to distant gardens in Assam included journeys through roads, railways, commercial steamers, with detention at some depots. Earlier even ordinary country boats were used and it also included travelling by foot.

During the late 19th century among the labour force in the Assam plantations, mortality outstripped birth rate. Therefore, net reproductive rate was negative. Death rate was 5.4% for tea estate workers recognised as labour under the 1882 Act, while it was 2.4% for non-tea garden population. Birth rate for women employed in the tea gardens from 1880-1901 averaged only 86 per 1000, in comparison to the non-tea garden population of Assam, which had an average of 127 births per 1000. Such difference was due to the high abortion practices in some gardens. It is said, “65% of the pregnant women
did not give birth” (Behal and Mahapatra 1992: 158). The reason was ascribed to the women ‘not wanting her earning interfered with’ or as the Indian Tea Association concluded, to the ‘weakness of marriage ties amongst the coolies’. It was impossible to escape the conclusion that abortion was due to the absence of maternity leave coupled with low wage levels that compelled women to work throughout pregnancy and immediately after childbirth. Low birth rate was accompanied by a high death rate. The following tables calculated by Das (1931) based on various Assam Labour Reports provides the birth and death rates in the Assam plantations from 1878-1929.

**Table No.: 3.3**

**Birth Rate and Death Rate Variations in Assam Tea Gardens**

<table>
<thead>
<tr>
<th>Year</th>
<th>Birth Rate</th>
<th>Death Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per 1000 Women</td>
<td>Per 1000 Of total Population</td>
</tr>
<tr>
<td>1878</td>
<td>101.3</td>
<td>31.9</td>
</tr>
<tr>
<td>1900</td>
<td>80.2</td>
<td>27.6</td>
</tr>
<tr>
<td>1919</td>
<td>70.1</td>
<td>19.3</td>
</tr>
<tr>
<td>1920-21</td>
<td>70.1</td>
<td>19.3</td>
</tr>
<tr>
<td>1928-29</td>
<td>----</td>
<td>31.5</td>
</tr>
</tbody>
</table>

**Source:** R. K. Das: Plantation Labour in India, 1931, p 109 and p115

**Note:** Shown only at specified period. Birth rate per 1000 women and per 1000 of the total population is used by Das as the number of women earlier was less as compared to the men.

The table above shows that death rates were higher among the Act workers rather than the Non-Act workers. The reason given by Das is that the former comprised of fresh immigrants who lacked immunity to change from one climate to the other. Change of diet and composition of the immigrants of poor physique, who little stamina left on reaching the gardens, which were generally unhealthy. For instance the native Assamese were healthier than the imported labourers, while the immigrants from the Bengal were healthier than those of the distant provinces.
Das ascribes lack of immunity and susceptibility to the climate and harsh conditions in the tea plantations of Assam as reasons for the low birth rate among the fresh recruits. He further said that though the number of women were lesser than men, in 1901, even when women were greater in number, birth rate was lower i.e. “29.1 per 1000 total population and 93.2 per 1000 adult women, as compared with 33.9 and 101.6 respectively in the whole province” (Das op. cit.: 110).

A drop in the birth rate according to Das was, that women workers under contract of the 1882 Act suffered, since they ‘were kept regularly at work during the plucking season and malingering was not allowed’ (Behal and Mahapatra 1992: 160-161). Arduous working conditions along with lack of acclimatisation power of the already starving and diseased people from the famine and pestilence-prevailing regions had a negative impact on their fecundity. Miscarriages and still births were among the causes of low birth rates. “In 1918 there was 113 still births in five districts of Assam as compared with 569 infants born alive” (ibid).

Miscarriage as a result of syphilis and anaemia and lack of sufficient care placed them at high risks. Abortions were another cause of low birth rates. Women’s objection to child birth was because of the difficulty to work and raise the children. Irregularity in marriage like the ‘depot marriages’ also contributed to low birth rates. The ‘system of herding men and women of different castes in the line led to irregular unions’, which in turn affected procreation. This was an important reason for the lower birth rates in the Assam plantations. An evidence in the Report on the Assam Labour Inquiry Committee, 1906 of Dr. G. H. Glover who said, ‘One hears that abortions are frequently induced, but I doubt if this is true as I have only known of one proved case’ (ALIC 1906: 84). He attributes miscarriage to the prevalence of syphilis and anchylostomiasis”. Some of the common diseases in the tea plantations of Assam, Bengal and Darjeeling specifically are covered in the following section.

