An early history of the introduction of Tea in Jalpaiguri

The first tea plantation in India grew in a wild state in many parts of Assam in North East India, perhaps some tribes, notably singhpos, were cultivating and drinking tea for a long time. The British East India Company started tea cultivation after loss of its monopoly over tea trade with China. The first experimental plantation introduced by the company in Upper Assam in 1835, with imported China Seed. The first tea company, the Assam Tea Company was established to cultivate tea in India in 1839. Actual progress of the company began in 1852. Cultivation started in many other parts of Assam afterwards. In 1855, indigenous tea was found in Cachar and the first tea garden established there in the same year. Henceforth production started rapidly in other parts of Assam and in Goalpara in 1860. In West Bengal, hill district of Darjeeling had started tea cultivation in 1839, followed by Terai in 1862 and the Dooars came in the picture of Tea Cultivation in 1874. According to gazetteers, Dr. Brougham, Pioneer British Planter opened a garden near at Gazeldubi in Mal Police Station of Jalpaiguri district in the year 1874. "The Dooars must have been unattractive to all except the boldest pioneers."

The district of Jalpaiguri is crisscrossed by innumerable streams and rivers. These rivers are in a habit of changing their courses in every rainy season due to torrential
down-pour. Century ago, it was covered by almost impenetrable unexploited wood-lands, enriched by valuable timber, giving shelter to wild animals, and was inhabited by tribes such as Garos, Mechus, Totos, who were mainly hunters and food gatherers. Though the Dooars was a most unhealthy district in which malaria and blackwater fever were the common features, but climatically it was well recommended for tea cultivation.

After the opening of the first garden in Gazeldubi in Mal Police station, other gardens soon came up in Mal, Metiali and also in Nagrakata police station. Within 10 years about 35 gardens opened in many parts of the district. Gradually tea estates were spreading over other parts of the district. The tendency of spread over was from west to east. The reason of the delay of Dooars to come in the picture of tea plantation, due to lack of proper communication. During 1886-1892 some new leases of tea estates were issued upto Birpara and Madarihat Police Station of the district. During 1893-1899 Kumargram and Kalchini are also came in the picture. There were about 16 gardens started. After 1910, the available lands suitable for growing tea was almost occupied by the entrepreneurs mostly Indians (Bengalees). New lands had to search for plantation in the part of district which were settled after the Sunders settlement as 'Jote' land. In the meanwhile during 1914 decision was taken by the Govt. to convert these Jote lands for the purpose of tea cultivation. Danguajhar, Saraswatipur, Jaypur, Karala valley, Bhandiguri etc. are the gardens
Plucking of green tea leaf

Weighment of green leaf in the field
in Rajgunj and Jalpaiguri Police Station which were started in almost level lands. Almost all the Police stations of the district have tea plantation, the maximum concentrations however are in Mal, Matiali, Nagrakata, Dhupguri, Birpara, Kalchini and Kumargram, other police stations have less concentration of gardens which varies from 2-5 gardens each (Fig.17).

**Basic facts about the growth of Tea Plantation here**

Police station Mal is the oldest tea producing area because the pioneer British Planters selected this region for its topography was similar to that of the foot hills of Darjeeling district. Secondly Mal was a part of north Maynaguri Pargana and located on one of the two most important Bengal-Bhutan trade routes. Land records of this region was available since Bhutia regime. The Jote lands of this area were already recorded and as such no legal difficulty was encountered in leasing out the waste lands to the planters. As being a trade route a good communication was in existence between Chamurchi and Vernishghat river point via Mal and Maynaguri. At the same time it was accessible from Darjeeling via Kalimpong and Garubathan.

The land areas which were not suitable for the cultivation of staple food crops but were considered favourable for the growth of tea plantation were offered specially in the hill tracts and also in the highlands. As a reference it can be pointed out that in Assam 10,000 acres or 4047
hectares of lands were granted at a time on very reasonable terms under the (Assam) Waste Land Rules. The tea growing lands were granted on a lease-hold basis under the old Assam Rules. Afterwards with the growth of tea areas and the scarcity of suitable lands, the Govt. offered 3000 acres or 1214 hectares to the applicants under the free-simple rules. From 1876 onwards land was given with 30 years renewable leases. During the end of 19th Century a liberal policy was adopted for the granting of land by the Government.

In West Bengal same rules like Assam were made applicable regarding tea grant lease. There were two types of lands which were given to tea estates, one was rent free-hold land and the other grants were under the Crown Land Rules on 30 years lease basis which were renewable to perpetuity.

After the independence in 1947, it was realised that the land reforms were necessary. Some measures were taken to present the concentration of ownership of land in the hands of a relatively small number of people, many of whom were absentee landlords. One of the steps taken by the State Govt. was to abolish the intermediary rights in land i.e. the abolition of the Zamindari system and to impose a ceiling on the holding of agricultural or farm land. This step was taken with a view to ensuring economic growth and self reliance on food and also attaining the social & political stability. But exemptions were specially granted to certain categories of farms which included tea, coffee and rubber plantations.
Transportation of green leaf from the field to factory.
In 1957 a change in policy both in Assam and in West Bengal was brought about by the amendments in the Estates Acquisition Act. This measure along with further amendments of the Acts in subsequent years eradicated the doubts about the applicability of this Act to the tea plantation Estate Acquisition Act provided for intermediaries to retain possession of the Khas lands up to certain limits, and to treat them as tenants directly under the state. The formalities relating to tea estates in West Bengal are over now and 30 years renewable leases have been granted. The Tea Estate have been allowed to retain all lands under tea together with reasonable areas for ancillary purposes. The tea estates wanted to retain further areas of land for future expansion, but unfortunately that was not possible. In any case tea bearing land was nowhere confiscated or the tea estates broken up.

The enforcement of the ceiling laws by the State Govt. took away the surplus land of the tea estates and were vested in the govt. leaving virtually no land for future expansion which is a factor viewed with great concern.

The land allowed to be retained by the estates after the resumption of surplus land remaining unutilised by the tea estates because of the resource constraints are sometimes occupied by the unemployed labourers of the tea estates poses a real problem for State management to remove this unemployed labourers from the retained land of the tea estates which creates tremendous impediments for reclaiming these land for
Pruned Section of a Tea Estate

Lush green Tea Plantation
the cultivation of tea. The surplus land within the periphery of the estates vested in Govt. are also encroached upon by the outsiders. The availability of land is considered to be one of the fundamental ingredients for increasing tea production which is the crying need of the hour. The present capacity of the land has come to a saturated point and because of the Land Ceiling Act the tea estates have no other alternative to expand the tea growing areas. (Fig.13).

For raising the tea production of Jalpaiguri district adequate suitable lands are required for extension plantation. The tea estates situated in Jalpaiguri district have already submitted their requirement of additional land for the extension plantation keeping in view the targets of production envisaged under seventh five year plan. The govt. of West Bengal identify the additional land available within the Jalpaiguri district but the total availability of land was found to be far short of the requirements of tea industries in this district. Moreover, the additional lands identified and available are mainly vested in the Forest department of the Govt. of West Bengal, which are practically remaining fallow or underutilised. The lands could be made available to the Tea Industry for the extension of plantation from the forest department after the consultation between the Commerce and Forest departments. Over the years, it has been observed that the forest department could not utilise the vast areas of vested lands for the growth of forest because of the lack
Phases of Development of Tea Gardens
JALPAIGURI DISTRICT
1874-1925

REFERENCE
1874-1878
1833-1899
1879-1885
1900-1923
1886-18192
1924-1925

10 Km
of resources. There are other areas of land which are earmarked for the growth of reserve forest can never be made available to the plantation industry without the express permission of the Central Govt. in writing. The land constraints in the district of Jalpaiguri stands as an obstacle for the increase in the production. The only alternative which is left to the industry for raising the level of production is to adopt improved technical innovations but these factors have there limitations at certain point of time.

**Physical factors**

The topography and general feature of the "Duars" and "Terai" are the same. The narrow stip of land which is 15 to 20 miles wide, running through the entire lengths of the foothills of the Himalayas from West to East is known as Terai and Doobars. The portion lying just below the Darjeeling Himalayas is "Terai" and the strip of land lying between the Bhutan and India is "Doobars". According to Gazetteer, Pioneering British Company considered this area suitable for tea cultivation after reviewing its physical, geological and climatic conditions. This is a typical piedmont plain or alluvial fan surface of the Himalayan foothills known as Terai and Doobars. Its general elevation is about 150' feet in the South to over 250' feet towards north. The whole area is made up of debris washed down from the Himalayan slopes. Erosion and deposition are the regular activities of the streams coming down from the
north. The slope of the land is 2-3 feet per mile with a slope towards south and tilted to the eastern side is a notable feature of the landscape.

