



THE ECONOMIC CONTRIBUTION OF TEA INDUSTRY BY ASSAM STATE OF INDIA

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ABSTRACT: The tea industry in Assam is about 172 years old. It occupies an important place and plays a very useful part in the national economy. Robert Bruce in 1823 discovered tea plants growing wild in upper Brahmaputra Valley. A tea garden was started by the Government in 1833 in erstwhile Lakhimpur district. With the arrival in London of the fine quality tea from this garden in 1838, the commercial circle of the city took a keen interest in tea plantations in Assam and a company known as the Assam Company was formed in 1839 to take over the experimental holdings of the East India Company's Administration over the tea gardens established in Assam till then. This was the first company in India to undertake the commercial production of tea and was, in fact, the direct successor of the East India Company.

A site was cleared from the jungle at Nazira which became and remained as the headquarters of this company until it was shifted to Calcutta in 1865. The official incorporation of this Company was effected in 1845. This company, however, did not attain much prosperity during the first ten years of its existence. By about 1852, under the management of George Williamson, one of the great pioneers in tea garden management, its condition began to improve and its success made the prospect of the industry so promising and attractive that speculators eagerly rushed to it.

In 1859, the second important tea company, the Jorhat Tea Company was formed. To encourage tea plantation in the province, the Government also made liberal provisions for the settlement of the waste land for tea cultivation.

KEYWORDS-Tea, Industry, Assam, Government, Economy, Cultivation, East, India, Company, Settlement

I. INTRODUCTION

In the early sixties, many provisions of the former waste Land Settlement Rules were waived. Between 1860 and 1865, the industry was the object of wild speculation. Then came the collapse in 1866, when all tea properties depreciated and all the bubble concerns burst. So severe was the situation that a Government Commission of Enquiry had to be appointed. It reported that the industry was basically sound, and by 1870-71 public confidence was restored and development continued on sounder basis. In 1879, further slump occurred following the boom in prices due to a false rumour of shortage of exports from China. Though condition improved after three years, another slump occurred for a period between 1893 and 1906 because of over-production. The industry did not recapture its expansion mood again in the present century. On the other hand, great improvements have been made in the yield per acre under tea, in the grouping of gardens under a limited number of companies, in the progressive mechanisation and rationalisation of production and in increasing their efficiency in regard to the productivity of labour. In 1911, the Toklai Research Station was established near Jorhat with a view to carrying on research on cultivation and manufacture of tea. This Research Station has been very useful in disseminating knowledge for the increase of yield for the industry. The tea industry faced another crisis during the First World War due mainly to prices. At the suggestion of the Indian Tea Association, the tea gardens in Assam stopped plucking on 15 November, 1923 to decrease the output in order to improve the price structure. Up to 1927 an era of prosperity followed, during which modernisation of factories and production techniques made rapid strides. The industry again faced an acute crisis during the early thirties. This crisis was successfully averted by enacting the Indian Tea Control Act, 1933, and instituting an International Tea Committee and Indian Tea Licensing Committee.[1] During the World War II, the industry again passed through a boom period and after 1951 it reached an unprecedented prosperity. Then followed a severe crisis in 1952 when prices of tea crashed to an extent often below the cost of production. Among the manifold causes suggested as being responsible for the recession in tea. The most potent ones seemed to be over production in competing countries, a glut in medium and indifferent grades of tea which could not attract a ready market owing to the cessation of the bulk purchase system in the United Kingdom, and the impact of the general downward trend in the commodity prices during the post-Korean slump of late 1951 and early 1952. Conditions improved considerably in the following year and since then the tea industry has been enjoying a satisfactory position, although it faced some difficulty due to severe drought in 1960. The Opening of Tea Auction Centre at Guwahati on 25th Sept. 1970, augurs a new era for the tea industry of Assam.