Common Diseases in the Assam tea plantations

The following sections present an overview of the diseases that led to deaths in the Assam tea gardens during the period from 1887-1929. A difference in the death rates for Act and Non-Act labourers in reference to the main causes of deaths in Assam plantations is shown in the following table.
**Table No.: 3.4**

**Main Ascribed Causes of Death of Act and Non-Act Labour**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cholera</th>
<th>Diarrhoea</th>
<th>Dysentery</th>
<th>Malaria **</th>
<th>Anaemia #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Act</td>
<td>Non-Act</td>
<td>Act</td>
<td>Non-Act</td>
<td>Act</td>
</tr>
<tr>
<td>1887-9</td>
<td>19.4</td>
<td>18.7</td>
<td>---</td>
<td>---</td>
<td>33.2</td>
</tr>
<tr>
<td>1880-9</td>
<td>20.6</td>
<td>19.1</td>
<td>---</td>
<td>---</td>
<td>22.9</td>
</tr>
<tr>
<td>1890-9</td>
<td>15.1</td>
<td>13.2</td>
<td>---</td>
<td>---</td>
<td>22.5</td>
</tr>
<tr>
<td>1900-1909/10</td>
<td>8.3</td>
<td>22.6</td>
<td>9.3</td>
<td>22.8</td>
<td>16.5</td>
</tr>
<tr>
<td>1910-1918/9(for Act)</td>
<td>5.0</td>
<td>8.3</td>
<td>6.8</td>
<td>8.6</td>
<td>30.7</td>
</tr>
<tr>
<td>1910/1-1919/20 (For non-act)* #</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Figures are percentage contributing to the total.

**Up to 1892, jungle fever for Act labour**

# From 1893, includes anchylostomiasis for Act labour

* Deaths from influenza: 21,220 in 1918/19; 7,1170 in 1919/20; and 1,526 in 1920/21.

# Percentages were calculated on total deaths minus deaths from influenza.

**Source:** Shlomowitz Ralph and Brennan Lance: Mortality and Migrant labour in Assam 1865-1921. Indian Economic and Social History Review, Vol. 27, No 1, 1990, Sage. New Delhi, p 105
The inferences drawn from the adjoining table are as follows:

a) Dysentery was the main killer, with cholera, malaria, hookworm and respiratory diseases as important causes of death;

b) Dysentery was selective of the Act population; and

c) From the mid-1890's, there was a marked decline in the relative number of deaths from cholera.

From Das's (1931) study the causes of death among the tea plantation labourers of Assam is tabulated as follows.

Table No.: 3.5

Causes and Percentage of Deaths on Assam Tea Gardens

<table>
<thead>
<tr>
<th>Causes</th>
<th>1893</th>
<th>1900</th>
<th>1918-1919</th>
<th>1928-1929</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholera</td>
<td>14.4</td>
<td>0.9</td>
<td>8.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>7.2</td>
<td>10.2</td>
<td>4.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Dysentery</td>
<td>20.1</td>
<td>19.2</td>
<td>6.7</td>
<td>11.1</td>
</tr>
<tr>
<td>Malaria</td>
<td>13.3</td>
<td>14.4</td>
<td>5.4</td>
<td>13.5</td>
</tr>
<tr>
<td>Hookworm</td>
<td>8.4</td>
<td>9.5</td>
<td>3.8</td>
<td>6.4</td>
</tr>
<tr>
<td>Respiratory</td>
<td>3.6</td>
<td>12.2</td>
<td>10.1</td>
<td>19.5</td>
</tr>
<tr>
<td>Disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other causes</td>
<td>33.0</td>
<td>25.6</td>
<td>61.2</td>
<td>41.8</td>
</tr>
<tr>
<td>Total</td>
<td>15,982</td>
<td>19,603</td>
<td>62,176</td>
<td>22,581</td>
</tr>
<tr>
<td>Percentage of</td>
<td>13.3</td>
<td>16.3</td>
<td>51.7</td>
<td>18.8</td>
</tr>
<tr>
<td>Total Deaths</td>
<td>(1, 20,342)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled from Rajani Kanta Das: Plantation Labour In India 1931. p.121

Note: Shown at specific periods. The figures are in percentages apart from the total, calculated from the total number of deaths due to a specific disease. The percentage in each year is calculated from the total number of deaths over the whole period.