**Soil condition**

The best suitable soils for tea are a medium and light loam. It needs a deep friable soil, well supplied with plant food. The average depth of the soil of Dooars is very low. Most of the soils are formed by sandy loam to loam. These soils are mainly porous and have experienced acute erosion. Though these are not very fertile, still fertilizer response is notable. The average PH value is between 4.5 and 6.4, organic content of soil is also very high. The alkaline deposits that are deposited periodically by some swift flowing rivers of these area have a special bearing in the case of tea plantation. Several types of alluvia that can be seen, of which the oldest one occurs on a high plateau in West Central Dooars, called the Duars Red Bank. This red soil bears a close affinity to the Red Bank in Assam which is well weathered, rich loamy soils of great depth and highly acidic. In Eastern Duars gray sandy loam, which is the youngest alluvium occurs widely. Lime, Magnesia and phosphoric acid content is also high and it has undergone a little weathering. Organic matter and nitrogen content are comparatively low. Other types of alluvium found within the district is intermediate in age between these two broad groups. 'Hantapara plateau series' has somehow undergone
a weathering and it seems to be in a stage of the formation of the Red Bank series. 'Mal Sanda' is a sedimentary soil carried down from the hill slopes and characterised by a high percentage of coarse sand and rich in organic content. Compared to the soils of the tea area of Assam, the percentage of acid soluble alumina, iron and magnesia of the soils of Dooars are comparatively high. Three types of land are noticed (1) Light sandy loam gray in colour, usually rich at the beginning but gradually deteriorating under Tea. Damdima garden situated west of Nedam and Rangamati including Newera - Nuddy and most of Nakhati and the east a large portion of Dima, Torsa and the lower gardens of Nagrakata, are composed of this type. (2) Below the foothills, on a higher level practically forms a plateau which rises towards the base of the Himalaya is Red Bank soil, red in colour, clay loam with a good feature and is well drained. The spreadover of this type of soil started from Nedam and Rangamati of Mal Police station and stretches up to east to Changmari and (3) Area almost similar to the light loams of upper Dibrugarh in Assam. This type of reddish brown, light loam occurs in the small region near the Torsa river. This soil is excellent for tea. The area comprises between Torsa and Tista happens to be best tea producing area in Duars; composed of light loam, deep brown in colour and somewhat stony soil. The Torsa-Sankosh tract is identical to the above region but the soil possesses a bit finer texture and is comparatively compact soil (Fig. 19.).
Rainfall in Dooars

In Dooars average annual rainfall is 4136 millimetres. A little change or increase in rainfall above this normal downpour usually causes decline in production vis-a-vis yield. According to Eden a minimum of 114-127 c.m. of rainfall is required per annum which is sufficient to produce an economic crop. But at the same time this is to be considered that different condition of temperature may hamper the production. In African tea growing areas, average temperature admitted to be a maximum of about 18°C and a high yield obtained from the areas having only 125 cm of annual rainfall. But in Dooars average temperature remains to be 29°C during growing season which is responsible for high rate of evaporation, resulting ultimate loss of ground water.

There is no limitation for the ideal requirement of rainfall for the Tea Plantation. It can be mentioned that annual rainfall of 50" inches or 127 c.m. is marginal conditions unless other climatic factors are favourable. But if monthly average rainfall is below 5 cm over a period of few months during summer, crop production may suffer severely. The absolute minimum requirement of rainfall is the excess amount of rainfall to face the evaporation rate and for the growth of plant. The transpiration made by the Tea Plants is about 90 cm per annum according to 'Gadd'. The role of wind is another vital factor to reckon with for boosting transpiration. Tea Research institute of East Africa in 1953, worked out that the spell of
dry wind evaporates over a free water surface increased by 45% in excess from that of windless days, so the plantation requires rainfall and is bring up new leaves by the intermittent showers.

Precipitation during the dry months during January to March is necessary here, though this generous rainfall during November and December do not help to prevent drought situation during the following months. In peak monsoon period the Westward movement of monsoon though usually associated with Western disturbances, - where they meet toposphere phenomena, causes excessive heavy rainfall, because of combination of convergence of wind systems and orographic ascent. Winters are mainly dry. Clear weather prevails, associated with stable atmospheric condition. About 40-60 cm of rainfall is received by Dooars during this season.

Moisture content present in the air mass is another factor affecting the tea plant of the area under Dooars. A relative humidity of 80% to 90% in average is required throughout the year. The requirement of absolute humidity averages between 18 mm to 12.7 mm for a good production.

**Floodes in Dooars and subsequent damages of plantation**

Innumerable times there are devastating floods in Dooars caused by the swift flowing of mountain streams. The flooding action damaged plantation in two ways, by waterlogging in the plantation area neutralising the soil acidity which is dreadful for the bushes and secondly the swift flowing rivers
sometimes washed away the part of Tea areas and also deposited heavy loads of washed down boulders, sand, clay, gravel etc. which are practically making the tea areas unsuitable for cultivation over a long periods.

The causes of frequent floods are well attributed by Dr. B. Banerjee in Morphological Regions of West Bengal as follows - "There is another type of plain lying at the foot of the Himalayas. This is the typical Piedment plain or the alluvial fan surface of the Himalayan foothills. This tract is known as the Terai and the Dooars. The immense load of materials carried down by the streams are heaped up as soon as the streams descend to the plain... where the rivers come down from the hills, huge semi-circular fans are formed by the deposition of boulders and coarser soil particles. These along with many braided streams have built this broad piedment alluvial plain of the Himalayan foothills.... The sub Himalayan Zone is missing in West Bengal and the lower Himalaya rises abruptly from the plains." From the above, this is clear that the causes of frequent floods are mainly due to heavy monsoonal rainfall, a large catchment area of the lower Himalayas and absence of a Sub-Himalayan base to provide a gentle gradient of sufficient length to check the enormous volume of water to a definite channel. The causative factor of the volume of washed down load is the heavy rainfall on hill slopes.

Apart from Tista, Torsa, Jaldhaka, Sankos, Raydak Kalchini, Diana etc. most of the rivers of this area hardly
have any regular water flow in the dry seasons. In rainy months from June to September, after a heavy shower locally and in the hills, if continued for a few hours with a total rainfall of about 10" -13" or 25-38 cm. making all these rivers and rivulets in spate even small "Jhoras" would carry down huge amount of wash load. In most cases this type of intensive rain in vast catchment areas causes devastation. Sometimes they burst well-constructed dams, washed away bridges, culverts, roads and railways tracts causing incalculable damages towards life and property.

This is to be highlighted that water parting system is in a very disadvantageous position for Dooars. Water parting in the Sanchal-Mahaldhiram which is located in the centre of seven mountain spurs is responsible for collecting water and also controls the direction of the volume of water coming down from the seven valleys. Another factor aggravating and accelerating erosional rate is the practice of "Jhum" cultivation in Bhutan and in Sikkim Himalaya the effect of which is the exposed mountain slopes, absence of vegetative covers are the causative factors for the velocity and momentum of running water.

Unprecedented floods in 1954 caused tremendous damages to Tandoo and Bamandanga Tea gardens located in the south of Nagrakata police station, which covered several hundreds of hectares of flourishing tea were buried under silt and loss of human lives. A garden located just South of the Bamandaga Tea garden, named Bholanath in the Mainaguri Police Station
was the worst affected and became the victim of the successive floods is now non-existent. Other gardens which were affected severely are Gopi Mohan in Kalchini and Dheklapara in Birpara Police Station, an Jadavpur in Dhupguri P.S. Manabari in Mal Police Station etc.

Growth of the Industry

Tea estates are located mainly on the Northern part of the district. The concentration of Tea gardens are maximum in the Police Stations of Mal, Metiali, Nagrakata Dhupguri, Birpara, Kalchini, Kumargram and also in other parts of the district. Mal is the place where the first tea gardens were opened by the pioneering British Planters. The choice of this particular area near the foothills of Himalaya by the British Planters was due to its physical similarity to that of the foothills of Darjeeling district. Secondly plenty of lands were available at a reasonably lower rate. It was a part of North Maynaguri Pargana and lay on one of the two most important Bengal Bhutan trade routes.

