

**SOCIO-PHYSICAL FACTORS IN THE DEVELOPMENT
OF TEA INDUSTRY IN ASSAM:
A CASE STUDY OF THREE TEA ESTATES**

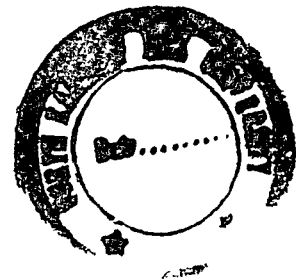
ABSTRACT

SUNIL PIO

DISSERTATION

**SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF PHILOSOPHY**

To



**DEPARTMENT OF GEOGRAPHY
SCHOOL OF ENVIRONMENTAL SCIENCES
NORTH-EASTERN HILL UNIVERSITY**

SHILLONG, MEGHALAYA

1990

10/25/94

DS
633.7230954162
P10

GENU Library
acc. no. 102584
acc. no. 49-1618724
Class no. [unclear]
Lab no. [unclear]
Entered by [unclear]
Prescribed by [unclear]

SOCIO - PHYSICAL FACTORS IN THE DEVELOPMENT OF TEA INDUSTRY IN ASSAM:
A CASE STUDY OF THREE TEA ESTATES

Statement of the Problem

The state of Assam extends roughly between latitude $24^{\circ}40''$ and 28° North and longitude $89^{\circ}40''$ and 96° East. Assam is composed of diversified physiographic units. The state is bordered by the Eastern Himalayas in the north, the eastern border is flanked by Purvachal or Assam-Durma Hills, the southern border is surrounded by the Hills of Mizoram, Tripura and Meghalaya Plateau, in the west lies the Bangladesh and West Bengal. Assam has population of 19,903000 according to the projected figure of 1981. The state has an area of 78520 sq.kms and for administrative purposes it has been divided into 20 districts.

Tea plantation and production ^{OF TEA} is a major industry in Assam. India which is the largest producer of tea in the world gets a major supply of tea from various tea gardens in Assam. Statistics reveal that there are 844 tea gardens in the State covering an area of 224,718 hectares according to the prevailing figures of 1986. In 1986 Assam had produced 335,492 Kgs of tea and rendered a total income of Rs 900 crores to the state. There are 496551 labourers engaged in tea plantation and production. This is composed of 418359 permanent labourers and 78192 temporary labourers.

This kind of large-scale agro-industrial activity could develop in Assam due to several socio-economic and physical factors. Some of the

important physical factors influencing the development of tea industry are relief features, climatic conditions, soil, drainage system etc. Along with these physical factors equally important are the social factors which have helped the tea industry to develop in the region.

Most of the workers engaged in the tea gardens have migrated from other parts of India. They were brought to this place by the British during the later part of the 19th century and even in the early part of the twentieth century. It is mainly due to the fact that when the British found that vast stretches of uncultivated land was available here and the prevailing climatic conditions are also very congenial to the growth of tea plantation, they tried to develop this industry in the region. However, there was a problem of unavailability of cheap labour in the region. As the local people were not inclined to work in the tea gardens due to some socio-economic reasons. They had to solve this problem by importing labour from various parts of India by using different methods.

This migration of labourers to Assam was remarkable as it was a very large-scale internal migration which was composed of many tribal groups from Central India. As these tribal people had migrated from their original subsistence economy to the colonial plantation economy they had to face innumerable problems like economic threats, or insecurity, territorial identity, cultural vacuum and political deprivation.

In this paper a comprehensive and systematic study of the social and physical factors contributing to the growth and development of tea industry in Assam has been done to see how they have given rise to a special kind of plantation economy.

Study Area

For the purpose of the present study the whole state of Assam has been taken into consideration. Most of the generalisations that follow the study are however based on the data collected from the three tea estates selected for micro-study. The relief, size and ownership are treated as some of the criteria for the selection of tea estates. Two of the three tea estates are Tamul Bari and Lirok in Dibrugarh districts of Upper Assam and Mornai Tea estate lies in Kokrajhar district of lower Assam.

Survey of Available Literature

Many books and articles have been published on different aspects of tea industry in Assam. Some of the more important works on tea industry in Assam which requires mention^{are} The Early History of the Tea Industry in North-Eastern India by H M Mann, Tea An Historical Sketch by Robert O Mannel. They deal with the early development of tea industry in Assam.

The migration of tea garden labourers is an important event in the history of tea industry in Assam. The Cooly by D Chaman, Tea Garden Coolies in Assam by Buckingham, Oppression of the Poor by C F Andrews and Planter Raj to Swaraj and Freedom Struggle and Electoral

Politics in Assam 1826-1947 by Amalendu Guha are pioneering works which have provided impartial interpretation of those days.

The History of the Indian Tea Industry by Sir P Griffiths is a multi-dimensional work on tea industries. Another work Economics of Tea Industry in India with Special Reference to Assam by R C Awasthi has discussed the various implications of tea industry. T R Harler in his book The Culture and Marketing of Tea has given an elaborate account of the influence of various physical factors in the production of tea.

Sources of Data

(i) Primary Source

To collect socio-economic data on random sample, household surveys was conducted in all three selected tea estates. 60 households from each tea garden were selected for the purpose. This random sample household survey was the main source of primary information.

(ii) Secondary Sources

(a) The main source of secondary data was census reports of India. It has provided data for both socio-economic as well as for physical aspects.

(b) To collect data for physical aspects, mainly soil and climate, occasional scientific reports published by the Toklai Tea Research Centre, Jorhat, has been consulted.

(c) For recent data regarding various aspects of tea industry "Tea Statistics" published by the Tea Board of India was consulted.

(d) To collect data for socio-physical aspects, apart from the above three main sources of data, various reports, official publications, theses and other records were consulted.

Objectives

The main objective of this study may be stated as follows:

- i. To develop an understanding of the physical conditions and set up of Assam and to study the impact of physical factors of the establishment and development of tea industry in the region.
- ii. To examine the social factors responsible for the development of tea industry in Assam with special reference to the role of immigrant tea garden labourers to the region.
- iii. To analyse the regional variations in the socio-economic conditions of tea garden labourers of Assam to suggest measures for improving their living conditions.

Research Questions

In order to analyse the objectives of the study, the following research questions have been formulated:

- a) How far the physical setting of the region has influenced the establishment of tea industry in Assam.
- b) What have been the impact of processes of socio-cultural evolution

of Assam on the growth and development of tea industry in the region.

c) How does the differences in size, location, ownership and social composition of the selected tea estates has influenced the condition of life of the tea garden labourers.