Among epidemics, cholera was most prevalent. Labourers contracted it in insanitary detention depots in Bengal. In spite of sanitary precaution, mortality was high in the lines from cholera as people were more closely congregated than in an ordinary village. Poor housing conditions had a direct link to the appalling deaths from cholera. The highest number of cholera
deaths in 1918-1919 the year of the influenza epidemic was 5288. Influenza was most vital epidemic in India. In 1918-1919 there were 28,552 influenza deaths in plantations (Das op. cit.).

According to Das (1931), diarrhoea and dysentery were common diseases especially in Bengal and Assam. In 1920, the death rate due to these diseases was 6.95 per mille\(^{27}\) on the gardens as compared with 1.84 per mille in the whole Assam Province. Malaria was however the most common of the diseases. In 1928-1929, 13% of the total deaths were caused by malaria alone. Kala azar was one of the causes of high mortality among workers on Assam tea gardens. In a period of 13 years between 1916 and 1929, 270 out of 550 attacked died of it in one single garden, which caused a loss of between Rupees 40000 and Rupees 50000 to the garden. During this period, ‘hundreds of infected houses had to be burnt and new lines and a hospital were established’ (Das 1931: 121).

Likewise Jones in his Report (1947) cites malaria as the important cause of sickness in the Assam plantations. Typhoid and dysentery along with cholera accounted for 20-3-% of the total sickness of the gardens. He recommended better water supply and sanitation. Various kinds of anaemia according to him were prevalent among the Assam plantation labour. Many were secondary, hypochronic, and microcytic in type, which could be improved by simple therapeutic measures. Hookworm was widespread in plantations. Anaemia caused by hookworm was the severest type and was difficult to be treated once infected. Other diseases like kala-azar, tuberculosis was increasingly prevalent in plantations (Jones 1947: 7).

Schomovitz and Lance (1990) attribute the prevalence of anaemia among workers of the tea gardens to poor nutrition and diseases like malaria, hookworm, beriberi and kala-azar. Each death was attributed to a single causal agent. Workers who were infected by malaria for example were particularly susceptible to secondary infections. According to them, malaria weakens a patient, making him more susceptible to other diseases such as dysentery, pneumonia, and tuberculosis (Schomovitz and Lance 1990: 104). Thus the “relatively low number of deaths attributed to malaria is probably due to many deaths ascribed to dysentery and respiratory diseases, being really caused by malaria” (ibid).\(^{28}\)

\(^{27}\) One mille is equivalent to one thousand.
\(^{28}\) See Table No. 3.4, p 21.
Schomowitz and Brennan (1990) attribute poor health of the new recruits to factors like

a) Poor nutritional status, since much of India's inland and overseas migration was famine-induced,

b) 'exhausting journey' to Assam and exposure to cholera on their journey in hyper-endemic Bengal,

c) Stress associated during the process of migration.

d) Low wages relative to that received by experienced workers.

e) Need to cope with new work demands and new living arrangements (such as having to learn about hygiene under the new circumstances).

With poor physique recruits coming from poverty-stricken districts of United and Central Provinces hardly had any stamina left on arrival to the gardens, and became victims of the 'new climate'. 'Outbreak of epidemics', the 'want of proper houses', 'overcrowding', 'unhealthy sites', 'insufficient and unsuitable food', 'impure water' and 'want of proper medical attendance' especially in the earlier years were some important causes of high death rate. Such hardships were also cited in Das's study.

According to Das, despair and melancholy were some of the reasons to which the majority of the immigrants became victims. Behal and Mahapatra cited from an official document, that "coolies of inferior physique or as they are called 'bad batches' were unfit to stand the Assam climate and garden work, are sent up by contractors and agents" (Behal and Mahapatra: 1992). Clandestine measures were taken recruit coolies. 'Medical standard' was relaxed with the increasing needs of labour.

Shlomowitz and Brennan too have shown that the native Assamese were healthier than the imported labourers and immigrants from Bengal were healthier than those for more distant Provinces. According to them, "movement of people from their childhood disease environment to a new one, accordingly, often exposed them to increased risk. After the initial exposure to a new disease environment, survivors built up either lifelong or partial immunity to the new diseases in what was called the 'seasoning process'" (Shlomowitz and Brennan 1990: 87). Cholera for example was endemic or
even hyper endemic in Bengal, but epidemic in Chotanagpur. The migrations of labour recruits from Chotanagpur through Bengal to the tea gardens of Assam or via Calcutta to overseas colonies accordingly placed them under great risk (ibid: 88). To quote for the Assam Labour Enquiry Committee Report 1906: “Garden mortality rises or falls pari passu with the proportion of new immigrants to the total population” (ALIC 1906: 88).