After opening up of the first garden in 1876 within 10 years about forty new gardens were established. These gardens were mainly confined within north-western region of the district, i.e. in Mal and Metiali, North Dhupguri and in Nagrakata also. The development of the gardens followed the trail of the railway tracks as communication was the main hindrance for the growth of the plantation (Fig. No. 20).
Within next ten years, i.e. from 1884-1894 another 57 gardens had registered within the district. This time some new areas were brought under plantation in the central part of the district. Following table indicating the number of tea estates, area and production between 1876 to 1907 is given below:

Table No. 29 Tea Gardens of the District since 1876-1907

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of gardens</th>
<th>Area (in hectare)</th>
<th>Production (in kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1876</td>
<td>13</td>
<td>327</td>
<td>13284</td>
</tr>
<tr>
<td>1881</td>
<td>55</td>
<td>2492</td>
<td>462202</td>
</tr>
<tr>
<td>1892</td>
<td>182</td>
<td>15433</td>
<td>8225392</td>
</tr>
<tr>
<td>1901</td>
<td>235</td>
<td>30561</td>
<td>13989391</td>
</tr>
<tr>
<td>1907</td>
<td>180</td>
<td>32535</td>
<td>20338602</td>
</tr>
<tr>
<td>1984</td>
<td>147</td>
<td>65475</td>
<td>121956000</td>
</tr>
</tbody>
</table>

"After 1880 the cultivation of tea extended rapidly in the track between Tista and Diana rivers, but there was then a check as the country to the east of Diana was believed to be devoid of water." It was mentioned in the Gazetteer in 1881 that "This important industry has increased so much in recent years as to change almost completely the physical characteristics of the submontane country over a great area of 30 miles long extended from the debouchment of the Tista from the Darjeeling hills to a similar point of the Diana river on the frontier of Bhutan. The greater part of the primeval
forest has disappeared and mile after mile was replaced by great expanses of tea gardens. East of Diana a similar track stretches for about the same distance as far as Rajabhat Khawa Reserved Forest and North of Alipur.

After the opening of the first garden in the district in Mal Police Station, new areas were soon brought under cultivation. Enthusiastic Indian entrepreneurs also entered the plantation industry.

Mogalkata T.E. was the first garden opened by Indians in the year 1881 in Dhupguri Police Station. In 1881 altogether ten grants were issued, of which three were started. They were Oodlabari and Neora Nuddy in Mal Police Station, Hatipotha and Bytagool which are now non existent garden.

New gardens owned either by British or Indian were started under their respective controls in Mal, in Metiali and in Nagrakata Police Stations. Leading companies were Needam Tea Company Limited, Aibheal Tea Co.Ltd., Metiali Tea Co.Ltd., Duncan Brothers etc. Many companies were amalgamated afterwards within these areas. The first entirely Indian Company was Jalpaiguri Tea Company, which was started in 1879. Another Tea Co. owned by Indians and started in 1886, was named Gurjungjhora Tea Co.Ltd. Many other companies were formed in consecutive years. Though there were many leases granted for establishing tea estates, during 1876-1945 but
The process of tea fermentation

A Tea Factory machinery.
many of them were non-existing now. At present there are about 147 Tea Gardens in existence. Tea gardens were first started in the Western dooars then gradually extended eastward. It took twenty (20) years to explore new areas in eastern Dooars. In 1894 the first garden was established in Kumargram Police Station. The delay in appearance of tea estates in Eastern Dooars in the tea map of Jalpaiguri was due to lack of communication facilities. The only purpose of opening up of railway system across the district was to serve the tea industry and to open up new gardens in these areas. During 1881 the area under tea was 2492 hectares with an outturn of 4,46,572 kgs. This is to be noted that the number of gardens rose upto 235 in the year 1901. This high frequency of grants was due to too many small gardens which were temporarily settled estates. The actual number of gardens were 103. Some of which were consisted of several grants which had not been amalgamated. Most of the available high lands in the district were covered by the tea plantation. New areas were sought for, where the average elevation was between 50 metre to 150 metre. During 1911 to 1924 many new leases were sanctioned and the gardens opened up in areas near Jalpaiguri Town, in Falakata Police Station and also in Alipurduar Police Station. When all the available virgin high lands were settled, entrepreneurs (mainly Bengalees) had to search for new lands which were settled after the Sunders settlements as Jote lands. But there was
many prohibition for clubbing of Jote lands by the then Govt. Before this only Denguajhar tea estate near Jalpaiguri town, Swaraswatipur in Rajgunj, Joypur, Karala valley, Bhandiguri etc. were started around Jalpaiguri town. Simultaneously there were some vacancy in Dooars and new estates were opened up in these regions, Debpara, Diana in Dhupguri, Dimdima and Dheklapara in Birpara were established in 1911.

"The unprecedented tea slump which started in 1930 and for which the international Tea agreement came later on to prohibit the extension of tea cultivation, put a halt to further activities and this ended an era of efforts by Indian to extend tea industry in the District of Jalpaiguri, which has now a unique place in the Tea Map of India." Surendranagar in Dhupguri and Dharanipur in Nagarkata region were the last gardens established in Jalpaiguri.

Supply of water is a vital factor to comply with any form of cultivation. Waterless character is the most common feature in many of the areas of Dooars. A few springs are, however, found in the limestone formation which occasionally crop out on its northern boundary. They are however almost immediately absorbed by the surrounding porous soil and do not again appear on the surface for 7 to 11 miles south of their sources. The gardens are somehow supplied with adequate water, but still there are few gardens which are facing acute water shortage. Specially those gardens which were opened east of Diana River. In the past, water was carried down through
Tea Sorting machine in Tea Factory

Fibre Extraction Machine in a Tea Factory.
pipeline from Bhutan hills. Water was also obtained from wells, though the water level is, as a rule, lower than in other parts of the Western Dooars. The water has been brought down from the springs of Bhutan hills, through an agreement with the Bhutan Govt. This agreement has to be renewed from time to time. One survey in the district of Jalpaiguri during that period revealed that out of 48 gardens in Alipurduar region, only 36 gardens have had the adequate and regular water supply throughout the year. In Mulbazar area, there are 46 Tea gardens of which 35 gardens have adequate and regular supply of water all the year round, whereas in Jalpaiguri district having 47 gardens 37 gardens have inadequate unsatisfactory supply of water.

Name of the gardens facing water shortage:-

(1) In Alipurduar Region -

(2) In Malabazar Region -

(3) In Jalpaiguri Region -

Area, Production and Yield

Jalpaiguri the single district which can claim 20% of the total tea area, 23% of the total production with a yield rate of 1667 kg per hectare which is more than the
average yield rate in India. Though there were some fluctuation, yet this share in all respects is maintained by the district more or less uniformly throughout the history of Indian tea. The average annual rate of change in percentage for area, production and yield in Dooars in comparison with north India is shown in the following table: (Fig. 21).

Table No.30 Area, production and yield in North India/Jalpaiguri

<table>
<thead>
<tr>
<th>Year</th>
<th>Area N.India</th>
<th>Doors</th>
<th>Production N.India</th>
<th>Doors</th>
<th>Yield N.India</th>
<th>Doors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1935</td>
<td>270879</td>
<td>53176</td>
<td>149760</td>
<td>33,420</td>
<td>553</td>
<td>628</td>
</tr>
<tr>
<td>1945</td>
<td>241939</td>
<td>52992</td>
<td>184542</td>
<td>55,855</td>
<td>763</td>
<td>1054</td>
</tr>
<tr>
<td>1955</td>
<td>249411</td>
<td>54101</td>
<td>246267</td>
<td>60,546</td>
<td>987</td>
<td>1119</td>
</tr>
<tr>
<td>1965</td>
<td>270121</td>
<td>57270</td>
<td>273246</td>
<td>68,177</td>
<td>1012</td>
<td>1191</td>
</tr>
<tr>
<td>1975</td>
<td>290105</td>
<td>59801</td>
<td>380578</td>
<td>88,025</td>
<td>1312</td>
<td>1472</td>
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<tr>
<td>1980</td>
<td>306844</td>
<td>62782</td>
<td>438455</td>
<td>104,624</td>
<td>1429</td>
<td>1667</td>
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<td>1985</td>
<td>324314</td>
<td>65475</td>
<td>517147</td>
<td>121,956</td>
<td>1515</td>
<td>1760</td>
</tr>
</tbody>
</table>

Since the establishment of first tea garden in Duars as far back as in 1875, the area under tea plantation had maintained a sustained growth over the years. If 1935 is taken as base year it is discernible that area under tea in North India was 2,70,879 hectare in 1935 and which went upto 322,162 hectare in 1983 indicating 18.93% increase in tea area. During the same period, the area under tea in Duars went upto 65,265 hectare in 1983 from 53,176 hectare in 1935, which indicates 22.23% increase. The tea Industry in Dooars achieved a phenomenal increase in production during the same period. The
TEA (NORTH INDIA)
AREA, PRODUCTION AND YIELD
1935-1985

(Fig. 21)
The production rose to 108,218 kgs. in 1983 from 33,420 kgs in 1935, an increase of 223.81%. This higher rate of growth in production was possible due to increasing yield per hectare. It may be mentioned in this context that yield rate in Dooars always remained higher than the average of India as a whole.