Marketing of tea has always been a problem for the products of this region. Previously the Tea Auction Centre at Calcutta was the only centre of sale for Assam Tea. The imposition of West Bengal Entry Tax on Assam Tea, transport bottlenecks and many more difficulties involved in arranging the sale at Calcutta Auction centre, necessitated the opening of the Tea Auction Centre in Assam which produces the bulk of it. Both in acreage and output the tea industry in Assam expanded very rapidly upto the 1920's. But the increase of acreage slowed down considerably thereafter, though output continued to increase rapidly owing to a high yield per acre. The Toklai Experimental Station has been helping the tea estates to increase their yields by improved techniques and cultivation and by control of diseases and pests affecting the plants. The coarser plucking, since the Second World war, has also contributed greatly to the higher yield per acre. Only about one quarter of the total area of the tea estates is actually planted with tea. Even admitting that some portion of the garden land had been utilised or reserved for other purposes, eg., for factories, quarters for employees, future expansion, forests.etc., and that some portion is unsuitable for plantation or other cultivation, large tracts or waste land are still available in the tea estates. Some portion of this waste land might be devoted to cultivation of other crops like paddy, wheat, cotton, hemp and medicinal herbs. From the very beginning of tea plantation in Assam, the planters have faced great difficulties in securing the necessary labour force. The experiment with immigrant Chinese labour in the early days proved a complete failure due to the high cost of requirement and maintenance and to the difficulties in their management. Local labourers were not available in sufficient number. There was also the risk of their desertion. It thus became necessary to bring labourers from other parts of India in large number to cope up with the expansion of the tea plantations in Assam. As a result of continuous inflow of immigrant labourers, there are now large number of tea garden labourers in the tea producing regions of the State. Now, the Assam Tea has its international reputation and commands significant share in the world Tea Market. The total area under tea cultivation in Assam is accounting for more than half of the country's total area under tea. Assam alone produces more than half of India's tea production. The estimated annual average production of tea in Assam is about 630- 700 million kg.[2,3]

II.DISCUSSION

According to a recently conducted door to door survey by the Industries & Commerce Department, some of the facts given below:

(1) No and growth:

- Total numbers of small growers in 14 surveyed districts of Brahmaputra Valley is 68,465.
- Maximum growth occurs from 1996 to 2005.
- Growth in five upper Assam district is 64,519 (94%).
- Apart from upper Assam, the districts of Udalguri, Sonitpur and Nagaon have seen remarkable growth.

(2) Distribution of Small Growers:

- Dibrugarh and Tinsukia districts of upper Assam have remarkable numbers of small growers and their number is 37,755 (55%).
- Udalguri, Sonitpur, Nagaon and Karbi Anglong districts have in rising trend.
- The rest of the districts other than upper Assam districts seem to be steady.

(3) Land under Tea Cultivation by Small Tea Growers

- Total area of land under tea cultivation of small growers is 117 thousand acres.
- There is a shift from paddy to tea in high lands.
- Small growers used patta land as well as other Government land for tea cultivation.

(4) Patta land owned by Small Tea growers used in Tea Cultivation:

- 41% of small growers cultivate tea on patta land (28723 nos)
- Baring Karbi-Anglong, Sivasagar and Sonitpur, the tea cultivation in patta land is below 40%

(5) Age profile of Tea bushes in small garden:

- 67% of tea bushes are below 10 years of age.
- Only 8% is above 15 years of age.
- Big gardens have purchased major portion of their production due to young character of plant.[5,7]



- (6) Size of holding among small tea growers:
- 59717 small gardens have holding size of less than 3 acres.
 - only 380 small gardens have holding size of 15 acres.
- (7) Production of Green Leaf
- 400 million Kg of green leaf was produced by the Small growers.
- (8) Linkages with Buyers of Green Leaf:
- Only 4920 growers have direct link with the factories.
 - 93% of the growers sales Green leaf through Agents.
- (9) Average price of green leaf seen in the survey:
- Average price fetch per kg of green leaf does not exceed Rs.13.
 - Price sharing formula as per TMCO guidelines is never followed.
 - Price is fixed at the mercy of big factories.