Susceptibility of a particular group of labourers to diseases such as malaria or cholera for instance was related to their low immunity levels. Besides, the conditions of work, living, sanitation, diet, had an important bearing on mortality and disease pattern of mostly communicable diseases. Clearance of jungles in Assam provided breeding ground for mosquitoes leading to diseases like malaria and ‘other fevers’.

Diseases in Bengal Plantations

The RCLI (1931) has as far as plantations in Bengal were concerned, concentrated mainly on the Doars region only. The following data illustrates the extent of mortality given in the Evidence for the Report of The Royal Commission of Labour Inquiry.

<table>
<thead>
<tr>
<th>Year</th>
<th>Labour Population</th>
<th>Deaths</th>
<th>Percentage of Deaths Of Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1918</td>
<td>216,000</td>
<td>6,080</td>
<td>2.8</td>
</tr>
<tr>
<td>1919</td>
<td>255,000</td>
<td>12,199</td>
<td>5.1</td>
</tr>
<tr>
<td>1920-21</td>
<td>190,000</td>
<td>5,547</td>
<td>2.9</td>
</tr>
<tr>
<td>1921-22</td>
<td>184,000</td>
<td>4,595</td>
<td>2.5</td>
</tr>
<tr>
<td>1922-23</td>
<td>196,000</td>
<td>5,007</td>
<td>2.6</td>
</tr>
<tr>
<td>1923-24</td>
<td>206,000</td>
<td>6,012</td>
<td>3.0</td>
</tr>
<tr>
<td>1924-25</td>
<td>205,000</td>
<td>5,497</td>
<td>2.7</td>
</tr>
<tr>
<td>1925-26</td>
<td>206,000</td>
<td>4,774</td>
<td>2.3</td>
</tr>
<tr>
<td>1926-27</td>
<td>217,000</td>
<td>4,984</td>
<td>2.3</td>
</tr>
<tr>
<td>1927-28</td>
<td>228,000</td>
<td>5,119</td>
<td>2.2</td>
</tr>
</tbody>
</table>


Note: Percentage calculated from the RCLI.
The above table shows that deaths were highest in 1919, which was the year of the influenza epidemic. Since 1918, although the population had increased by 15.3% in 1919, the number of deaths was more than double. Data of the year 1920-21 shows that the size of the labouring population had dropped remarkably by 25.5% and number of deaths accounted to 2.9% of the population in 1920-21. thereafter no fluctuations occurred either in the size of the population or the percentage of deaths, which remained between 2.2-3% of the total population. The RCLI states that malaria in Doars was the common cause of death, amounting to 6 deaths per mille, chest complaints cause 3.47 per mille, dysentery and diarrhoea 3.76 per mille, phthisis 1.42 per mille respectively. Hill sores were common (RCLI 1931: 42).

This report provides comparative figures to show that the conditions of the tea garden labour were better than the other areas of Bengal during late 1920s. The RCLI remarks that conditions in the Bengal tea districts were better than other adjoining areas like the mills, towns, the rural areas of Bengal. For example, from 1927-28, the death rate in the tea garden was 25.6 per mille while the provincial figure was 35 per mille. The following table shows thus.