Methodology

To analyse various socio-physical factors in the development of tea industry in Assam, the study has been based on case study of three tea gardens. The section of these tea gardens has been done on the basis of three criteria: (a) size of the tea garden, (b) physiography, (c) ownership of the garden.

Two sets of questionnaire had been prepared for the purpose. One for individual households and the other for each gardens.

To collect information on social aspects sample random household surveys was conducted in each of these tea gardens with the help of the questionnaires prepared for the purpose. Information thus achieved has been brought under a comparative analysis. The different findings has been explained with maps and diagrams.

Topical Organisation

The whole dissertation has been divided into five chapters. The first chapter is an introductory chapter. In this chapter emphasis has been placed on highlighting the problem, the objectives of the study, a short description of the study area, survey of literature, hypotheses

data base and methodology.

The second chapter is intended to sketch out the physical personality of the region. The attempt here is to classify the geology, physiography, drainage system, soil, climate and natural vegetation of the state. This is done with the help of the light thrown on the region by well-known scholars.

The third chapter is devoted to outlining the socio-cultural personality of Assam. The chapter has been divided into three sections. In the first section an attempt has been made to see the processes of cultural evolution of the region throughout its historical past. The second section is devoted to examine the distributions of different social components in the state and in the third section various demographic characteristics has been studied in a concise manner.

The fourth chapter deals with the history of Assam in general and the history of the development of tea industry in particular. Here special attention is paid to elaborate the history of the three selected tea estates.

The fifth chapter contains the summary, observations and the conclusions derived from the study.

Summary and Observations

The prevailing conditions in tea estates of Assam by and large coincides with the three selected tea estates. The analysis so far has attempted to identify the important features of the study area.

Physical Aspects

(a) Topography

As discussed earlier in the present study all three tea gardens are located over two distinct topographic settings except for Dirok Tea Estate which is located in the foothills, other two are primarily located in the plains. The high or elevated ground apart from providing good drainage facilities also protected the garden from the annual recurring floods. Although Tamulbari and Morani are largely located in the plains, they are unaffected by the floods, as the slopes are towards the river. This has been the factor enabling the gardens to function throughout the year. Besides, using latest technical knowhow and inputs agricultural activity is selected sites within the gardens have gradually assumed significance.

(b) Soil

Along with topography and climate, soil has an impact on the production of tea. Out of the three selected tea gardens, two viz., Dirok and Tamulbari tea estates have high loamy soil and Mornai tea estate lying on the Dooars exhibited grey sandy loam soil. These have also been found conducive for limited agricultural activity.

(c) Climate

The climate of Dirok and Tamulbari tea estates are more favourable than Mornai tea estate. The Upper Assam receives more rainfall than the lower Assam though the temperature is more or less the same.

This, has in a way, led to specialisation of cultivation of commercial crops, particularly tea, oil seeds etc.

Social Aspects

In social aspects of the labourers in the selected tea gardens indicated a superimposition on and transplantation of characteristics.

The migration of tea labourers to the area brought significant adjustments and changes in their socio-economic milieu. Their present socio-economic conditions are a result, of exhibited complexity at every scale. In a way this has provided these migrants a distinct basis in which their identity could be firmly established.

Conclusion

The tea garden labourers of Assam form an inseparable entity of socio-cultural set up of Assam. They are one of the most backward and under privileged segment of the state. They have many socio-economic problems like low literacy, low standard of living, low income, crisis of identity etc. The Government should try to formulate some suitable plans for the development of this neglected segment of the state.

SEHU Library 102584
Acc. No.
Acc. by ... LA 16/8/96
Date ...
Class by ...
Sub Heading by ...
Entered by ...
Transcribed by ...

**SOCIO-PHYSICAL FACTORS IN THE DEVELOPMENT
OF TEA INDUSTRY IN ASSAM :
A CASE STUDY OF THREE TEA ESTATES**

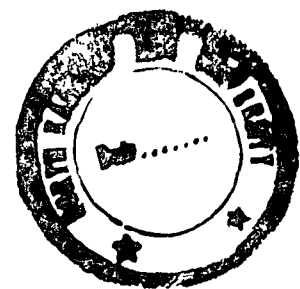
SUNIL PIO

DISSERTATION

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

MASTER OF PHILOSOPHY

To



DEPARTMENT OF GEOGRAPHY
SCHOOL OF ENVIRONMENTAL SCIENCES
NORTH-EASTERN HILL UNIVERSITY

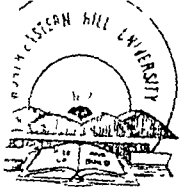
SHILLONG, MEGHALAYA

1990

Book

DS
633.7230954162
P10

ALBU LIBRARY
Inv. No. 102384
Acc. by 44 161 8/96
Date 15/5/97
Class by
Sub heading by
Indexed by
Serialized by



Phone :
Grams : NEHU

North - Eastern Hill University

Mayurbhanj Complex
Nongthymmai Shillong - 793014 (Meghalaya)

Dr. Ali Ahmad
Deptt. of Geography
NEHU, Shillong.

This is to certify that the thesis submitted by Sunil K. Pio for the Degree of Master of Philosophy (M.Phil) at the Department of Geography, School of Environmental Sciences, North-Eastern Hill University, Shillong, Meghalaya, entitled "SOCIO-PHYSICAL FACTORS IN THE DEVELOPMENT OF TEA INDUSTRY IN ASSAM: A CASE STUDY OF THREE TEA ESTATES" is a bonofide study of the author to the best of my knowledge and belief. This study may now be placed before the examiner for examination.

Dated the 10/12/90
Shillong.

Ali Ahmad
(Ali Ahmad)

Department of Geography
North-Eastern Hill University,
Shillong- 793014.

Approved
A. C. Mohapatra
28/11/90
HEAD
Department of Geography
North-Eastern Hill University
Shillong-793014

ACKNOWLEDGEMENTS

I owe a deep sense of gratitude to Dr. Ali Ahmed under whose able supervision I worked towards my dissertation.

I am highly indebted to Dr. R. Gopalakrishna, who not only inspired me, but also rendered all kinds of practical help and guidance, in preparing the present study.

My thanks to Dr. B.S. Batula and Mr. D. Nayak, Lecturers at the Department of Geography, NEHU, for their valuable suggestions.

I am thankful to Dr. A.C. Mohapatra, Head of the Department of Geography and other faculty members for their help and valuable advice.

I would like to thank Managers of Mornai, Tamulbari and Dirok Tea Estates for their kind permission and other necessary help in conducting the field work in their gardens.

I acknowledge the help render to me by different persons and officials of various government and semi-government departments and organisations in the course of my study.