Small Tea Growers – The Emerging Sector

Tea cultivations were once the domain of aristocrats with hardnosed British sahibs on horseback supervising them. But tea plantation in Assam has come a full circle as hundreds of small farmers have taken to growing the crop. The profession has now shifted from the rich to the common man, especially unemployed youths who have taken up tea cultivation as a business venture. Some even cultivate it in their backyards too. The small tea growers sell the leaves to the nearby big plantations and Bought Leaf Factories where it is processed. Across this tea-growing belt in eastern Assam, people in large numbers have started growing the crop in 3 to 5 acres of land. They have been provided with technical support and advice by experts at the Assam Agriculture University in Jorhat and also help from the Tocklai Tea Research Station for better yield and quality. The overheads and consequently the production cost of green tea leaves for small growers is much lower than those of the big gardens. Spurred by the mushrooming growth of small tea growers, the Ministry of Commerce, Government of India recently took a team of young tea farmers from Assam to Kenya and Sri Lanka to help them get firsthand knowledge about the success of small tea cultivation in these two countries.[8,9]

The Surge of the small tea growers
A sizable number of small farmers especially in upper Assam have taken up tea cultivation during last 15 years. Their relative contribution vis-à-vis the big gardens is more than 20% and the big gardens purchase a major part of their green leaf production. Using clone varieties of tea seedlings on small holdings, these small and marginal farmers are dependent on their crop as the main source of income

III.RESULTS

The tea industry is an important source of employment and income generation in the state of Assam. Though the state is rich in mineral and non-mineral resources, tea cultivation has been an important economic activity for the Assamese people for nearly two hundred years. This paper examines the contribution of tea industry to employment generation in Assam while highlighting the avenues of self-employment in the sector with advent of small tea growers in the state.

Assam is one of the larger states in North East India and is the gateway to the whole of Northeastern region of India. Assam is blessed with many mineral and natural resources which have provided a foundation for setting up of industries in the state but the fact remains that agriculture continues to be the mainstay of the Assamese people. A majority of the population is engaged in production of food and non-food crops ranging from the staple rice/ paddy, wheat, pulses and minor millets, fruits and vegetables to jute, bamboo and tea. Tea is, in fact, an important crop of the region and is a regional specialty of the state. The scientific name of the tea plant is *Camellia sinensis* and the Assam variety is known as *Assamica*. Apart from large tea gardens owned by reputed Indian or multinational companies, many unemployed youths have also undertaken tea growing as business venture.

This paper attempts to trace the ability of tea industry in generating viable employment opportunities in the state of Assam. The article is based on secondary sources of data such as published research works from reputed journals, Economic survey of Assam and Tea Board statistics.

Tea cultivation in Assam



Tea is grown in both the Brahmaputra basin and the Barak plains of the state and Assam produces more than 50% of tea in India. While tea is grown in more than 35 countries across the world, Assam alone accounts for almost 1/6 of the total world production. Tea produced in Assam is exported to many of the European and Middle-East countries as well as Pakistan, Egypt, Japan and Israel. The important districts involved in tea production are Tinsukia, Dibrugarh, Shibsagar, Jorhat, Golaghat, Nagaon and Somitpur.[10,11]

The agriculture sector provides employment to more than 50% of rural population in Assam and contributes nearly 25% to the state GDP. Since tea is an important agricultural produce of the state apart from rice, wheat, potato et cetera, many more people depend directly or indirectly on tea cultivation for their livelihood.

The history of cultivation of tea in the Assam Valley goes back to centuries. The indigenous inhabitants have been known to use wild tea as food and drink even before 1815. Robert Bruce is usually credited identification of the tea plant in 1823 and its eventual popularization as a viable economic activity. Soon many British settlers moved into the Assam region to set up tea plantations. By 1841, Indians led by Moniram Datta Barma also known as Moniram Dewan, entered the scene and set up in plantation in the region.¹ The 19th and early 20th Century witnessed phenomenal growth of tea plantations in the region. However, while great progress was made in this period, after the 1950s stagnation set in due to various political and economic happenings in the country and entry of new competitors in world market. This was inimical to development of tea industry in Assam which suffered low incomes and low returns.