### Table No.: 3.7

<table>
<thead>
<tr>
<th></th>
<th>Calcutta</th>
<th>Total I towns</th>
<th>Rural Areas</th>
<th>Province</th>
<th>Mill Towns</th>
<th>Asansol Mining Settlement</th>
<th>Duars Tea Gardens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death Rate</td>
<td>33.5</td>
<td>25.6</td>
<td>27.8</td>
<td>27.6</td>
<td>20.6</td>
<td>23.7</td>
<td>28.0</td>
</tr>
<tr>
<td>Birth Rate</td>
<td>18.4</td>
<td>19.1</td>
<td>29.3</td>
<td>28.7</td>
<td>16.9</td>
<td>26.7</td>
<td>40.2</td>
</tr>
<tr>
<td>Infant mortality</td>
<td>318.0</td>
<td>223.0</td>
<td>182.0</td>
<td>193.0</td>
<td>173.0</td>
<td>146.0</td>
<td>96.0</td>
</tr>
<tr>
<td>Cholera</td>
<td>1.9</td>
<td>1.8</td>
<td>1.6</td>
<td>1.6</td>
<td>2.2</td>
<td>1.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1.4</td>
<td>0.9</td>
<td>0.5</td>
<td>0.5</td>
<td>0.7</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Plague</td>
<td>0.09</td>
<td>0.02</td>
<td>0.0</td>
<td>0.002</td>
<td>0.01</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Malaria</td>
<td>1.4</td>
<td>2.3</td>
<td>11.6</td>
<td>11.0</td>
<td>2.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Enteric</td>
<td>0.6</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>0.2</td>
<td>-</td>
<td>0.1</td>
</tr>
<tr>
<td>Kala-Azar</td>
<td>0.5</td>
<td>0.4</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Measles</td>
<td>0.2</td>
<td>0.1</td>
<td>0.02</td>
<td>0.03</td>
<td>0.05</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Fevers</td>
<td>4.9</td>
<td>7.2</td>
<td>21.2</td>
<td>20.3</td>
<td>7.3</td>
<td>3.1</td>
<td>7.5</td>
</tr>
<tr>
<td>Dysentery and Diarrhoea</td>
<td>3.3</td>
<td>2.7</td>
<td>0.4</td>
<td>0.5</td>
<td>2.8</td>
<td>1.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Phthisis</td>
<td>2.3</td>
<td>1.1</td>
<td>0.07</td>
<td>0.1</td>
<td>0.4</td>
<td>-</td>
<td>0.9</td>
</tr>
<tr>
<td>Total Respiratory Diseases</td>
<td>9.9</td>
<td>5.3</td>
<td>0.3</td>
<td>0.6</td>
<td>2.9</td>
<td>4.4</td>
<td>5.3</td>
</tr>
<tr>
<td>Injuries</td>
<td>0.7</td>
<td>0.5</td>
<td>0.4</td>
<td>0.4</td>
<td>0.3</td>
<td>-</td>
<td>0.2</td>
</tr>
</tbody>
</table>

**Source:** Report of The Royal Commission of Labour Inquiry, Evidence Vol. V, Part I and II Bengal (Including coalfields and the Duars) Written Evidence. London- Printed and Published by His Majesty's Stationery Office 1930, p 341)
From this table the following observations can be made specifically for the case of the Duars tea gardens:

a) Birth rate was the highest in the case of the tea gardens.

b) Diarrhoea and dysentery were higher in the gardens as compared to other areas.

c) This Report highlights that the health of the tea garden workers was better than the rest of the Province of Bengal. It could be possible that a large number of deaths occurred due to malaria as the figures are not available and that deaths due to 'total fevers' are higher in tea gardens in comparison to the mining settlements.

d) Hookworm as an important cause of mortality is not highlighted in this table. We see from other studies that anti-hookworm campaign received impetus and was a problem especially among the tea garden workers.

Chowdhury (1995) in his study marked that malaria was the main disease in the district of Jalpaiguri, in Bengal during 1860-1870’s. He mentions the seasonal calendar of the diseases like malaria as beginning and end of the rains i.e. March-April to September-October. Kala azar, blackwater fever, were some of the dreaded diseases. Bowel diseases like diarrhoea, dysentery were common. They were prevalent during the beginning of cold weather while the cholera season was between April and November (Chowdhury 1995: 7).

In 1947 Major E. Lloyd Jones was deputed by the Government of India to visit tea plantations in India and draw up the standards of medical care for labour in tea plantations. The summary of his findings for the region of Bengal show:

### Table No.: 3.8
Summary of Vital Statistics of Some Tea Estates Surveyed Bengal

<table>
<thead>
<tr>
<th></th>
<th>Average Mortality Per 1000</th>
<th>Average live Birth per 1000</th>
<th>Average Infant Mortality Rate Per 1000 Live births</th>
<th>Average Maternal Mortality Per 1000 cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 gardens in Dooars (20 European owned and 11 Indian owned)</td>
<td>20.7</td>
<td>34.5</td>
<td>155.1</td>
<td>21.4</td>
</tr>
<tr>
<td>6 gardens in the Terai (3 European owned and 3 Indian owned)</td>
<td>17.6</td>
<td>28.7</td>
<td>125.7</td>
<td>16.1</td>
</tr>
<tr>
<td>19 European owned Gardens in Darjeeling</td>
<td>21.9</td>
<td>39.7</td>
<td>121.5</td>
<td>6.8</td>
</tr>
</tbody>
</table>