I would also extend my thanks to Mr. Joseph F. Khongbuh, who did the typing of my dissertation, my friends Anup, Danny and Pde who have given me their help and constant encouragement during the course of my study.

SHILLONG

THE JANUARY 1991

Sunil Pio
(SUNIL PIO)

CONTENTS

	Page
Acknowledgements ...	(i)
List of Tables ...	(ii)
List of Maps and Figures ...	(iv)
List of Plates ...	(v)
CHAPTER I INTRODUCTION ...	1
CHAPTER II PHYSICAL PERSONALITY ...	17
CHAPTER III SOCIOCULTURAL PERSONALITY ...	38
CHAPTER IV HISTORY OF TEA INDUSTRY IN ASSAM ...	64
CHAPTER V SUMMARY AND OBSERVATION ...	102
APPENDICES ...	117
SELECTED BIBLIOGRAPHY ...	143

LIST OF TABLES

Table	Particulars	Page
1.	Rainfall recorded in three Meteorological stations located in tea growing areas of Assam during 1988.	... 30
2.	Temperature recorded in three Meteorological stations located in the tea growing areas of Assam during 1988.	... 31
3.	Textural and Structural status of the tea growing areas of North East India.	... 33
4.	Decadal immigration of tea garden labourers in the Brahmaputra valley of Assam.	... 49
5.	Population of ten important languages spoken in tea gardens of Assam.	... 54
6.	Proportion of followers of six major religions to total population in Assam in 1971.	... 56
7.	Literacy rates in Assam 1971.	... 59
8.	Educational attainment in three selected tea estates of Assam.	... 60
9.	Population distribution and density in Assam 1971.	... 63
10.	Number of immigrants categorywise settled in Assam as in 1971.	... 77
11.	Migration of sample tea garden labour families in Mornai tea estate.	... 80
12.	Workers and dependents among the sample tea labour families of Mornai tea estate.	... 83
13.	Age structure and sex-ratio among the sample labour families in Mornai tea estate.	... 83
14.	Educational attainment among the sample labour families in Mornai tea estate.	... 85

Table	Particulars		Page
15.	Landholding among labour families in Mornai tea estate.	...	87
16.	Yearwise production of made tea in Dirok tea estate.	...	92
17.	Important of labour in Mornai T.E.	...	96
18.	Permanent labour employed in Dirok T.E.	...	96
19.	Construction of labour quarters in Dirok T.E.	...	98
20.	Migration of labours in three tea gardens of Assam.	...	106
21.	Workers and dependents among labour families in three selected tea gardens of Assam.	...	107
22.	Age structure and sex-ratio among labour families among three selected tea gardens of Assam.	...	110

LIST OF MAPS AND FIGURES

Map	Particulars
1	Relief of Assam.
2	Drainage Pattern of Assam.
3	Assam, Distribution of Rainfall & Temperature.
4	Soils of Assam.
5	Tea Soils of Assam.
6	Average Yield of made tea (Kg/Ha) 1979.
7	Areas of origin, tea garden labourers of Assam.
8	Assam literacy 1971.
9	Density of population 1971.
10	Mornai tea estate.
11	Tamulbari tea estate.
12	Dirok tea estate.

Figure

1	Migration of labourers in three tea estates.
2	Age structure in three selected tea estates.
3	Educational attainment in three selected tea estates.

LIST OF PLATES

Plate	Particulars
1	Tea plucking in Mornai T.E.
2	Overview of Dirok T.E.
3	Drainage pattern of Dirok T.E.
4	Meteorological Station in Dirok T.E.
5	Tea Processing Centre of Dirok T.E.
6	Water tank and access road in Dirok T.E.
7	Garden Hospital at Tamulbari T.E.
8	Primary School at Tamulbari T.E.

CHAPTER I

INTRODUCTION

INTRODUCTION

The state of Assam extends roughly between 24°40" N to 28° North latitude and 89°40" E to 96° East longitude. The state is bordered by the Eastern Himalaya in the north, by Purvanchal or Assam Burma Hills in the east, and by the hills of Mizoram, Tripura and Meghalaya plateau in the south, and Bangladesh and West Bengal to the west. Assam has a population of 19,903,000 (1981 estimates). the state covers an area of 78,520 Km² and is divided into 20 districts.

The plantation and manufacturing is a major economic activity of Assam. India being the world's largest producer of tea gets her major supply of tea from various tea gardens of Assam. According to the provisional figure of 1986,¹ there are 844 tea gardens in the state covering an area of 224,718 hectares. In 1986, Assam produced 335,492 thousand Kg² of tea which accounted for a total income of Rs. 900 crore. In the same period there were about 496,551 labourers in the tea gardens of Assam. Their composition was 418,359 permanent and 78,192 temporary labourers.³

1. "Tea Statistics", Tea Board of India, Calcutta.

2. Ibid.

3. Ibid.

This kind of a large scale agro-industrial activity to a substantial extent was encouraged by socio-physical factors. Some of the important physical factors influencing the development of tea industry are relief features, climate, drainage system etc. . . Along with these factors, social factors were also conducive for the development of the tea industry in the region. These aspects have been clearly illustrated by the growth and development of Mornai, Tamulbari and Dirok Tea estates located in the districts of Kokrajhar and Dibrugarh. The case studies of these estates further indicate the dynamic interaction of factors and processes that enabled one to seek a generalisation applicable to the tea industry in the state as a whole. The revenue assessment of the state after the British India consolidation was an important landmark in the development of tea industry. This assessment was strengthened by the Wasteland Acquisition Act of 1832, which provided for large tracts of culturable land for tea in the state. These tracts of land, though unsuitable for traditional crops, were highly conducive for the introduction of tea cultivation in a large scale in the state. These were reinforced by favourable agro-climatic conditions.

The various stages of tea cultivation and production called for a substantially large work force. The state's population, due to continuous political instability and psychological

make up were unable to provide and meet the requirements of tea industry. As a result, the British Indian administrators encouraged large scale movement of population - work force from the other parts of the country particularly from the Chota Nagpur region to serve the tea industry. They also provided grants of land for developing the tea industry that was to fulfill the colonial commitments for the product.

The resultant internal migration of the work force to Assam was remarkable as it was composed of many tribal groups of central India. These migrants who moved from their traditional substance economy to colonial plantation economy had to face innumerable problems, like economic threats or insecurity, territorial identity, cultural ambivalences and political deprivation. Gradually, these became inevitably linked with the growth and development of the tea industry in the state. The present study, therefore, focusses itself on the socio-physical factors that determined the pattern of development of tea industry in Assam. The three tea estates, representing different locations and size, reveal the pattern of interaction. Then a composite and systematic study of the social and physical factors has been done to see how they have given rise to this special kind of plantation economy.