Tea gardens are concentrated near to the foot hills extending from East to West of the district. Gardens are mainly situated in Mal, Metiali, Nagrakata, Dhupguri, Birpara, Madarihat, Kalchini, Kumargram etc. Calculation based on the available data indicates that the percentage of total tea grant lease and actual area under plantation varies from region to region within the district. Percentage of actual planted areas are more in Dhupguri 65.08%, Kalchini 62.82%, Mal 56.81%, Madarihat 59.93%, Nagrakata 49.13%, Birpara 45.08% and in other police stations the total tea grant lease is comparatively smaller but the area under actual plantation is more. For instance the tea estates located under Rajgunj Police Station has 66.13% of planted area, Jalpaiguri, has 65.08%, Falakata has 56.80% and Alipur Duar has 59.14%. The total area under tea is comprised of 108,017 sq.km. which is 17.03% of the total geographical area of the District, (Fig. 22).

The yield rate of the district is quite high and has increased considerably over the years. Yield rate or productivity varies from place to place within the district. Average productivity of the district is 1658 kg per hectare, which is 1447 kgs in North India as a whole. But there are some gardens
which produce much more than the district average. About 41 gardens are there with an average yield varying from 2000 kgs. to 2234 kgs. There is one garden Lankapara in Birpara area producing 2847 kgs. per hectare, is considered to be the highest rate of yield in the district. It may be mentioned that the yield rate also varies police stationwise. Maximum productivity comes out of the gardens located in Nagrakata Police Station which is about 1988 kgs per hectare, followed by Birpara 1970 kgs, Kalchini 1950 kgs, Dhupguri 1804 kgs, Matiali 1809 kgs, and the lowest yield is found in Maynaguri Police Station which is only 1281 kg per hectare. Though the average yield per hectare in West Bengal is lower than that of Assam because of the aggregated yield of Darjeeling, Terai and Jalpaiguri together renders the average lower. But if only the yield rate of Dooars is taken into account it is found that the district average yield rate is comparatively lower than Darang, Dibrugarh and Lakhimpur districts in Assam.

To-day the district produces 121,956 thousand kgs which is about 18% of the India's total production. Between 1935 and 1985 the production in Jalpaiguri district increased by 265%, while north India as a whole has achieved 234% increase in production during the same period. Jalpaiguri District has always maintained commendable position in tea production. During 1945 this district accounted for 30% of the total North Indian Production. Though during 1985 the production has increased manifold times, its share in terms of percentage in
SOUTH INDIA

TEA GROWING AREAS AND YIELD (PER HECTARE)

NORTH EASTERN INDIA

(Fig. 23)

REFERENCE

<table>
<thead>
<tr>
<th>YIELD KG/HECTARE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 500</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>501-1000</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1001-1500</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Above 2000</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

1 Assam
2 W. Bengal
3 Tamilnadu
4 Kerala
5 Karnataka
6 Tripura
relation to total North Indian crop has declined to 24% as the other tea producing areas in North India has registered higher production.

A far reaching change has been brought about in the number of cups of liquid tea by the introduction of manufacturing process of C.T.C. tea. The abbreviation means crushing tearing and curling. At present more than 2/3rd of Jalpaiguri's tea production consists of C.T.C. variety of teas, (Fig. 24).

Table No. 31 Trends in Production in Jalpaiguri District

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>% to N. India</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>13,989</td>
<td>16</td>
</tr>
<tr>
<td>1910</td>
<td>20,339</td>
<td>17</td>
</tr>
<tr>
<td>1920</td>
<td>26,629</td>
<td>17</td>
</tr>
<tr>
<td>1925</td>
<td>29,677</td>
<td>18</td>
</tr>
<tr>
<td>1935</td>
<td>33,420</td>
<td>19</td>
</tr>
<tr>
<td>1945</td>
<td>55,855</td>
<td>24</td>
</tr>
<tr>
<td>1955</td>
<td>60,546</td>
<td>20</td>
</tr>
<tr>
<td>1965</td>
<td>68,177</td>
<td>19</td>
</tr>
<tr>
<td>1975</td>
<td>88,025</td>
<td>18</td>
</tr>
<tr>
<td>1980</td>
<td>104,625</td>
<td>18</td>
</tr>
<tr>
<td>1985</td>
<td>121,956</td>
<td>19</td>
</tr>
</tbody>
</table>

During 1876 after the opening of 13 gardens, the total tea area was comprised of 331 hectares which offered an outturn of 13,284 kgs. of tea. In 1892, with the grants of 182 gardens, production of tea was around 8 million kgs. During 1900 the production rose to 13,989 kgs. The area under tea increased from 30,561 hectares in 1890 to 65265 hectares in 1983. It is observed that during the period between 1890 and 1983 the extension of tea cultivation has increased to 34,704 hectares indicating the growth rate of 373 hectares per year.
AREA PRODUCTION AND YILED INDEX
TEA (PER HECTARE)
JALPAIGURI DISTRICT
(1945 = 100)
Sizes of the Gardens

As tea plantation admirably falls under plantation system and plantation economy, it generally requires fairly large area. As the processing factories has to be within the estate, thus it needs huge land area for the purpose of plantation and factory and other ancillary purposes. The need for large capital, technical equipment and scientific marketing service for plantation, by and large the units of production have taken the shape of comparatively large estates instead of small holdings. The present structure of the industry evolved from the situation in which the tea plantation was nourished and also due to the characteristic of the product.

The number of tea estates having an area less than 200 hectare constitutes 4 in number and the tea estates having an area between 201 and 400 hectare, comprises of 20 gardens, tea estates having an area between 401 and 600 hectare comprises 28, estates having an area between 601 and 800 hectares are 38 in number. This group has the maximum concentration of estates. In the group of 801 to 1000 hectares, there are 31 gardens and 27 gardens are grouped with an area of 1001 hectare and above. The histogram drawn below will indicate the above group-wise division of the Tea Estate (Fig.25).

Area under different Age groups of Bushes

The tea bushes are economically productive up to 60 years depending on the quality of the plant. Normally tea bushes attain maturity for plucking in fifth year. A major factor behind the
AGE GROUP OF BUSHES
AS ON 1983

HISTOGRAM AND FREQUENCY POLYGON
SHOWING DISTRIBUTION OF TEA ESTATE
slow growth rate in yields and production, is accounted for slow rate of uprooting, replacement and extension of tea bushes. A table below shows the different age-group of tea bushes:

Table No. 32 Area under different Age group of bushes as on 1983

<table>
<thead>
<tr>
<th>Age-group of Plantation</th>
<th>Dooars</th>
<th>Percentage</th>
<th>N.India</th>
<th>% (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>below 5 yrs.</td>
<td>3814</td>
<td>6.33</td>
<td>22,466</td>
<td>7.88</td>
</tr>
<tr>
<td>5-10 yrs.</td>
<td>3244</td>
<td>5.35</td>
<td>23,143</td>
<td>8.96</td>
</tr>
<tr>
<td>11-20 yrs.</td>
<td>8309</td>
<td>13.70</td>
<td>41,330</td>
<td>14.49</td>
</tr>
<tr>
<td>21-30 yrs.</td>
<td>8110</td>
<td>13.37%</td>
<td>35,812</td>
<td>12.13</td>
</tr>
<tr>
<td>31-40 yrs.</td>
<td>3448</td>
<td>5.69</td>
<td>21,716</td>
<td>7.61</td>
</tr>
<tr>
<td>41-50 yrs.</td>
<td>4011</td>
<td>6.61</td>
<td>25,306</td>
<td>8.87</td>
</tr>
<tr>
<td>Over 50 yrs.</td>
<td>29709</td>
<td>48.99</td>
<td>115,476</td>
<td>40.48</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>60645</td>
<td>100</td>
<td>258,251</td>
<td></td>
</tr>
</tbody>
</table>

Source: Tea Board Statistics, 1983-84

In Dooars about 49% of the total area is planted with bushes ageing above 50 years. This high percentage in the proportion of old bushes has a serious bearing on productivity. Replanting of the old bushes is of utmost necessity to keep a favourable balance. To achieve higher productivity, replacement and replanting should be undertaken at the rate of 2% of the total area under plantation per annum and thereby bringing 1213 hectares in Dooars under replacement and replanting scheme as the new plantation cannot be carried on freely because of the dearth of suitable virgin land.