114
Summary

<table>
<thead>
<tr>
<th></th>
<th>21.5</th>
<th>32.7</th>
<th>190.9</th>
<th>33.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average of all gardens surveyed in Assam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average of all Gardens-Bengal</td>
<td>20.1</td>
<td>34.2</td>
<td>134.1</td>
<td>14.8</td>
</tr>
<tr>
<td>Average of all Gardens-South India</td>
<td>14.0</td>
<td>29.3</td>
<td>122.4</td>
<td>6.5</td>
</tr>
<tr>
<td>City of Manchester for 1945 (for comparison)</td>
<td>14.4</td>
<td>18.2</td>
<td>55.8</td>
<td>1.02</td>
</tr>
</tbody>
</table>

**Source:** Jones, E. Lloyd: *Standard of Medical Care for Tea Plantations in India* – *A Report, Ministry of Labour 1947, p73*

From the above tables the main observation is that the average mortality in Darjeeling was the highest in comparison to the other regions, despite the fact that the owners were Europeans. His study shows that in Bengal the general health of the labour in Bengal is better than Assam.

**Disease Pattern in Darjeeling Tea Plantations**

Data on morbidity and mortality per se is not available for the Darjeeling plantations. Therefore, studies on other plantations of Assam and overseas are used here to provide some insights into the conditions of ill health. While the Darjeeling plantation workers did not have to undergo the ravages of industrial labour system that were experienced by labour in Assam and Bengal, yet the lack of hygiene, diet, other sanitary conditions, oppression and inhumane attitude by the tea planters were common to all plantations including Darjeeling. Due to limitations of data, we have for this section specifically relied on the narratives of the older generation of the workers of Phuguri T. E. for an overview of the disease pattern in Darjeeling plantations.

Maintenance of records of births and deaths was solely the responsibility of each planter for his respective garden. There was no systematic recording of vital statistics in the plantations of Darjeeling. Darjeeling was a non-regulated district. As there were no inquiries or reports specifically for the plantations of Darjeeling portrayal the conditions of the plantation labourers was totally at the discretion of the planters. Certain

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29 See Chapter II, p 7.
reports and documents have underlined the poor conditions of the health of the plantation workers of Darjeeling.

From the Report on the Soom Tea Co. Ltd, the manager during the time of the visit states that coolies were scarce due to a severe epidemic of cholera. As the garden was dirty, clearance of jungle was required. Labour during the time of his visit in Soom T.E. in 1876 was 94 men, 168 women, and 51 children with a total of 313. Before the cholera outbreak the average was about 450 daily and during the cholera there were only 200 labourers a day (Report 1873-93: 6-7).

Prevalence of cholera was high in the Darjeeling hills apart from hill diarrhoea, dysentery, rheumatism and respiratory problems like asthma and tuberculosis, given the geo-physical climatic differences from that of Terai and Doars in Bengal and Assam. A planter in 1873 notes cholera as the main cause of deaths in the tea plantations of Darjeeling. He notes that in the year 1872 the number of coolies in the district of Darjeeling was 12,361 coolies and prior to that year 9% of the coolies had died due to cholera.30

The Darjeeling District Gazetteer of 1907 describes the climatic difference between the plain Terai region and the hill region as: “in the hills fevers are not prevalent. It is, indeed a common saying among the Nepalese in these parts that any child born to them will not live to reach the age of two years; and the infant mortality is very great, being over 38% in 1905 for the whole of the Terai” (O’Malley op. cit.: 54-57). In 1905 no less than 3,470 cases of intestinal worms, producing symptoms of diarrhoea, among the natives were treated at the Darjeeling dispensary Dirty habits, careless about food and drinking water, which was often contaminated were the causes even to occasional small epidemics of cholera, which occurred only at long intervals and were not serious.