Self-employment in tea cultivation

The British rule was generally biased against providing opportunities to Indian businessmen to reduce competition for British businessmen. Also, the British government formulated its policies in a way to discourage local entrepreneurial activity. The Assamese found it difficult to set up tea gardens which was also a very costly endeavor. However, entrepreneurs like Maniram Dewan, Roseshwar Barua, Hemdhar Barua Dinanath Bezbaruah were some Indian pioneers during colonial period. After independence many rich Indians and companies bought large tea gardens providing employment to many people. The government of India initiated number of schemes and missions to promote tea plantations from the 1970s and encouraged small tea growers with holding ranging from 0.13 to 3.0 hectares leading to massive increase in the number of tea gardens and overall production of tea. During the 1970s, the idea of small-scale tea cultivation was mooted to increase production. By 1985, many young educated people started growing tea on small scale as they were sitting unemployed. According to the All Assam Small Growers Association there are more than 1.4 lakh small tea growers cultivating around 80,948 ha of land contributing more than 40% of Assam's total tea production.²

Employment generation by the tea industry

The tea industry is a highly labour intensive one. Approximately 17% of workers in Assam are engaged in tea plantations³ providing average daily employment to more than six lakh persons in the state. This is nearly half the employment provided in the tea industry all over the country.

Assam's tea industry is a vital source of employment providing job opportunities to all sections of people including skilled and unskilled workers, industrial and non-industrial personnel. People from different communities and gender are able to find work in this industry. The Assamese tea industry provides direct employment to more than 50 thousand workers of which half are women workers. The tea industry of Assam alone accounts for 66.6% of total labour employed in North India and around 54% in All India.⁴ Since the picking and sorting of tea leaves are generally done by women workers, tea industry plays an important role in their economic emancipation. According to Economic Survey of Assam 2017, the tea industry provides average daily employment to 6.86 lakh persons with an average of 11.1 lakh labour employed per day.⁵

Historically the British plantation owners found that there was deficiency of local labour to work on their plantations, so they initially tried to bring trained workers from China. However, this was not very cost-effective so they resorted to bringing migrant labour from various parts of India, specially Bihar. These workers came to work on the plantations and eventually settled in and around the plantations. Even today, a large proportion of Bihari migrant workers work in the tea industry of Assam.[12]

The Small tea growers have emerged as strong providers of employment in the state. In 2017, about 3 lakh persons were engaged in tea cultivation. ⁶

Problems

The main concerns plaguing the tea industry stem from ignorant and nonchalant attitude of the people. Many owners are only interested in maximizing their incomes for sake of lavish lifestyle. So they have tended to overlook the needs of the land and the workers working on their plantations. As a result, the tea plants have deteriorated age and lack of pruning and rejuvenation. Remuneration paid to the workers continues to be a concern as they are paid very low wages. With

decreasing returns from plantations, owners resort to paying lesser and lesser. This has led to exodus of skilled labour. Employment of untrained workers affects production negatively.

The workers employed by the small tea growers are in a worse situation as they do not get any help from labour unions. Hence, they are not paid gratuity, pension, Provident fund etc. Most plantations fail to provide the various civic amenities such as medical facility, schools etc to their workers leading to weaker socioeconomic condition of the workers. This has led to rampant underdevelopment and discontent in the region.

Since majority of tea production in the state is carried out by the small tea growers nowadays, the workers are able to get gainful employment for only a limited time period. Rest of the time they are forced to work as agricultural labour in other fields or find employment elsewhere.

The issues of lack of market, connectivity, quality monitoring and standardization affect the tea industry just like any other industry.