In addition to other measures to accelerate the growth rate and to increase the productivity in the future, expansion
of area under young tea plantation should be undertaken at a fair rate. The yield per hectare has to be increased to 3000 kgs. per hectare to reduce the unit costs. In North India and in South India yield varies from place to place. In North India for instance, in Assam the Dibrugarh district produces 1863 kgs. per hectare, while Darang gives 1802 and Cachar only 974 kgs. per hectare. In West Bengal it varies from 1637 in the Dooars, to 1429 in Terai and to only 647 kgs. in Darjeeling. The yield in Tripura is more than 823 kgs. The average yield in South India is higher than that of North India. The yield per hectare in Madurai and Coimbatore districts of Tamil Nadu is 2795 and 2337 kgs. respectively, while Palghat and Trichur districts in Kerala have the yield of 2155 and 2154 kgs per hectare. The Coorg district in Karnataka has the yield rate of 2090 kgs. per hectare. The contribution of research efforts towards increasing yield per hectare is of immense value. An indication of what can be achieved in this way has been estimated by the Tocklai-Experimental Station taking the yield of a Sub-area on the basis of the highest yield of an estate in that area for the year 1976 and worked out the weighted average which is mentioned in Table No.33.
Table No.33 Crop Estimates based on highest yields

<table>
<thead>
<tr>
<th>Sub-Area</th>
<th>Highest yield (Kg/Hec)</th>
<th>Area under tea (hec.)</th>
<th>Crop based on highest crop yield(1000kg)</th>
<th>Actual on highest crop yield(1000kg)</th>
<th>Percentage difference.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Darjeeling</td>
<td>915</td>
<td>17,958</td>
<td>16,431</td>
<td>11,344</td>
<td>45</td>
</tr>
<tr>
<td>Terai</td>
<td>1902</td>
<td>11,040</td>
<td>20,998</td>
<td>13,657</td>
<td>54</td>
</tr>
<tr>
<td>Dooars</td>
<td>2234</td>
<td>59,801</td>
<td>1,33,595</td>
<td>92,722</td>
<td>44</td>
</tr>
<tr>
<td>Sibsagar</td>
<td>1812</td>
<td>53,892</td>
<td>97,652</td>
<td>71,333</td>
<td>37</td>
</tr>
<tr>
<td>Cachar</td>
<td>1480</td>
<td>30,853</td>
<td>45,662</td>
<td>31,597</td>
<td>45</td>
</tr>
</tbody>
</table>

Source: Based on the data given in the note submitted to the Tandon Committee on Marketing of Tea in 1978

By Director TES, TRA.

Green Tea

Among all the beverages tea is the most popular stimulating and innocent drink throughout the world. In general, by tea we mean orthodox and other black teas. But in many parts of the globe tea is widely used in the form of Green Tea. Green tea is the tea where fermentation has been totally avoided during manufacturing for retaining the green colour and to ensure that catechins remain unchanged at a rate more than it is condensed as in black tea.
Importance of green tea has been ignored so far. Its nutritional and medicinal values have not been fully appreciated. Among the ingredients in tea, catechins presentation helps in treating hepatities (inflammation of kidney) chronic hepatitis (inflammation of the liver). It has also raised the hope to provide the preparation capable of curing or arresting leukaemia.

Green tea is more enriched with vitamin 'C' than black tea. It is most useful for the heart patients in as much as its tannins help normalising the hypertension of the thyroid glad. It also reduces the capillary and fragility of the blood vessels. It is more active than black tea in strengthening the walls of the capillaries.

The people who have developed the habit of drinking green tea are very lucky, as they are consuming more medicinal properties than those who are used to black tea.

In spite of all its medicinal values, green tea production is only 16 per cent i.e. about 280 million kg. of the world's total tea production. The main producers are China, Japan, Taiwan, Indonesia, India and Soviet Russia, Japan's total production of Green tea was 105 million kg, Taiwan 25 million kg, Indonesia about 16 million kg, the USSR 15 million kg. in 1979. India being the largest producer, consumer and exporter of tea, its share in green tea production is only 1.46 per cent i.e. 7.92 million kg. in 1980.
In most cases, green tea is consumed by the respective producing countries. The total world trade in green tea is about 40 million kg. per year. The main consuming countries other than producers are the U.S.A., Afghanistan, Morocco, Algeria and others. Amongst the producers, Japan & Soviet Russia import some quantities of green tea from other countries and re-export part of it to the non-tea growing countries after re-processing. In India 58 percent and 63 percent of the total Green tea produced were consumed internally in 1979 and 1980, respectively, (Fig.26).

Table No.34 Green Tea of India

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Export</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>5562</td>
<td>1840</td>
<td>9699</td>
</tr>
<tr>
<td>1971</td>
<td>7347</td>
<td>4996</td>
<td>31321</td>
</tr>
<tr>
<td>1974</td>
<td>6850</td>
<td>4822</td>
<td>28322</td>
</tr>
<tr>
<td>1980</td>
<td>8455</td>
<td>2814</td>
<td>43144</td>
</tr>
<tr>
<td>1981</td>
<td>7595</td>
<td>2691</td>
<td>43955</td>
</tr>
<tr>
<td>1982</td>
<td>8371</td>
<td>2923</td>
<td>51356</td>
</tr>
<tr>
<td>1983</td>
<td>7151</td>
<td>2710</td>
<td>50586</td>
</tr>
<tr>
<td>1984</td>
<td>7916</td>
<td>3468</td>
<td>92861</td>
</tr>
</tbody>
</table>

Source: Compiled from Tea Board Statistics 1984-85 published by Tea Board, India.

The total production was 7.9 million kg. of which 3.5 million has been exported in 1984. Previously Afghanistan was the largest and practically the only buyer of our green tea till 1968. Thereafter India started exporting green tea to other countries, such as Morocco, Sudan, Saudi Arabia, Ireland, the U.A.E., the U.S.S.R, the U.S.A. and others. Recently the U.S.S.R. has become the largest buyer of India's green tea. About 57% of the export is occupied.
PRODUCTION OF GREEN TEA

INDEX

- 12,000 Kgs

10,000

8000

6000

4000

2000

0

1961 71 72 73 74 75 76 77 78 79 80 81 82 83 84

SHARE OF JALPAIGURI

- 85%

- 50%

- 40%

- 30%

- 20%

- 10%
by them, Afghanistan, Morocco, Pakistan are the other buyers.

The internal market consists of North and North Western parts of India i.e. Jammu and Kashmir, Himachal Pradesh, Punjab and Haryana.

The above table shows that amongst the Green tea producing areas, West Bengal holds a dominant position of which Jalpaiguri the single district can claim 52% of the total India's production during 1978. But its percentage share has become lowered down by 29% in 1984. Other areas of West Bengal viz. Terai 23% Darjeeling below 1% whereas Assam produces 19% of the green tea, South India 21% and the rest i.e. Tripura, Bihar, U.P. and Himachal Pradesh together 7% of the Green tea produced in India.