According to the Gazetteer, phthisis was common among the natives. O’ Malley (1907) gave reasons to their thin clothing, constant exposure to cold, damp and heat, and to their disregard of elementary hygiene laws. Housing had important relation to the spread of phthisis. Solid brick stone

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30 Letter no. 214 C, dated Camp Darjeeling Terai, the 21/31st January 1873. From Major B. W. Mortan, Deputy Commissioner of Darjeeling to The Offg. Commissioner of the Cooch Behar Division in Pp.17-18, Papers Regarding the Tea Industry in Bengal, Bengal Secretariat Press, 1873
or corrugated-iron houses were inducive than amongst those who live in wooden or wattle huts, the former being densely crowded and ill-ventilated, while the latter let in the air at every crevice. Darjeeling with its cold damp climate bears an unfavourable reputation for the treatment of consumption or pulmonary affections. Other diseases were diphtheria, influenza and enteric fever. Goitre and deaf-mutism were fairly common. Rheumatism was common during the rains and was aggravated by the excessive humidity.

According to Sukbir Khawas,

**Maasi** (dysentery), **pakhaala** (diarrhoea) and **haija** (cholera) were very high. Around 1953-1955 in Soureni almost two people died from each house due to dysentery. In Phuguri and Chandura it was epidemic unlike Soureni. People were saved because of **pahare dabai** (local indigenous medicine). For example a cure given where a stone, would be heated, and **titepati** (a bitter plant) leaves would be placed on it and the patient would be asked to sit on it. People even conducted **Devi-Puja**. Some say **Bigarera bimar bhako**. Such diseases were common especially during the month of **Baisakha**. But then people would hide their knowledge of traditional medicines consisting of **jari-buti** (herbal medicine). I wish that they had passed some knowledge about these traditional medicines to us. Now there are very few people practicing such traditional systems of cure.31

I remember around 1948-1949 **joro** (fever), **maasi** were very high. In Palangbari four to five persons had died from one house due to dysentery. This disease is contagious. A doctor from Mechi R. B. Singaury would come and visit. People would mostly go to **Dhami-jhakri** and take **pahare dabai**. Apart from this, Civazol tablets were given for dysentery. This was a famous medicine. For sores and dysentery they would give this medicine. **Kalo-joro** (black fever), **thange-joro** (typhoid) was high then. There were a number of deaths in and around 1950-1951. Due to such fever the patient’s body and even breath would smell. My own **phupu** (paternal aunt) suffered. We had called the doctor. She was almost dead but after two three hours her feet started moving. She then said that she wanted to have **hareyo makai** (green maize). We cousins got for her from Tingling. We even called the

31 “Goddess Sitala was identified as the deity responsible for bringing or preventing the disease like smallpox across Bengal in the east to Maharashtra and Gujarat in the west. In South India, the goddess Mariyamma shared some of the similar attributes. Sitala enjoyed a prominence as a deity of exceptional potency. If honoured through prayers, offerings and devotional acts, she could give protection from the diseases or modify its effect. Angered or neglected however her wrath took the form by the violent fever that raged through her victims’ bodies and resulted in lasting disfigurement or death. Since Sitala was understood to be intrinsically the ‘Cool One’, she was offered cooling foods and her victims were piled with cold drinks and balms” (Arnold, David 1989 Op. cit.: 48).

In Nepal, “Hundreds queue up before the temple of Sitala Ajima or Harti Ajima, Goddess of Smallpox, that powerful Grandmother of the World who, if angered and left hungry, harasses little children even unto death, but when appeased alleviates all sorts of troubles and disease” (Anderson, Mary 1971: 78).

32 Interview with Sukbir Khawas, op. cit.
dhāāmi-jhākri (traditional healers). She died of typhoid. This bimari (illness) is quite bad.33

“Many years back maasi, ragat maasi (blood dysentery) was very high. Mosquitoes were less but fever was high in Phuguri. Seasonal illnesses were mostly fever, cough-cold and dysentery. Dysentery keeps relapsing once a person gets it. This was high both during the rains as well as the winters. In Marma Tea Estate haija was very high. Kamjoro (malaria), dadura (measles) was high too. One would get sores all over one’s body.

Beyond the Mechi river haija, dadura were very high. Medicines were not available then. I would go there to collect khar (straw). I had seen with my own eyes. All houses were closed. Sindoor (vermilion), bai (bangles) were scattered around the houses. Many young women had died because of the epidemic then.