Literature Survey

"As a preliminary to field research, or in conjunction with it, a sustained and high quality search for data in the library is a most pressing need in the social sciences."⁴

This particular work can be regarded as literature survey. Pertinent materials are able to:

- 1) Provide general orientation essential in creating insight and asking the right questions.
- 2) They suggest the use of certain techniques of study, not though, at the outset.
- 3) They aid in conceptual thinking and in ways of testing tentative assumptions.
- 4) They help avoid unnecessary duplication, and many steer one away from a direction unpromising of fruitful results. In short, a review of pertinent works and thinking by others helps to enlarge, enrich, and clarify one's work and thinking.⁵

The experimental tea plantation in Assam in particular and India in general started towards the end of 1835. Sir

4. Young, P.V. Scientific Social Surveys and Research, Prentice-Hall of India Pvt. Ltd., New Delhi, 1984, p. 139.

5. Ibid., p. 140.

Joseph Bank's "Report of 1778 on the Cultivation of new crops in India for East India Company" was of a great importance where he advocated the possibilities of cultivation of tea in India. This was strengthened by the discovery of tea in Assam in 1823. This evidence and its possible implications of these were extensively dealt in the various official communication of Robert Bruce, C.A. Bruce and David Scott to the administrators. Apart from this, the Journal of Agricultural and Horticultural Society of India and the Calcutta Courier also contributed to the growing literature on tea in the region. Works on the historical perspective of tea industry was also available in the writing of E.F. Robinson's (The Early History of Coffee House in England) where he mentioned about the development of tea drinking habit in England and the importance of tea in England's national economy. "The Early History of the Tea Industry in North East India" of Dr. H.H. Mann and "Tea - An Historical Sketch" by Robert O. Mennell, are some important work on the early development of tea industry in British India.

The period between 1835 to 1840 could be regarded as the experimental period in the cultivation of tea in India. The literature related to this period is largely available in the "Annual Reports on Tea Culture in Assam."⁶

6. Annual Reports on Tea Culture in Assam.

After the experimental period, scholars were more inclined toward technical works related to tea industries. Literature pertaining to the stages and processes involved in tea manufacturing and other technical development is available in the works of P.J. Hay of Luskerpore. Particulars in his "Tea Manufacture - Practical Hints". Apart from this, Samuel Baildon's "The Tea Industry in India", M. Kelway Bamber's "Chemistry and Agriculture of Tea Including Growth and Manufacture", David Crole's Tea and A.J. Wallis Taylor's "Tea Machinery and Tea Factories" are some of other important works in this regard.

In the development of tea industry in Assam the early planters were confronted with numerous difficulties. Shortage of efficient local labourer was the most prominent of these. To solve this particular problem the planters had to import labourers from various parts of India. Sporadic attempts to import labour from other parts of India for the tea gardens of Assam had started since 1841. References about the import of labourers are available in "The Cooly" by D. Chaman; "Tea Garden Coolies in Assam" by J. Buckingham; "Oppression of the Poor" by C.F. Andrew. The process of importing the labourer from other parts of India was well marked by all purposive exploitation and inhuman treatment. These very aspects had attracted the attention of many middle class Assamese and

Bengali particularly towards the end of 19th century. Reflection of which are also available in various articles published in some Calcutta based Bengali and Assamese magazines and newspapers. Important among these were "Sumprakash", "Mon" and "Indian Churchman". Apart from highlighting the issue of their exploitation some social workers have tried to arrest the ongoing process by creating public awareness and also attracting government's attention on the theme. They also organized several committees for this purpose. The report of these committees are of great importance as they provide vital information about their existing state of affairs.

Tea industry became so much important in the socio-economic life of the people of Assam that the whole British colonial period of Assam can be regarded as "Planter Raj", Amalendu Guha's "Planter Raj to Swaraj - Freedom Struggle and Electoral Politics in Assam 1826-1947" is one of the pioneering works of the author which provide valuable analysis of those days. Prasenjit Chowdhury's book "Assam Cha-Barua Aru Unoish Satikar Bidot Samaj", S. Jain's article "Tea Garden in Assam, Patterns of recruitment employment and exploitation of Tea Garden Labourers" and S.M. Akhtar's "Emigrant Labour for Assam Tea Gardens" are some other works which depict a vivid reflection of the entire period.

Besides the establishment of Tea Industry in India

had immense economic importance. It has also been reflected through the writing of R.C. Awasthi's "Economics of Tea Industry in India with special reference to Assam", and Sant Kumar Bose's "Capital and Labour in Indian Tea Industry". "The Culture and Marketing of Tea" by C.R. Harler provides elaborate economic information of tea industry. "The History of the Indian Tea Industry" by Sir P. Griffith's is a multi-dimensional work on tea industries. The author highlighted various aspects related to historical development, production, labour and scientific research etc.

It is an accepted fact that tea industry was initiated in the region by the British. But, the inherent attributes of its regional personality particularly its relief, soil and climate are also equally responsible for the same. The significance of these attributes have been duly acknowledged by scholars like C.R. Harler (The Culture and Marketing of Tea). He has given an elaborate account of climate and production of tea. Similarly, T. Eden in his work "Tea" has dealt with climate and tea soil in one of the chapter. C.J. Harrison in his book entitled "Indian Tea, a Textbook on the Culture and Manufacture of Tea", gives an account on drainage and its importance for the growth of tea. Apart from these there are a number of publications brought by the Tea Research Association's i.e., "Two and a Bud" has published a number of

articles on this aspect. Some publications like the "Environmental Problem of the Assam Valley" by P.M. Glover, highlighted the effects of environmental factors upon the tea cultivation and manufacture in the Assam Valley, N.G. Gokhale's "Soil and Climate Influences on Tea Production" mainly deals with the basic and theoretical aspects. Tocklai Occasional Scientific Papers also provide soil survey report of different tea districts.

There are a number of other sources available in Assamese and regional languages which are of considerable importance and relevance for the present theme. To name only a few, "Bonuar Sankriti Libonat Ebhumiki" by N. Ghatwar, "Chah Bagisar Sramik Aru Ain" by D. Saikia and P.C. Tasha's "Chah Sramik Aru Ain" by D. Saikia and P.C. Tasha's "Chah Sramik Sanskritir Ruprekha". The researcher feels highly obliged to the valuable contribution made by these. However, it is felt that substantial literature providing a scientific study of "Socio-Physical Factors in the Development of Tea Industry in Assam" is far less and inappropriate. Hence, this dissertation is an humble endeavour to fill the gap.