Producing Gardens

The names of tea Estates Producing Green tea along with other variety of teas out of 147 tea estates located in Jalpaiguri district are quoted below:

1. Radharani Tea Estate in Kalchini Police Station.
2. Turturi Tea Estate in Kumargram - Police Station
3. Rahimpore Tea Estate - In Birpara Police Station
4. Mujnai Tea Estate - In Madarihat Police Station
5. Majherdabri Tea Estate - Alipur Police Station
6. Mathura Tea Estate - Alipur Police Station
7. Srinathpur Tea Estate -
8. Nimtijhora Tea Estate -
9. Kohinoor Tea Estate - In Alipur Daur Police Station
10. Bhandiguri Tea Estate - In Jalpaiguri Police Station
11. Raipur Tea Estate -
12. Swarashwatipur Tea Estate - In Rajgunj Police Station
13. Jaldhaka Altadanga Tea Estate - In Dhupguri Police
14. Gujjanam Tea Estate - In Dhupguri Police Station
17. Anandapur Tea Estate - In Mal Police Station
18. Gurjangihora Tea Estate -
19. Mamuddy Tea Estate -
20. Nadam Tea Estate -
21. New Gienco Tea Estate -
22. Rupali Tea Estate -
23. Sonali Tea Estate -
24. Kailashpur Tea Estate -
25. Napuchapur Tea Estate -

It is regrettable that we have lost the biggest market of Morocco. Morocco used to buy a considerable quantity from India during the 60's but completely stopped buying Indian green tea from early 70's. Their requirement of 15 million kg. of green tea is entirely met by other countries. But it again started buying Green tea from India from the year 1983 onwards. It is reported that the Morocco prefers a different taste and colour which China and Taiwan can supply. India being the leader in tea, she is lagging behind in production, consumption and marketing of green tea. The technological changeover in creating the taste and colour as required by other countries can be made with the help of research and development divisions. Certain gardens should be selected to produce a particular type of taste and colour. We should not forget that the heavy burden of IMF loan is to be borne by us. The repayment along with the interest incurred are all to be met by doubling the export figures. The present Rs.400 crores of rupees are to be doubled by 1985-86 which can only be done either by increasing the unit value or accelerating the quantum of
Table No. 35  Production of Green Tea & Position of Jalpaiguri (Dooars)  

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Assam</td>
<td>902</td>
<td>981</td>
<td>1604</td>
<td>1267</td>
<td>1292</td>
<td>1074</td>
<td>1487</td>
<td>1437</td>
<td>1670</td>
<td>1234</td>
<td>1494</td>
</tr>
<tr>
<td>West Bengal</td>
<td>4325</td>
<td>5040</td>
<td>4573</td>
<td>3444</td>
<td>5807</td>
<td>4143</td>
<td>5466</td>
<td>4769</td>
<td>5048</td>
<td>3449</td>
<td>4109</td>
</tr>
<tr>
<td>Total N. India</td>
<td>6235</td>
<td>7068</td>
<td>7183</td>
<td>5345</td>
<td>7870</td>
<td>5944</td>
<td>7609</td>
<td>7035</td>
<td>7790</td>
<td>5225</td>
<td>6268</td>
</tr>
<tr>
<td>Total S. India</td>
<td>615</td>
<td>191</td>
<td>130</td>
<td>182</td>
<td>28</td>
<td>116</td>
<td>847</td>
<td>560</td>
<td>581</td>
<td>1926</td>
<td>1648</td>
</tr>
<tr>
<td>All India</td>
<td>6850</td>
<td>7259</td>
<td>7313</td>
<td>5527</td>
<td>7888</td>
<td>6060</td>
<td>8455</td>
<td>7595</td>
<td>8371</td>
<td>7151</td>
<td>7916</td>
</tr>
<tr>
<td>Jalpaiguri (Dooars)</td>
<td>(3179)</td>
<td>(3424)</td>
<td>(3358)</td>
<td>(2294)</td>
<td>(4083)</td>
<td>(2694)</td>
<td>(3560)</td>
<td>(2899)</td>
<td>(3044)</td>
<td>(2081)</td>
<td>(2266)</td>
</tr>
<tr>
<td>Percentage share of Dooars</td>
<td>46.41</td>
<td>47.17</td>
<td>45.92</td>
<td>41.52</td>
<td>51.76</td>
<td>44.46</td>
<td>42.11</td>
<td>38.17</td>
<td>36.36</td>
<td>29.10</td>
<td>28.63</td>
</tr>
</tbody>
</table>
production. The latter should be explored as the former is stagnant in the international market for the last few years.

It may be mentioned here that 1984 has been a phenomenal year of growth for Indian Tea when all previous records have been shattered and new high established. The value of export figure touched an all time record to the extent of 750 crores in 1984.

**Measures for Boosting Production**

The largest off-take of Indian tea especially green tea could have been possible because of the crucial steps taken by the Tea Board and the Indian tea industries, while the quantities have remained largely at the same level. A changed advertisement programme has not been able to put the Indian brands right before the world. The thrust of Indian advertisement has been only on the generic promotion of tea as a beverage but lately the Tea Board has taken up a programme of publishing the Indian tea brands. For this, a new scheme of joint publicity of Indian brands by the Tea Board and the manufacturers concerned has been introduced. Under the scheme, the Board and the manufacturer/exporter will share the publicity costs.

Advertisement on a large scale will boost the popularity of the Indian brand of tea, specially green tea, though for an effective sales promotion work the authorised overseas agents need to be streamlined.
The Marketing of Dooars Tea

The marketing of tea through auction has stood the test of time and is now considered as the best method for the disposal of tea. The first tea auction in India was held in Calcutta in 1867. The second auction centre in India was set up in Cochin, followed by Coonoor in 1963, Amritsar in 1964, Gauhati in 1970 and Siliguri in 1976.

Calcutta and Cochin auction centres mainly conduct the sale of tea suitable for export markets while other centres largely cater to the needs of those who buy for the consumption of domestic market. Amritsar primarily serves to the Green tea producers from North East India and Himachal Pradesh. The share of Jalpaiguri district in the sale of Green tea at Amritsar is quite substantial. Tea Auctions in India are conducted weekly, mostly throughout the year. North India does not produce tea during three winter months but the sales continue throughout the year because of the weight of the crop. Teas produced during monsoons cannot be sold immediately. Auctions in Calcutta are held under the auspices of Tea Traders Association at Calcutta, Auctions on Gauhati are held under a Committee, representing sellers, buyers, brokers and Assam Govt. Siliguri tea auctions are conducted by the Siliguri Tea Auction Committee.

The major portion of tea is sold through public auction system but a substantial portion of production 33% is sold by producers directly of which 28% is sold in domestic market and
the balance quantity abroad. Direct sales of tea in domestic markets by the producers are known as ex-factory sales. They include all sales outside the auctions and also cover sales from the garden itself or from a warehouse at Calcutta.

Since the imposition of tea marketing Control order in 1983 by the Central Government all the producers are under the obligation of disposing of 75% of their produce through recognised auction centres and the balance they may choose to sale privately.

**Auction Centres**

After the inception of Siliguri Auction Centre, it has been growing steadily, conducting the sale of more and more teas from Jalpaiguri and Assam. Analysis of the sale of teas of Dooars in Calcutta, Gauhati and Siliguri auction centres indicate its growing importance as a recognised auction centre in North Bengal. Siliguri, Auction Centre handled 50% of the total production of Jalpaiguri (Dooars) in 1983. This percentage rose to 52% in the year 1984 and this has further risen to 60% in the year of 1985. Apart from this Dooars tea was also sold through Calcutta and Gauhati auction centres. During 1983 24% of the total production of Jalpaiguri had been sold from Calcutta auction, followed by 26% and 25% in the year 1984 and 1985 respectively. But it is found the Dooars tea sold through Gauhati auction centre after 1981 was negligible. The Table below indicates the total production of Dooars in 1983, 1984 and 1985 along
with the total quantity of the sales of these teas in Calcutta, Gauhati and Siliguri Auction centres with their respective percentages and the average price realisation. In dealing with the marketing of Dooars teas in different auction centres in North India it should be mentioned that quality Dooars produce was also sold in London Auction. The quantity of such sale was 2428 tonnes in 1975 but since then upto 1985 the quantity of this sale declined progressively to a level of negligence. The reason for such a decline was due to the fact that Dooars produces mainly common varieties of tea for the internal consumption. And that is why the sale of Dooars tea in London Auction is not included in the table.
### TABLE 1: Production, Disposal and Price of Jalpaiguri (Doorsa) tea in Auctions

<table>
<thead>
<tr>
<th>ORIGIN OF PRODUCTION AND AUCTION CENTRES</th>
<th>1983 Quantity</th>
<th>1983 % to Total production price</th>
<th>1984 Quantity</th>
<th>1984 % to Total production price</th>
<th>1985 Quantity</th>
<th>1985 % to Total production price</th>
<th>(Aug. Pr. - Rs./Kg.) (Quantity - Tn.Kgs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOLD IN CALCUTTA AUCTION</td>
<td>25,580</td>
<td>23.64</td>
<td>24.05 615199</td>
<td>30,241</td>
<td>26.24</td>
<td>27.35 827091.35</td>
<td>31,097 25.50 21.66 673561.0</td>
</tr>
<tr>
<td>GAUHATI</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5 Negligible</td>
<td>30.06</td>
<td>150.30</td>
<td>-</td>
</tr>
<tr>
<td>SILIGURI</td>
<td>53,666</td>
<td>49.59</td>
<td>22.00 1180652</td>
<td>59,859</td>
<td>51.94</td>
<td>25.96 1553939.60</td>
<td>72069 59.09 20.10 1448586.9</td>
</tr>
<tr>
<td></td>
<td>79,246</td>
<td>73.23</td>
<td>22.66 1795851</td>
<td>90,105</td>
<td>78.19</td>
<td>26.43 2381181.20</td>
<td>103166 84.59 20.57 2122147.9</td>
</tr>
</tbody>
</table>

Source: Compiled from the Tea Statistics published by Tea Board, Calcutta.
The above table shows that the price realisation of Jalpaiguri teas sold at Siliguri and Calcutta auction centres was to the extent of 179.57 crores in 1983, followed by 238.15 crores and 211.49 crores in 1984 and 1985 respectively (Fig. 27).