I remember once, some coolies were boiling rice to eat; the sardars chased them, as it seemed that they were suffering from cholera. Those sardars did not even allow them to have their rice. There was a store at Nagari godam where all the coolies were given ration. In Panighata it was Ram Krishna Maya’s shop from where we bought rice.”34

According to Bir Man Zimba,

Dysentery was very high. It was mostly because workers hardly had any warm clothes to wear or even to cover during the night. Houses were made of thatched roofs, which would always leak. We would just spread one layer of bora (gunny sack) and sleep. In such conditions one catches cold very easily. We would cover ourselves with our mother’s saris. My elder sister died at the age of fifteen due to dysentery and high fever. One just had a single dress for a whole year.35

Mortality in Darjeeling tea plantations was not severe as in Assam tea plantations but as we do not have mortality data for Darjeeling plantations, so direct comparisons was not possible. This can be partly deduced to a number of reasons:

a) The labouring population was largely recruited from the hilly areas of Nepal and hence did not face problems of acclimatising to the harsh weather conditions.

33 Interview with Sukh Chandra Khati, 9th December, 2000, Phuguri, T.E.
34 Interview with Bir maya Singar, 11th December, 2000, Phuguri T.E.
35 Interview with Bir man Zimba, op. cit.
b) The distance travelled by them from Nepal was much less as compared to those who travelled from areas of United and Central provinces and Chota Nagpur to the tea districts of Assam.

c) As there was free recruitment to the Darjeeling tea plantations so the workers were not placed under any contract.

Deaths were not sudden as it was due to, for example malaria in the Assam plantations. Respiratory problems, rheumatism, and phthisis (tuberculosis) were some of the chronic diseases in Darjeeling. Intestinal problems like dysentery, diarrhoea was common. Long-term illnesses due to lack of proper clothing, food (nutrition) were some of the important causes of morbidity.

The prevalent diseases in Darjeeling according to Jones (1947) were chest condition like bronchitis, fibrositis, bowel diseases caused by contaminated water etc that gave rise to high mortality among children. From his study he found, a high incidence of pulmonary tuberculosis in Darjeeling. In one garden in 1946 there were 20 pulmonary tuberculosis deaths out of 54. He gives reasons for the increasing incidence of pulmonary tuberculosis to bad housing, which included poor ventilation and social habits of the people (Jones 1947:10).

*He maintained that,*

Susceptibility of a primitive population to infection by the *tubercle bacillus* is common. The susceptibility of primitive agricultural races to Tuberculosis when the germ is introduced among them with the advent of so-called civilization is well recognized. The North American Indian the Maori, and the Australian aboriginal are fast disappearing as a result of the introduction of this scourge of civilization into their midst. The hill people of Darjeeling are no exception to this general rule and it is difficult to know what can be done to prevent further ravages (ibid).

He cited the need to isolate known infectious cases. Susceptibility to disease was linked not just to the race but also to the very conditions of living, nutrition, diet, clothing and the overall low wages. In spite of his criticisms Lloyd Jones recognized that “in many cases the general level of medical care was very high- though he regretted that in Darjeeling there were no medical practices and individual garden doctors tended to work in deadening isolation” (in Griffiths op. cit.: 365).
There is thus a marked epidemiological distinction between the workers of plains and the hilly regions of North Bengal, which can be partly attributed to the climatic and geo-physical nature of the hill areas. Literature on the tea plantations of the Terai region of Bengal mostly highlights the common causes of mortality as malarial fever, apart from water-borne infections like cholera, dysentery, diarrhoea etc. This was similar to Assam plantations. Respiratory complaints and rheumatism being chronic diseases, did not take a severe toll in the hills unlike the diseases of the plains. This difference in morbidity undoubtedly affected the mortality rates though hookworm, diarrhoea, dysentery were common in all plantations. The emphasis here is to bring forth how working and living conditions influenced in disease causation. These are strongly reiterated through our narratives that have explicitly narrated the poor conditions in which they lived, insecurity of wages, low wages and overall the harsh conditions.

Health of the plantation workers was of importance to the planters only when it affected the labour supply. Push factors (excessive taxation, famines, bad harvests etc) coupled with the conditions in the plantations (arduous work, lack of proper food, housing, rest etc) resulted in the workers being susceptible to a range of communicable diseases. Public health measures were negligible in comparison to the enormity of the problem. The following chapter will reflect on the colonial interventions taken with regard to food, clothing, health and other welfare amenities. More specifically emergence of labour protests and trade unions and with Independence the formation of the Plantation Labour Act (PLA) and other welfare interventions will be examined through a case study of a tea estate in Darjeeling.