Objectives

The main objectives of this study can be stated as:

- (1) To develop an understanding of the physical setting

of Assam and to study the impact of physical factors on the establishment and development of tea industry in the region.

- (2) To examine the social factors responsible for the development of tea industry in Assam with particular reference to the role of immigrant tea garden labourers to this region.
- (3) To analyse regional variation in the socio-economic conditions of the garden labours of Assam to suggest measures for improving their condition of livings.

Research Questions

In order to analyse the objectives the following research questions have been formulated.

- (1) How far the physical setting of the region has influenced the establishment and development of tea industry in Assam?
- (2) What have been the impact of the process of socio-cultural evolution of Assam on the growth and development of tea industry in the region?
- (3) How does the differences in size, location, ownership and social composition of the selected tea estates influenced the condition of life of the tea garden labourers?

Methodology

Attaining the scientific status and objectivity is the ultimate aim of every discipline. For a study objective in analysis and scientific in approach facts and data pertaining to the quantity as well as quality of the phenomenon under investigation are of prime importance. Next to the availability of data comes the processes involved in treating the available facts for the purpose of attaining the proposed objective and subsequently formulating certain generalisations.

Data pertaining to the components forming part of physical and social environment are used. It is largely due to the vastness of the available material that the process of procuring the data, transforming them to a common scale, and conversion of variables into indication through appropriate method are some of the important means resorted to in the present study.

Data Base

Development of tea industry in the tropical and subtropical (post colonial) countries in general, and India and North-East India in particular, represents an unique synthesis of factors, those are physical, socio-cultural, economic and

historical in their nature. It is because of these complexities data and facts needed for conducting a scientific study in quite a task. However, to name only a few of the many sources the researcher has collected data from:

(i) **Secondary Sources** - Information collected from various published documents and reports of the government and semi-government agencies, as well as the bulletin and journals of the tea planters and companies. Some of the important sources and data available in these are:

(a) Census Publication - For demographic and classification of workers in different economic activities.

(b) Occasional scientific reports published by Toklai Tea Research Association Jorhat for soil and climatic data.

(c) Tea Statistics published by Tea Board of India for recent data on tea labour, production and other aspects.

(d) Apart from above three main sources of data, various reports, official publications, theses and other records were consulted to collect data for both social as well as physical aspect.

(ii) **Primary Sources** - Specific information on the present theme was obtained through field study and the questionnaire.

(a) Questionnaire on Socio-Economic aspects in the development of Tea Industry.

This questionnaire aimed at obtaining information related to family size, qualifications and educational status, income as well as assets of the households engaged in the tea industry. Household is the basic unit of study and the micro demographic characteristics were also obtained by compilation of the information obtained at household level. It is also used in obtaining absolute as well as relative level of quality of life and standard of living at inter and intra tea estate level. Since the number of workers in each tea garden was significantly high, a sample of 60 households from each estate was taken up in this study.

(b) Physical Survey Questionnaire - Information related to the site situation and aspects of sample tea estate along with soil quality, slope, drainage and organisation of space, were the main theme in this questionnaire. For the purpose three tea estate located at Kokrajhar and Dibrugarh were selected with the following criteria in mind.

(i) Differences in the ownership of tea estates was an important factor. There are mainly two types of ownership in the region - Company ownership, and Proprietary ownership.

(ii) Size of the tea estate was another important

consideration. Broadly, there are small and large tea estates in Assam. A garden having an area less than 400 acres has been regarded as small and these more than 400 acres were regarded as large tea garden. For the present purpose one small and two large tea estates (Tamulbari and Mornai-Dirok tea estates respectively) were considered.

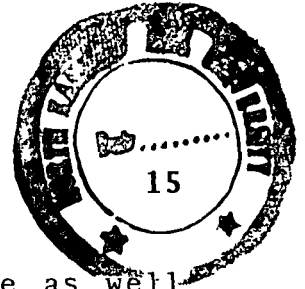
(iii) Physical setting particularly relief was an important parametre in the development of tea industry in Assam. In the present study two estates are occupying flood plain, the third is from the foothills.

These criteria have become important because they differ in the ownership, size and site (location) of the tea estates played decisive role in the socio-economic scenario of the tea garden labour and development of tea industry in the region.

Data Processing and Presentation

For this purpose two important techniques of data processing had been adopted.

(a) Statistical Techniques - For the purpose of obtaining trends and relative as well as comparative level of dispersion and magnitudes use of standard deviation and mean has been used. Besides, Standardisation Techniques have been



adopted over others as it will not change the scale as well as relative sampling of the elements.

(b) Cartographic Technique - Cartography is an important technique of data representation in Geography. Isopleth and Choropleth and other diagrammatic models have been used here.

Topical Organization

The study has been divided into five chapters. The first chapter is an introductory chapter. With an emphasis on the problems followed by the objectives of the study, the study area, survey of literature, hypothesis, data base and methodology.

The second chapter deals with the physical personality of the region. An attempt has been made to outline the geology, physiography, drainage, soil, climate and natural vegetation of the study area.

The third chapter deals with the socio-cultural personality of Assam. It has been divided into three sections. In the first section, an attempt has been made to understand the process of cultural evolution of the region throughout its historical past. The second section examines the distribution of different societal components in the state as related

to the theme, while in the third section the demographic structure of the study area/state has been dealt with.

In the fourth chapter a historical evolution of tea industry in Assam in general and of the three individual tea garden in particular has been provided.

The fifth chapter is the concluding part of the study and deals with the summary of findings, scope and conclusions.

CHAPTER II

PHYSICAL PERSONALITY

PHYSICAL PERSONALITY

Spatial pattern of geographical phenomena particularly that of relief and bio-climatic relationships, have played an important role in encouraging the tea industry in the state. Their impact along with the availability of land has significantly helped the state to its present dominating position in terms of area and production of tea in the country. Like the physical factors, the associated socio-cultural elements have also indicated comparatively similar complexities that have directly and indirectly influenced the tea industry.

Physical characteristics of the tea estates are more or less closely associated with the general distribution of geographical phenomena in the state. This is because the tea estates, located as they are along the east-west axis, show remarkable parallelism in the content as well as in distribution. This is further reinforced by the fact that lack of the sites have adequate representation of the level of complexities in geographical phenomena.