Further to this graphic representation, the total quantities of Dooars teas sold in different auction centres along with the price realisation are given below:

Table No. 37 Year Sales and Prices of Jalpaiguri (Dooars) Tea in Different Auction Centres.

**CALCUTTA AUCTION**

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity in Th. kg.</th>
<th>Rate</th>
<th>Total Value (in Th. kg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>38,662</td>
<td>9.57</td>
<td>369,995.34</td>
</tr>
<tr>
<td>1976</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1977</td>
<td>34,798</td>
<td>14.78</td>
<td>514,314.44</td>
</tr>
<tr>
<td>1978</td>
<td>25,549</td>
<td>12.26</td>
<td>313,230.74</td>
</tr>
<tr>
<td>1979</td>
<td>22,560</td>
<td>11.40</td>
<td>257,184.00</td>
</tr>
<tr>
<td>1980</td>
<td>21,222</td>
<td>12.24</td>
<td>259,757.28</td>
</tr>
<tr>
<td>1981</td>
<td>35,678</td>
<td>13.13</td>
<td>468,452.14</td>
</tr>
<tr>
<td>1982</td>
<td>32,259</td>
<td>15.04</td>
<td>485,175.36</td>
</tr>
<tr>
<td>1983</td>
<td>25,580</td>
<td>24.05</td>
<td>615,199.00</td>
</tr>
<tr>
<td>1984</td>
<td>30,241</td>
<td>27.35</td>
<td>827,091.35</td>
</tr>
<tr>
<td>1985</td>
<td>31,097</td>
<td>21.66</td>
<td>673,561.02</td>
</tr>
</tbody>
</table>

**GAUHATI AUCTION**

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total Value (in Th. kg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>2176</td>
<td>9.07</td>
<td>197,363.32</td>
</tr>
<tr>
<td>1976</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1977</td>
<td>1492</td>
<td>13.20</td>
<td>196,994.40</td>
</tr>
<tr>
<td>1978</td>
<td>14430</td>
<td>12.02</td>
<td>173,448.60</td>
</tr>
<tr>
<td>1979</td>
<td>12181</td>
<td>12.55</td>
<td>152,871.55</td>
</tr>
<tr>
<td>1980</td>
<td>5393</td>
<td>12.53</td>
<td>68,113.59</td>
</tr>
<tr>
<td>1981</td>
<td>1223</td>
<td>11.77</td>
<td>143,947.71</td>
</tr>
<tr>
<td>1982</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1983</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1984</td>
<td>5</td>
<td>33.06</td>
<td>165.3</td>
</tr>
<tr>
<td>1985</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Yearly Sales of Dooars Tea
CALCUTTA AUCTION

Legend:

Value

Rate

Quantity

Value in Million Rs.

Rate

Quantity

Rs./Kg

20-40

15-30

10-20

5-10

Quantity in 000 Kg

120

110

100

90

80

70

60

50

40

30

20

10

0

SILIGURI AUCTION

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (in Th. kgs)</th>
<th>Rate</th>
<th>Total value (in Th. Kg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1976</td>
<td>113900</td>
<td>10.91</td>
<td>152954.12</td>
</tr>
<tr>
<td>1977</td>
<td>11987</td>
<td>12.76</td>
<td>124340.30</td>
</tr>
<tr>
<td>1978</td>
<td>9310</td>
<td>11.10</td>
<td>103341.00</td>
</tr>
<tr>
<td>1979</td>
<td>6304</td>
<td>10.58</td>
<td>66696.32</td>
</tr>
<tr>
<td>1980</td>
<td>12967</td>
<td>10.90</td>
<td>141340.30</td>
</tr>
<tr>
<td>1981</td>
<td>45315</td>
<td>12.89</td>
<td>584110.35</td>
</tr>
<tr>
<td>1982</td>
<td>66697</td>
<td>14.58</td>
<td>972442.26</td>
</tr>
<tr>
<td>1983</td>
<td>53666</td>
<td>22.00</td>
<td>1180652.00</td>
</tr>
<tr>
<td>1984</td>
<td>59859</td>
<td>25.96</td>
<td>1553939.60</td>
</tr>
<tr>
<td>1985</td>
<td>72069</td>
<td>20.10</td>
<td>1448586.90</td>
</tr>
</tbody>
</table>

Source: Compiled from TEA STATISTICS

The statistics above indicate the fluctuation of quantity and the price behaviour in the different auctions over a period of eleven years commencing from 1975 to 1985, (Fig. 28).

LABOUR IN TEA INDUSTRY

Tea is an organised, Agro-based labour intensive industry which plays a vital role in the economy of Jalpaiguri district. Tea is a combination of agriculture and industry. It is 60% agriculture and 40% industry. There are 154 registered Tea Estates, out of which 147 are in operation and the balance numbers are either closed or abandoned. The district represents 67% of the total tea area of West Bengal. It produces more than 121 million kgs. of teas and employs 1.61 lakhs of people of which 49% is
Siliguri Auction

![Graph of Siliguri Auction with data points for quantities and value over the years 1975 to 1985.]
male, 43% female, 4% adolescent and 4% children. About 96% of this working force lives within the tea estates and the rest lives outside. The workers living outside the tea estates are non-resident permanent and temporary workers. Of 5332 workers living outside the tea estate 79% is employed as temporary workers. This labour force is engaged both in the field and factory. About 90% of the total labour force in Dooars is engaged in field and the rest in the manufacturing process of tea. It is observed that the female workers are engaged in the operation of plucking leaves and also other field works. It is interesting to mention that the land labour ratio in the tea industry in Jalpaiguri is higher than that of the State average. It is 2.36 labour per hectare in Jalpaiguri compared to 2.30 labour per hectare in West Bengal as a whole. The yield rate is also higher by 10% in the tea industry of Jalpaiguri compared to all India average.

Labour Productivity

The study of productivity of labour has a direct bearing upon the total tea production in the district. The productivity of labour in the tea industry in Jalpaiguri district is worthy of mention in as much as it is higher than that of all West Bengal average. In the year 1984 the productivity per labour in Jalpaiguri tea industry was 745 kgs. when all West Bengal figure stood at 660 kgs. only. The productivity per labour is still more in this district compared to All India average which
stands at 726 kgs. Further analysis reveals that the labour productivity in Jalpaiguri and was only second to Dibrugarh District in Assam Valley which was 818 kgs. in 1984. From 1979 to 1984 the labour productivity in Jalpaiguri Tea Industry registered a rise of 15.33% whereas during the same period labour productivity in Dibrugarh District in Assam Valley had risen to 13.45%. A small table is given below to indicate the statement above in figures:

Table No. 38 Production per labour (in Kg.)

<table>
<thead>
<tr>
<th></th>
<th>1979</th>
<th>1984</th>
<th>% increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jalpaiguri (W.B.)</td>
<td>673</td>
<td>745</td>
<td>15.33</td>
</tr>
<tr>
<td>Dibrugarh (Assam)</td>
<td>721</td>
<td>818</td>
<td>13.45</td>
</tr>
</tbody>
</table>

Since the pattern of plantation is fast changing and the improved method of cultivation adopted, the scope of increasing the labour productivity further in the tea industry of Jalpaiguri district is quite fair. This can be ensured by proper motivation and with the active co-operation of the operating trade unions in the tea gardens.