Employment generation remains a major concern for India. Evidently, the state alone cannot provide adequate livelihood to all people. In such case it is imperative that educated and unemployed youth enter the self-employment sphere. As many people continue to have a base in rural areas and agriculture, it makes sense to enter this field armed with new knowledge. Assam is showing the way to the country as regards employment generation and entrepreneurial activity over the last few decades. The tea industry of Assam has been able to provide not only work but has also provided a decent standard of living to the people of Assam.

IMPLICATIONS

Assam tea is a black tea named after the region of its production, Assam, India. It is manufactured specifically from the plant *Camellia sinensis* var. *assamica* (Masters).^{[1][2]} The Assam tea plant is indigenous to Assam—initial efforts to plant the Chinese varieties in Assam soil did not succeed.^{[3][4]} Assam tea is now mostly grown at or near sea level and is known for its body, briskness, malty flavour, and strong, bright colour. Assam teas, or blends containing Assam tea, are often sold as "breakfast" teas. For instance, Irish breakfast tea, a maltier and stronger breakfast tea, consists of small-sized Assam tea leaves.^[5]

The state of Assam is the world's largest tea-growing region by production, lying on either side of the Brahmaputra River, and bordering Bhutan, Bangladesh, Myanmar and very close to China. This part of India experiences high rainfall; during the monsoon period, as much as 250 to 300 mm (10 to 12 in) of rain per day. The daytime temperature rises to about 36 °C (96.8 °F), creating greenhouse-like conditions of extreme humidity and heat. This tropical climate contributes to Assam tea's unique malty taste, a feature for which this tea is well known.

Most of the currently operating tea estates in Assam are members of the Assam Branch of the Indian Tea Association (ABITA), which is the oldest and most prominent body of tea producers of India.

Steps

There are between two and seven steps involved in the processing of fresh tea leaves, the addition or exclusion of any of these stages resulting in a different type of tea. Each of these procedures is carried out in a climate-controlled facility to avoid spoilage due to excess moisture and fluctuating temperatures.

Withering refers to the wilting of fresh green tea leaves. The purpose of withering is to reduce the moisture content in the leaves and to allow the flavor compounds to develop. While it can be done outdoors, controlled withering usually takes place indoors. Freshly plucked leaves are laid out in a series of troughs and subjected to hot air forced from underneath the troughs. During the course of withering, the moisture content in the leaf is reduced by about 30%, making the leaf look limp and soft enough for rolling. Additionally, the volatile compounds in the leaf, including the level of caffeine and the flavors, begin to intensify. A short wither allows the leaves to retain a greenish appearance and grassy flavors while a longer wither darkens the leaf and intensifies the aromatic compounds.^[8,9]

Fixing or "kill-green" refers to the process by which enzymatic browning of the wilted leaves is controlled through the application of heat. It is held that the longer it takes to fix the leaves, the more aromatic the tea will be. Fixing is carried out via steaming, pan firing, baking or with the use of heated tumblers. Application of steam heats the leaves more quickly than pan firing, as a result of which steamed teas taste 'green' and vegetal while the pan-fired ones taste toasty. This procedure is carried out for green teas, yellow teas and raw pu'er teas.

Oxidation results in the browning of the leaves and intensification of their flavor compounds. From the moment they are plucked, the cells within the tea leaves are exposed to oxygen and the volatile compounds within them begin to undergo



chemical reactions. It is at this stage that polyphenolic oxidase, including theaflavin and thearubigin, begin to develop within the leaves. Theaflavins lend briskness and brightness to the tea while thearubigins offer depth and fullness to the liquor that's produced. In order to bring out specific intensities in flavors, tea makers control the amount of oxidation the leaves undergo. Controlled-oxidation is typically carried out in a large room where the temperature is maintained at 25–30 °C and humidity stands steady at 60–70%. Here, withered and rolled leaves are spread out on long shelves and left to ferment for a fixed period of time, depending on the type of tea being made. To halt or slow down oxidation, fermented leaves are moved to a panning trough where they are heated and then dried. Due to oxidation, the leaves undergo a complete transformation and exhibit an aroma and taste profile that's completely different from the profile of the leaves that do not undergo this process. Less oxidized teas tend to retain most of their green color and vegetal characteristics due to lower production of polyphenols. A semi-oxidized leaf has a brown appearance and produces yellow-amber liquor. In a fully oxidized tea, amino acids and lipids break down completely, turning the leaves blackish-brown. The flavors in such a tea are more brisk and imposing.