Physical Landscape

The physical landscape of a region has definite bearing on the distribution of population and activities. The

Brahmaputra valley is a well defined physiographic unit. It is an almost monotonous level alluvial plain dotted with a few hillocks scattered along the banks of the Brahmaputra. These hillocks are the outliers of the Meghalaya plateau and extend from Tezpur and Mikir Hills of the Central Assam plains as far as Dhubri in the western extremity. Barring these isolated hillocks exposing the Archaean gneisses and occasional outcrops of upper Tertiary sandstones at places along the northern periphery, the entire region is covered by alluvial deposits of recent and sub-recent origin. Geographically, the deposition of alluvium, some 500 metres thick, took place upon a sag formed during the period of the rise of the Himalaya. The sag is very well defined between the boundary Fault on the north of the valley and the Naga Thrust Fault on the south. The Archaean gneisses present a complex group of Biotite and Hornblende gneisses with occasional presence of small granitic and segmatitic bodies intrusive into them. The Upper Tertiary sandstones along the northern boundary of the region consists of fine and medium grained, bluish to greenish grey ferruginous sandstones with dark grey splintery shales, with occasional presence of lignite and carbonised wood. Besides, there are a few outlying patches of elevated ground composed of sand, clay, loam and rounded shingles and pebbles, apparently resembling the older alluvium, in the Central North Bank plain of the valley.

While all the tea plantations of the south bank are located on the older alluvium, the tea plantations of the north bank are located on these disconnected high grounds. Thus, excepting certain minor variations at places, the whole of the Brahmaputra valley is physiographically a level plain interspersed with numerous streams coming down from the sub-Himalayan region and from the Meghalaya plateau.

Relief

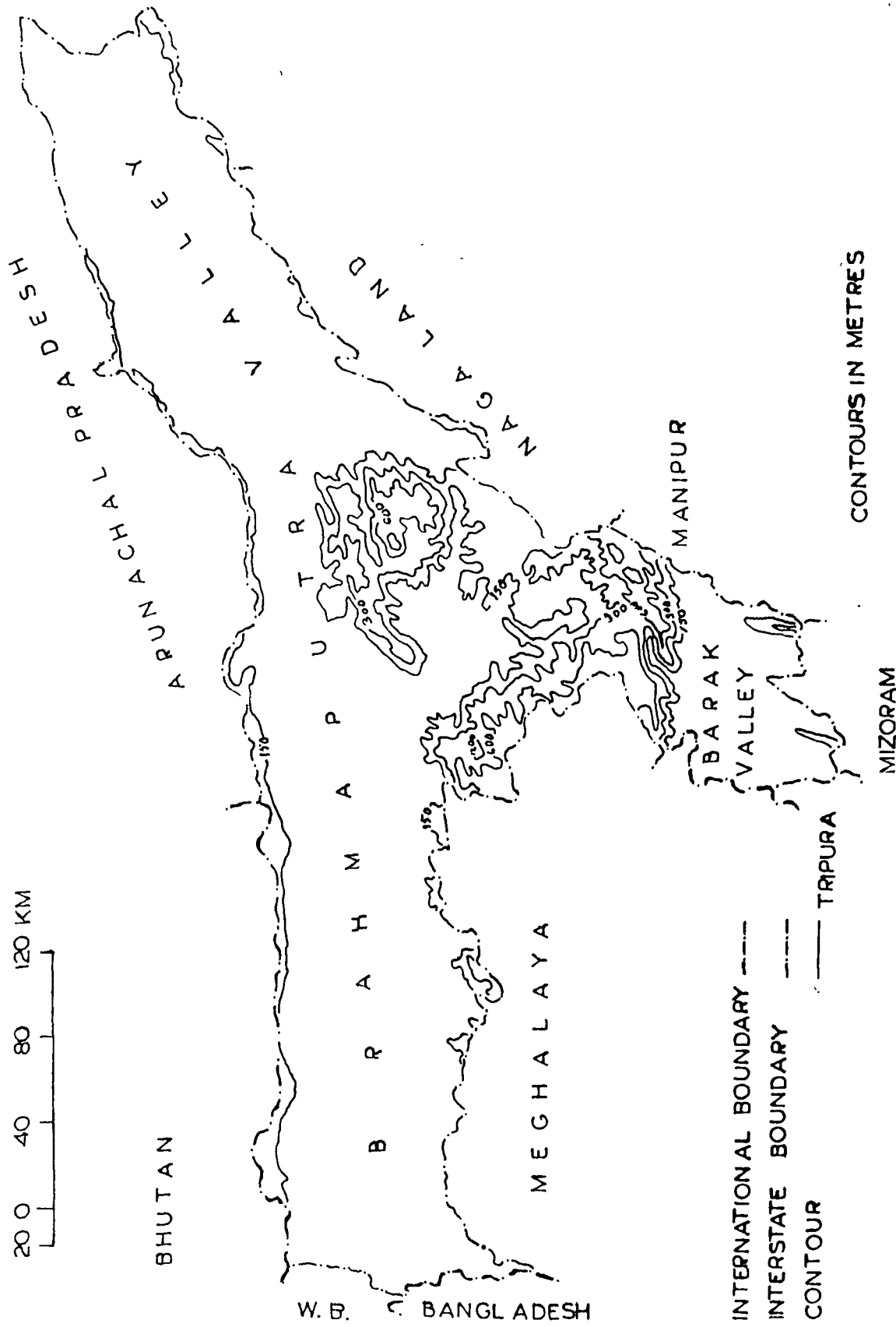
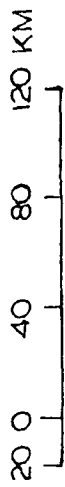
The configuration of the land being the basic cause to the nature of land use, transportational development and economic activities of man, it has distinct control on the nature of human activities. It is commonly observed that the plain tracts are densely populated and densely settled, compared to the undulating topographical units. In the study area, barring the isolated hillocks ranging from 83 metres to 145 metres in altitude above MSL, extending along the Brahmaputra river, the whole region is apparently a plain. The general slope of the valley ranges from 134 metres in the eastern extremity to 30 metres in the western extremity. Sadiya situated in the extreme eastern part has an altitude of 134.1 metres above MSL, while the altitude of Tezpur, situated in the central part is 78 metres and that of Dhubri situated in the extreme west is 30 metres above MSL. The northern boundary of the valley stretches along the base of the Eastern

Himalayan foothills and roughly touches the 150 metres contour line. The altitude of the valley varies along the southern boundary from 60 metres towards the Naga Hills, while it reaches more than 225 metres further west, towards the Meghalaya Plateau. From both the northern and southern boundaries the alluvial plain gradually drops down to the Brahmaputra. There are several lowlying mounds made up of assorted river borne materials along the northern periphery where the plains merge into the hills.