Wages

It is generally complained in common parlance that the wages for the tea plantation workers are lower than the
wages in other industries. This observation is fraught with one mis-conception in as much as the observers do not take into account the cash value of the host of fringe benefits which the tea garden workers enjoy since the recommendation of the Central Wage Board on Tea Plantation industry in 1966. The cash wages of tea plantation workers have increased manifold times and in terms of percentages it has increased by 400%. Together with this cash increase of the wages over the years at by-partite or tripartite levels is added the cash value of a host of fringe benefits which cushions the tea garden workers to a large extent from the onslaught of the rising cost of living. Moderate reckoning indicates that the tea garden workers are protected to the extent of 50% against the rising cost of living. Therefore if 50% cost of living index is neutralised it will mean 100% neutralisation in case of tea garden workers. The scale of pay and allowances for the daily rated workers for the gardens measuring 500 acres and above are given below in a table for Dooars tea gardens.

Table No. 39 Scale of pay and Allowances  
(For gardens 500 acres and above)

<table>
<thead>
<tr>
<th>Daily-Rated Garden Workers</th>
<th>Adult</th>
<th>Adolescent</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7.83 to 30.6.84</td>
<td>9.75</td>
<td>9.58</td>
<td>4.97</td>
</tr>
<tr>
<td>1.7.84 to 30.6.85</td>
<td>10.50</td>
<td>10.33</td>
<td>5.35</td>
</tr>
<tr>
<td>1.7.85 to 30.6.86</td>
<td>11.25</td>
<td>11.08</td>
<td>5.73</td>
</tr>
</tbody>
</table>
### Factory workers

<table>
<thead>
<tr>
<th></th>
<th>Adult</th>
<th>Pay of post</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7.83 to 30.6.84</td>
<td>9.75</td>
<td>0.50/0.60</td>
<td>10.25/10.35</td>
</tr>
<tr>
<td>1.7.84 to 30.6.85</td>
<td>10.50</td>
<td>0.50/0.60</td>
<td>11.00/11.10</td>
</tr>
<tr>
<td>1.7.85 to 30.6.86</td>
<td>11.25</td>
<td>0.50/0.60</td>
<td>11.75/11.85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Child (between 14 to 15 years)</th>
<th>Pay of post</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.97</td>
<td>0.50/0.60</td>
<td>5.47/5.57</td>
</tr>
<tr>
<td></td>
<td>5.35</td>
<td>0.50/0.60</td>
<td>5.85/5.95</td>
</tr>
<tr>
<td></td>
<td>5.73</td>
<td>0.50/0.60</td>
<td>6.23/6.33</td>
</tr>
</tbody>
</table>

Source: Memorandum of Settlement W.B.

**N.B.** The gardens having less than 500 acres-wage for different categories of workers as indicated above would be 3 paisa less basic pay. There are about 13 gardens falling under this category in Dooars.

The tea garden workers of Jalpaiguri district are entitled to the ruling wages as discussed above for the base output of plucking leaves, which of course, varies from garden to garden. Besides ruling wage there is also an incentive plucking scheme for the workers. The workers receive 16 paisa per kg. of leaf over and above the base output fixed in a particular garden. This incentive supplements to a large extent the earnings of the workers. In this context it is to be mentioned that the three years tenure of wage agreement for the whole of West Bengal including Jalpaiguri had expired in the month of June 1986, and the new wage negotiation is under process.
Working and Living condition

To trace the development of the working conditions of labour in the Tea Estates of Dooars, it is to be mentioned that the first major work was conducted by the Royal Commission on labour into the living conditions of the plantation workers. The commission published its report in the year 1931. The study revealed that before the introduction of minimum wages in other industries, the tea plantations regulated the rates of wages from time to time. The commission made a detailed study about the health and welfare of the plantation workers. It was found by the Commission that progressive planters voluntarily provided to the workers and to their families a lot of welfare facilities which were not available to the working classes elsewhere. It was also found that most of the tea planters in Jalpaiguri district made provision for medical facilities and used to give maternity benefits to the women workers. An indirect outcome of the Royal Commission's Report was the setting up of labour investigation committee by the Government of India. The Committee made a detailed study of the working and living conditions of plantation workers in India and made a number of valuable suggestions for the legislative measures. The Committee's report was published in 1946. The Committee found that the standard of living of workers in plantation was low and the cash wages received by the workers were not keeping pace with the increasing cost of living. The commission recommended improvement.
in regard to housing, sanitation medical attention and educational facilities. It was also found by the Committee that the workers in plantation were not well organised and recommended the introduction of collective bargaining. On the basis of findings and recommendations of the labour investigation committee the plantation labour Act of 1951 was enacted which brought the largest degree of benefit to the plantation workers. The parliament enacted the Plantation Labour Act in October, 1951, which was made effective on 1st April, 1954. The Act regulated the hours of work, weekly day of rest, employment of women and children, annual and sickness leave, overtime work and so on. The Act also made obligatory for the employer to provide housing accommodation, medical attention, creche, canteen, protective clothing and education of children free of cost. Tea plantation workers also enjoy the benefits of almost all the labour laws which cover the industrial workers in the country.

Most of the tea plantation workers coming from the socially backward communities enjoy a superior standard of living than their counterparts living in and around the neighbouring areas. The welfare facilities provided under the plantation labour Act coupled with liberal fringe benefits raise the quality of the living standards of the plantation workers which is much better than the agricultural workers as well as urban industrial workers. The plantation workers
A Creche in a tea Estate

Tea Estate Hospital (Female Ward)
and their dependants throughout North-East India receive food grains at a highly subsidised rates. In all other tea growing areas the workers have the facility of buying their foodgrains from ration shops. Family Planning services are also provided by Tea Plantations free of charge to all workers and their dependants. In addition, they are given generous cash incentives and paid leave for hospitalisation for undergoing sterilisation. Most of the tea workers live in pucca quarters built according to approved standards under the subsidised housing schemes. The subsidised housing scheme was introduced by the Government of India. The ceiling cost of construction was fixed in 1974 at Rs.5,000/- for a single house, of which 50% was loan and 37½% subsidy and 12½% was spent from the company's own resources. Since then the cost of construction has escalated enormously, yet the revision of ceiling cost at realistic level has not been effected though several representations have been made by the industry to the Central Government which has the support of the tea producing State Governments. Unfortunately instead of enhancing the ceiling cost of construction at realistic level, the Government of India withdraw the subsidised housing scheme from 1986 which had put the planters in general and Jalpaiguri Planters in particular into utter inconvenience to comply with the statutory obligation of constructing labour houses @ 8% of the total resident workers. The tea industry in Jalpaiguri district has constructed so far 72% of the Labour Houses.
Because of the financial constraints, it could not complete 100% construction of labour houses. In this context the revival of the subsidised housing scheme deserves consideration for the benefit of the workers.

Apart from what is stated above the tea garden workers in Jalpaiguri district reap the benefit free fire wood for the purpose of cooking and the free recreational facilities for developing their personalities.

**Industrial Relation**

In Jalpaiguri, Tea Industry has a clean record in so far as the implementation of labour laws is concerned. The industrial relation in Jalpaiguri Tea Plantation was seldom strained because of the non-implementation of the Statutory obligations.

Mention must be made that one in 1969 the industrial relation was strained and the plantation workers struck work for 17 days. But the strike was called off after the successful negotiation with the assistance of the Government and a Settlement was arrived at on various issues which were the causes of labour unrest. The settlement provided a host of other benefits for improving the industrial relation. It made a provision of additional employment, extension of the supply of concessional ration to the temporary resident workers or cash compensation in lieu thereof. The settlement
was indeed a landmark in the field of industrial relation in
Tea garden in Jalpaiguri. Since then the demands and grievances
of the workers were negotiated either at by-partite or tri-
partite level with a view to maintaining harmonious industrial
relation.

Today the tea plantation workers in Jalpaiguri district
are well organised and they are represented by Co-ordination
Committee of Tea Plantation workers and the Defence Committee
of Plantation worker's rights.

The present cash wages together with the fringe benefits
have raised the standard of living of the tea plantation worker
compared to the other industrial workers. Generally speaking,
the industrial relation in the tea industry of Jalpaiguri dis-
trict is quite good if not excellent. The cooperation and
contribution of coordination committee of plantation workers
in maintaining harmonious industrial relation in the Tea Industry
in Jalpaiguri district deserve mention.
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  a) 1980-81
  b) 1981-82
  c) 1982-83
  d) 1983-84
  e) 1984-85

  a) 1980 b) 1981 c) 1982 d) 1983