Rolling involves shaping the processed leaves into a tight form. As a part of this procedure, wilted / fixed leaves are gently rolled, and depending on the style, they are shaped to look wiry, kneaded, or as tightly rolled pellets. During the rolling action, essential oils and sap tend to ooze out of the leaves, intensifying the taste further. The more tightly rolled the leaves, the longer they will retain their freshness.

Drying In order to keep the tea moisture-free, the leaves are dried at various stages of production. Drying enhances a tea's flavors and ensures its long shelf-life. Also, drying brings down the tea's moisture content to less than 1%. To dry the leaves they are fired or roasted at a low temperature for a controlled period of time, typically inside an industrial scale oven. If the leaves are dried too quickly, the tea can turn abrasive and taste harsh.[2,3,7]

Aging some teas are subjected to aging and fermentation to make them more palatable. Some types of Chinese Pu-erh, for example, are fermented and aged for years, much like wine.

Separate time zone

Tea gardens in Assam do not follow the Indian Standard Time (IST), which is the time observed throughout India and Sri Lanka. The local time in Assam's tea gardens, known as "Tea Garden Time" or Sah Bagan Time (also used by Myanmar as MMT), is an hour ahead of the IST.^[12] The system was introduced during British rule keeping in mind the early sunrise in this part of the country.

By and large, the system has subsequently been successful in increasing the productivity of tea garden workers as they save on daylight by finishing the work during daytime, and vice versa. Working time for tea laborers in the gardens is generally between 9 a.m. (IST 8 a.m.) to 5 p.m. (IST 4 p.m.) It may vary slightly from garden to garden.

Noted filmmaker Jahnua Barua has been campaigning for a separate time zone for the northeast region.^[12]

IV. CONCLUSIONS

Tea plants also undergo the ageing process. With time, they lose their productivity too. Keeping that in view, the aged tea bushes are replaced with new plants grown either from seeds or through cloning. Cyclic pruning of tea bushes (during November/December/January) is also required to have a higher output and to maintain a standard height of tea bushes. Quality control in the production of tea helps to get a better price for tea in the global market. During British time, quality control procedures were followed in letter and spirit. Now, with Indian ownership, quality control is no longer considered an important activity in the tea manufacturing process. Today, Indian owners focus more on quantity than on quality. As such, the profit earnings of tea companies have also started dwindling. However, there are still a few tea gardens in Assam that can produce world-class tea and fetch more than a lakh of rupees per kilo. But that number is minuscule. The demand for Assam tea in the international market has diminished over the years. This does not speak well of the future of our tea industry. Now the entire tea industry of Assam has gone into the hands of Indian companies or corporations. It is in the news that the health of the tea industry is not in good condition. Either it is mismanaged or camouflaged to derive extra benefit from the State government. It seemed like they have no resources of their own to even develop roads, schools and hospitals, inside tea gardens for the benefit of its workers and staff. Another pertinent point to note here is that they don't seem to have any commitment towards the concept of corporate social responsibility (CSR) by involving themselves in a self-regulating business that will help a company become socially accountable to itself, its stakeholders, and the public. 99.9% of tea companies in Assam did not engage themselves to invest in other businesses in Assam. From the above one thing is clear—the future of the tea industry is not bright in the hands of Indian companies. The main asset of tea gardens is its land and which belongs to the state of Assam and its people. As such, the State government is



more than an equal stakeholder in the tea industry than the owner of tea companies. Therefore, the State government must keep a close look at the functioning of the tea industries in Assam.[12]

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