One noticeable feature of the plain in the eastern, south-eastern and southern sections is the creation of platforms by various tributaries like Margherita-Likhapani Platform created by Burhi Dihing, Dimapur-Barpathar platform by Dhansiri, Dabaka-Lumding platform by Kapili and Jamuna, Rani-Barduar platform by Kulsi etc. These platforms or higher terraces are suitable sites for tea cultivation as they contain older alluvium. These terraces also contain occasional hillocks and features of aggradational and degradational origin.

There is a marked physiographic difference between the North Bank plain and, South Bank plain of the Brahmaputra. In the North Bank plain, the innumerable tributaries coming down from the Himalayan ranges of Arunachal Pradesh and Bhutan debouch abruptly to the valley and from a series of alluvial fans which obstruct the courses of the tributaries near the

RELIEF OF ASSAM



CONTOURS IN METRES

MAP NO 1

foothills. As a result, the tributaries branch out in different channels till they form permanent courses further downstream. Before finding their way into the Brahmaputra they run in almost parallel course to the main stream till they encounter its levels. Consequently, the tributaries have conspicuous meandering courses leading to the formation of ox-bow lakes (or 'bils' as they are locally known) and huge marshy tracts. The alluvial fans formed by the coarse alluvial debris in the northern fringe of the valley have given rise to semi-terai conditions, where water percolates down resulting in wet soil and dense forest. In the South Bank plain, the meandering course of the tributaries is conspicuous only in the eastern part and there are a good number of bils and ox-bow lakes.

The most significant physical characteristic of the Brahmaputra is that the river itself is highly braided due to its low gradient. As a result, there are innumerable 'chars' or riverine islands. Majuli with an area of 929 square kilometre is the world's largest river island.

Drainage

The drainage system of Assam comprises largely of two main river systems, those of the Brahmaputra on the one hand, and the Barak-Surma-Meghna on the other, with the former having a profound influence on the physical as well as the socio-cultural and economic set-up of the valley.

The Brahmaputra is the largest and most important river of Assam. The upper course of the river lies in the Tibetan Plateau of China, where it is known as the Tsangpo. It rises in the Kailash Range at an elevation of about 5150 metres.¹ The Brahmaputra flows for about 725 kilometres along the Assam Valley in a vast sheet of water dotted with numerous sandy islands of 'Chars'. It runs between sandy banks forming a number of divergent channels which later rejoin the main stream. The important among such divergent channels are the Kherkatya-Suti opposite to Burhidihingmukh, Luit-Suti opposite to Dhansiri-mukh and Kalang-Suti in Nowgong District. Beyond Dhubri in the western margin of the valley, the river sweeps southward round the spurs of the Garo Hills, which serves as the watershed between the Brahmaputra, Assam and the Surma in Bangladesh. The river then enters the plains of Bangladesh and joins the Padma, a branch of the Ganga, before emptying into the Bay of Bengal. During the monsoon season, the river swells into a vast sheet of water, in parts sometimes being as wide as 8 kilometres from bank to bank. During the rainy season, the river causes extensive floods along its banks. Bank erosion and formation of new chars are the most common features of the stream during this season.

1. Desai, H.J. "The Brahmaputra, Mountains and Rivers of India", in B.C. Law (ed.), Bulletin, 21st International Geographical Congress, India, (1968), p. 431.

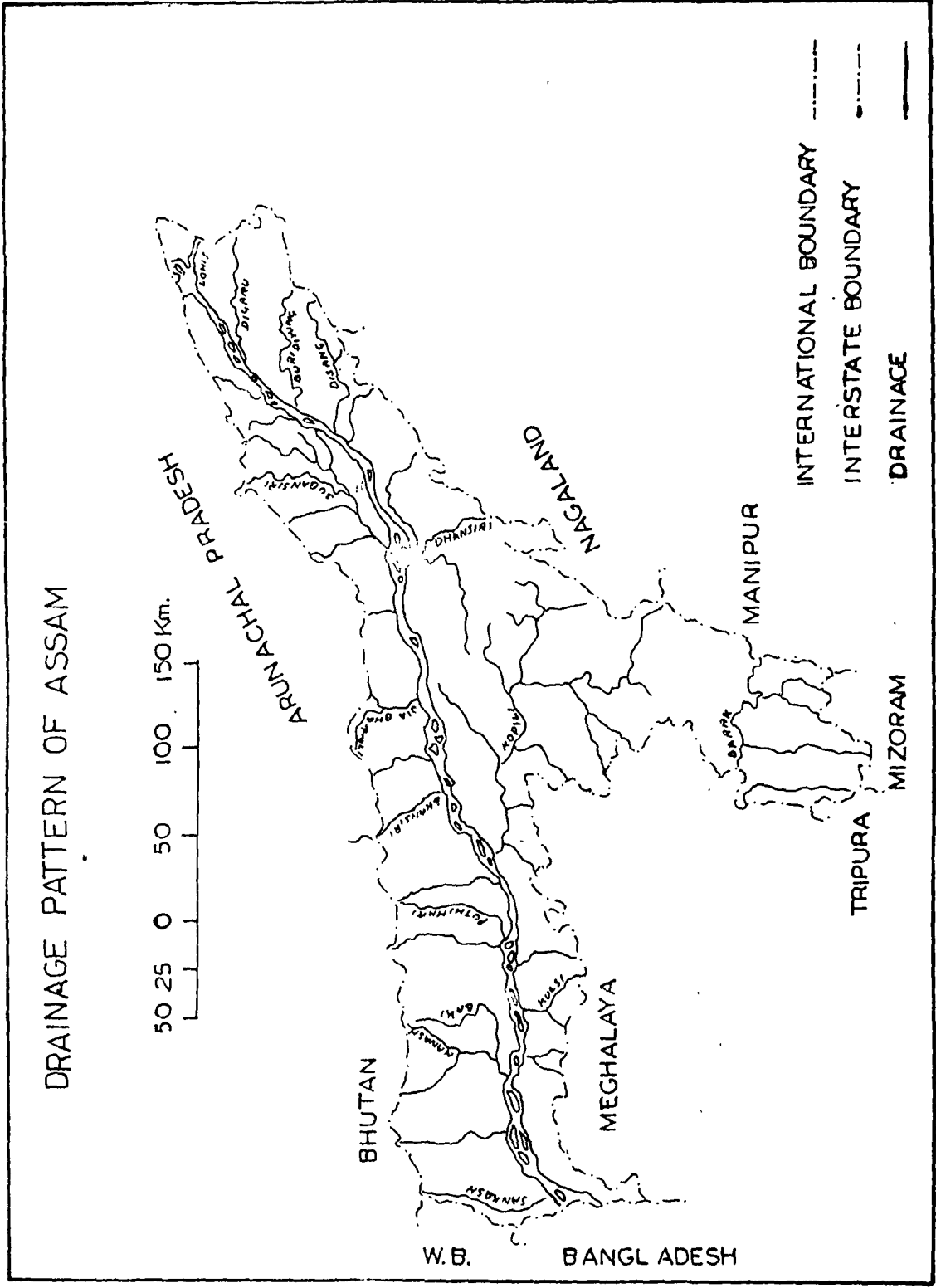
The Brahmaputra has as many as 35 tributaries. The major north bank tributaries include the Subansiri, Jia-Bharali, Dhansiri, Barnadi, Pagladia, Manas and Sankosh. Among the south bank tributaries the important ones are the Lohit, Dihang, Noa-Dihing, Buri-Dihing, Disang, Dikhow, Janji, Dhansiri, Kopili, Digaru, Kulsi, Singra, Jingjiram, Dudhnai and Krishnai. Many of these tributaries are large rivers with sizeable catchment areas. The four tributaries with large catchment areas are the Manas (31,000 Sq. Km.), the Sankosh (26,000 Sq.Km.), the Lohit (21,000 Sq.Km.) and the Dihang (13,000 Sq.Km.).² These streams also carry huge amount of water every year, from their upper reaches. The Brahmaputra discharges more than 500,000 Cusecs of water annually at Goalpara situated near the western margin of the valley. The Brahmaputra along with the tributaries also carry huge amounts of silt which are responsible for shallowing up their beds and for the growing extent of flood every year.

