CHAPTER - I

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1.1 Statement of the Problem

The plantation industry in India has a colonial origin. It is now a valuable asset to the nation. The plantations account for 0.8 per cent of the total cultivable land in the country. They also contribute about 5 per cent to the national agricultural income. Among the different plantation crops, tea is considered to be the most important crop in the country.

Tea can be placed both under agriculture and industry. It is industry in the sense that it is a processed and manufactured commodity, subjected to excise duty and cess. It is also an agricultural crop because it is grown on land and, thus, agricultural income tax is also levied on it. Moreover, tea plantation is governed by both agricultural and industrial rules and regulations.

Tea is the most important plantation industry in India producing more than 870 million kg. in 436 thousand hectares of land. Out of this, Assam alone contributes 461 million kg. from the tea gardens spread over 230.9 thousand hectares, while the Barak valley contributes only 56 million kg from 29.5 thousand hectares. Tea plantations form the major economic activity of Assam. Covering the largest area under estate farming, tea gardens produce huge quantity of tea by employing the largest number of labourers.
The tea plantation industry, a labour intensive activity was developed in Assam around 150 years ago. The vestiges of the feudal culture in tea plantation industry are still visible in the tea gardens of Barak valley, unparalleled in any other industrial sector. The labour community of the tea plantations is largely illiterate, superstitious and untouched by modern progress and development. The fact is that wages do not match the welfare of the labour. As such, the tea garden labourers are more dependent on their masters.

Tea plantation industry is one of the oldest industry of Barak valley. Its growth is still measured in quantitative terms and qualitative changes in cultivation, manufacturing and management are yet to be initiated.

The Barak valley is predominantly an agricultural region. Its climate and quality of soil are not much different from those of the Brahmaputra valley. The Barak valley is the second important crop region of Assam. In the later part of the 19th century, a large area of government waste land was reclaimed for cultivation in the valley. In the beginning of the 20th century, rice covered 66 per cent of the total cropped area, tea 19 per cent, oil seeds 5 per cent, sugarcane 2 per cent and other food grains including pulses covered one per cent. But in 1991-92, rice covered 79 per cent of the total cropped area, tea 13.5 per cent, pulses and cereals 0.9 per cent, oil seeds 1.4 per cent, fibrous crops-cotton and jute 0.1 per cent, sugarcane 0.8 per cent, potato 1.0 per cent and others 3.3 per cent.

During the last one hundred years, large tracts of waste land have been brought under tea cultivation. Today, tea is the only cash crop of Barak valley which plays a vital role in the economic development of the area. The valley has
attained fourth position as tea growing area and production whereas in the average yield per hectare, it stands ninth out of 10 tea growing regions in Assam.

In Barak valley, indigenous tea was discovered first in 1855. But speculations regarding the possibility of tea cultivation in this valley began soon after its annexation to the British territory in 1832. Tea was grown in the dense forests covering the lower hill ranges over looking the Barak valley. The tea tree was mainly used as timber for door posts because of its strength and durability. In the words of Captain Verner tea made from Cachar (Barak valley) tea leaf was brighter in colour than the Assam tea (Brahmaputra valley), particularly when milk was added to it, the Assam tea look muddler while the Cachar tea gets even more bright look.

By 1860, tea plantation had vastly increased which brought magical change in every sphere of life-economic, social, educational etc. of Barak valley, whose economy, to much extent, is the gift of the tea plantation industry.

In the beginning of tea plantations in the area, the planters did not think about getting labour from outside the region. They had full hope to get the required labour from among the local people and from the neighbouring Shylet district of Bangladesh. By 1858 planters began to feel difficulties as local labour was found unsuitable for plantation purpose. Hence, the need of bringing in labour from other areas arose.

The tea plantation industry was a highly labour intensive proposition at the initial period. Forests had to be cleared, roads and houses had to be built and planted area had to be kept free from quickly growing weeds. Therefore, the tea plantation required a large resident labour force consisting of men, women and children.
When the tea plantation began to grow in Barak valley there was a shortage of labour that created a serious problem to the planters. As local labour was not available, the bulk of labour force required for the plantation had to be brought from other places. The first batch of labourers were recruited from Chotanagpur division of Jharkhand. But many of them got infested with diseases like malaria, cholera, kala-azar, small-pox, dysentery and typhoid etc. As a result, the planters faced many difficulties in the beginning.

The main consideration behind the selection of the Barak valley for an in-depth study has been its favourable geographical conditions required for tea plantation. In natural conditions tea grows up to a height of 8-9m, but by pruning it is allowed to grow only upto 0.4 - 0.9m. As stagnation of water at the root of the tea plant is harmful, the well drained slopes are preferred for tea cultivation. Tea thrives well in the area characterised by heavy rainfall (500mm to 2500mm) and high temperature (13° to 30°C) during the growing period. High organic content in the soil with the pH value of 4.5 to 5.5 are well suited for the cultivation of tea. However, all these conditions characterise the Barak valley turning it into one of the most important areas for tea plantation. Tea occupies about 13.5 per cent of the total cropped area in the valley. During the first three decades after independence, the tea production in Barak valley was not very impressive. Due to the persistent rise in tea prices since the 1970s, there has been a constant growth in tea production in the recent years. During the period 1981-1998, tea production in Barak valley increased by almost 93.74 per cent, which was higher than the growth recorded during the same period by the tea industry either in the Brahmaputra valley or at the national level. Despite the relatively improved performances of the tea plantation industry in recent years, the average yield of
tea per hectare in Barak valley is still below the state's or country's average yield. The average yield of 1907.49 kgs of tea per hectare in Barak valley gardens in 1998 was only 95.6 per cent of the average yield of Assam and 95.5 per cent of the average yield at the All India Level. In fact, Barak valley tea industry represents a peculiar mix of good and poorly managed estates. The poorly managed tea estates of the area are mainly responsible for bringing down the overall yield rate.

Tea industry in Barak valley has enough scope for its areal expansion. A survey by the consultative committee of Plantation Association revealed that cultivable area to the extent of 13925 hectares lying within and outside the tea gardens in the valley are yet to be brought under tea cultivation. There is enough scope to enhance the productivity by creating effective relationship among the production factors and hence, an integrated approach is needed to examine the existing levels of productivity as well as measures to enhance it.

1.2 Aims and Objectives

The present study aims to interpret and analyse tea productivity and the trends of tea plantation industry of Barak valley. Its major concerns are as follows:

a) To analyse the progress and development of tea plantation industry in Barak valley

b) To interpret the functional effects of production factors including climate on the productivity of tea.

c) To evolve a strategy for an enhanced production of tea in the area by utilizing various factors of production within the specific set of geographical conditions, and
d) To examine the existing wage structure and wage incentive schemes for tea garden labourers of the Barak valley.

1.3 Methodology

Relevant informations for the present study are collected from both primary and secondary sources. The secondary sources constitute the published materials, such as books and journals, tea directory and tea statistics etc. brought out by the State Government and the Tea Board India. The geographical background of the study area is described with the help of maps, graphs and published informations. The informations relating to the climatic conditions - rainfall, temperature, humidity etc. included in this study are collected from the Meteorological office located at Silchar airport. Data for the sample tea estates are collected from their offices and other relevant informations about the tea gardens are collected through schedules and questionnaires.

Therefore, both primary and secondary data are used in the present study in the following pattern:

a) For the relevant parameters of physical environment the topographical maps on appropriate scale are used.

b) Ordinary least square method has been adopted to estimate the production and to highlight the future prospect of tea plantation industry in the Barak valley.

c) Quantitative techniques like simple linear regression analysis have been adopted to identify the relationship between selected physical and cultural factors and tea plantation industry in the valley.

d) A step wise multiple regression model has been used with the help of SPSS package. The mathematical form of the equation is
\[ Y = a + b_1 x_1 + b_2 x_2 \ldots \ldots \ldots b_n x_n \]

where \( Y \) = productivity (dependent variable)

\( x_n \) = input variables (independent variables)

\( a \) = constant

\( b_1, b_2 \ldots \ldots b_n \) are co-efficients.

The degree of effects of these variables are measured with the help of degree of determination (\( R^2 \)) which has provided the co-efficient of the contribution of spatial variance.

e) An analysis of the trends of tea plantation industry and the changing pattern of socio-economic status of tea gardens have been worked out with the help of available information.

Since cartography is the tool for geographical studies, the facts and findings are illustrated by maps and diagrams.

1.4 Research Design

The present study is organised into seven chapters. The first chapter briefly summarises the perspectives of the problem, the aims and objectives of the study, sources of data, frame work of the study and review of literature. The second chapter describes the study area in terms of its physiography, climate, soil, vegetation, population, transport and communication and industry. While the third chapter highlights the development of tea plantation industry in Barak valley and wage structure and incentive schemes alongwith the strategy adopted for development, the fourth chapter analyses the pattern of land and labour productivity. The fifth chapter describes farming and manufacturing of tea in Barak valley and selected gardens. The present condition of tea plantation industry in
the Barak valley has been portrayed with the help of case studies of sample gardens in the sixth chapter. The concluding chapter deals with the major findings and suggestions for development of tea culture in the region.

1.5 Review of Literature

The tea plantation industry forms an interesting field of study in Economic Geography. In recent years although intensive works have been done on tea plantation industries in different parts of the world, not much work have been done in India by geographers in this field. A brief review of the studies relevant to the problem is presented herewith.

C.R. Harler (1964) who devoted his carrier mostly in studying tea and its related aspects, stated in his book The Culture and Marketing of Tea as to how the tea cultivation and manufacturing process in Assam have frequently been modified and improved since its inception in 1839. Again in another book entitled Tea Growing (1966) he discussed in detail the cultural practices of tea plant and pointed out that the Brahmaputra valley is, perhaps, the best tea growing areas of the world as the geographical conditions such as topography, climate and soil of the area are highly suitable for tea cultivation.

M. Borthakur (1965) gave an account of the history of tea plantation in the Lakhimpur district of Assam. He discussed the methods of cultivation as well as the process of manufacturing of tea in the district.

D. Dutta (1965) explained the growth of the tea industry in Cachar district with main emphasis on the history of tea plantation in the district.

W.J. Grice (1971) made an experiment between the shade and the cultivation of tea and showed how per hectare yield under different degree of shade is effected by nitrogen, soil type and age of the tea. His studies, however, are unable to recognise the composite effects of several production factors, the relative contribution of each explanatory variable to the production and productivity of tea is not analysed.

R.C. Awasthi (1975) presented a detailed account of the history, growth and development of tea plantation and manufacturing of tea in Assam.

T. Eden (1976) and M.R. Chowdhury (1978) attempted to elucidate impact of geographical conditions on the experimental basis and confined their studies to the Terai region and some parts of Assam.

N.S. Venkatakrishnan (1981) studied the labour-management and productivity of tea in North-East India showing its importance in the cultivation of tea but had been unable to make any generalisation on regional basis.

N. Mitra (1987) described the variation in productivity of tea in different size class of the gardens. But he did not give any generalised idea regarding the degree of variations from large to small farms.

H. Roy (1988) described the situation in relation to consumption, production.
price and trade of tea in world perspective. His studies are highly descriptive in nature and fail to highlight how the current rate of productivity of tea is encouraged by the factors of production.

S.R. Misra (1991) analysed the relationship between the change in price and production of tea by taking some examples from Dooars and Darjeeling. But his study, a highly descriptive in nature, fails to highlight how the current rate of productivity of tea is encouraged by the factors of production.

G. Banerjee (1996) presented a detailed account of tea cultivation at national level, state level and micro level, but he did not consider any climatic element to test the productivity of tea.

A.K. Mishra (2001) analysed the relationship between quality and productivity of tea and water application i.e., rainfall and irrigation in North East India. But he did not use any model to see the relationship among the variables.

Most of these studies are fragmentary in nature and do not provide a reasonable base for understanding the productivity level of tea. Therefore, an integrated approach comprising physical and cultural factors is needed for tea plantation industry to explore and explain the levels of land and labour productivity of tea in Assam with special reference to the productivity of tea in the Barak valley.

1.6 Importance of the Present Study

The present study is a modest attempt towards a co-ordinated analysis of different geographical aspects of tea plantation in the Barak valley. It also examines the trends of the tea plantation and strategy for its future development in the area. The correlation of climatic elements with production of tea shows the critical periods of tea culture.
The knowledge of the climatic influence can also help a great deal in improving the efficiency of irrigation. The climatic conditions, the soil and topographical characteristics of the tea gardens in the Barak valley presented in the study, will be helpful to the policy makers and planners in formulating plans for the integrated development of tea plantations in the area.

As tea plantation is closely related to the geographical phenomena such as location, physiography, climate, soil, population, transport and communication, industry etc., a brief geographical account of Barak valley is presented in the next chapter.