There is a marked difference between the drainage character of the north and south bank tributaries of the Brahmaputra. In the north, the innumerable streams running down from the trans-Himalayan region of Arunachal Pradesh and Bhutan debouch abruptly to the main valley and form a

2. Singh, R.L. (Ed.) India: A Regional Geography, (National Geographical Society of India, Varanasi, 1971), p. 310.

series of alluvial fans which join and obstruct the courses of the tributaries near the foot of the hills. This results in branching out of the tributaries till they find their permanent courses downstream. Thus, most of the north bank tributaries have conspicuous meandering courses resulting in the formation of bils as noted earlier. The alluvial fans or cones formed by coarse alluvial debris along the northern fringe of the valley have given rise to Terai or semi-terai conditions, where water trickles down resulting in wet soil with a dense cover of forest.

Another noticeable character of the north bank tributaries is that they have shifted considerably eastward from their original courses. Such changing of river courses creates manifold problems for the settlements along their eastern banks. In the case of the south bank plan of the valley, the tributaries are considerably larger, and the number of streams joining the tributaries is less compared to the north bank. In the eastern section of the south bank, the tributaries are characterised by extensive headward erosion and meandering courses resulting in the formation of a good number of bils and ox-bow lakes. But, in the western section the tributaries rarely follow meandering courses. The south bank tributaries exhibit a tendency of shifting westward. Some of the larger bils and marches of the valley include Dipar-



MAP No 2

beel, Chalchala, Bangalmari, Barbeel, Garangabeel, Chatabeel and Mohmar beel.

The Barak is one of the most important rivers of southern Assam. The river originates from the escarpment of the Barail range from the south of Japvo Peak. The river starts a south-westerly journey through a narrow valley of Purvanchal in Manipur. As it reaches Tipaimukh, the river take a sharp turn to the north, parallel to its downward sweep. The river takes a westward turn near Lakhipur and enter into the Cachar district of Assam. With a zigzag course the river flows through Cachar and Karimganj districts and passes to Sylhet district of Bangladesh and finally empties itself into the old bed of the Brahmaputra near Bhairab Bazar in Bangladesh. Several tributaries flow down from North Cachar, Mizoram hills and Minpur to join with the Barak river. Notable among them Jiri, from north, Langa, Singla, Dhaleswari, Ruhni, Sonai, Tuivaw etc. from Mizoram.

Climate

The climate conditions being the basic considerations of agricultural activities, its influence on the distribution of population and settlements acquire paramount importance particularly in an agrarian society. The Brahmaputra valley in general forms an integral part of the South-East Asiatic monsoon lands. According to W. Koppen's climatic classifica-

tion, the valley enjoys 'Cwg' or Humid Mesothermal climate. The sub-tropical location as well as its position within the gridle of mountains and plateau with westward opening contributes to the climatic character of the region. While the lofty Himalayan mountain ranges of the north protect the valley from the cold winds blowing from the Tibetan plateau in winter, they provide conducive conditions for orographic rainfall. The natural mountain barrier serves as obstacle to the warm moist south-west monsoonal winds and thereby the valley receives maximum rainfall during the summer months from June to September. The climatic conditions in the Brahmaputra valley exhibit a major deviation from those of the Ganga valley. Rainfall is very high in major portion of the study area and is largely associated with storms during the pre-monsoon and monsoon periods. In the winter period occurrence of rainfall varies from 63 to 119 days.

All these conditions along with the influence of orography have developed a climatic distinctiveness for the Assam valley, different from the normal 'Cwg' or humid mesothermal or the Ganga plain. As such, the climate of the region may be classified as 'Cwb' or humid mesothermal Brahmaputra valley type.³ The valley experiences highest temperature

3. Barthakur, M. "Some Aspects of Weather in the Brahmaputra Valley", Journal of Assam Science Society, Vol. XI, Guwahati, 1968, p. 63.

in the month of July during the period of south-west monsoon along with abundant rains and high humid weather. This winter season is from December to February with the lowest temperature being experienced in the month of January. The highest temperatures recorded at Dhubri, Tezpur and Dibrugarh situated in the westernmost, central and easternmost parts of the valley are 37°C, 36°C and 37°C respectively. The lowest temperatures recorded at the same stations are 4°C, 7°C and 5°C respectively. The annual range of temperature varies from 29°C to 33°C.⁴ The total annual rainfall in the above three stations are 1850 mm, 1752 mm and 2007 mm respectively.⁵ The central part of the valley experiences lower maximum temperature and minimum rainfall, while both summer temperature and rainfall increases towards the eastern and western parts of the valley. The areas situated near the northern boundary receive relatively high rainfall because of their location near the Himalayan foothills. More than 75 per cent of the total annual rainfall is received during the period of south-west monsoon and nearly 20 per cent of the total annual rainfall is received during the pre-monsoon season. The number of rainy days with more than 2.5 mm of rain varies

4. Statistical Handbook, Assam, 1980, (Directorate of Economics and Statistics, Government of Assam, Guwahati), p. 84.

5. Ibid., p. 90.

from 105 days in the central part to 122-130 days in the eastern and western parts. The air remains highly humid with relative humidity above 80 per cent for most of the year. It decreases to about 65-70 per cent only during the period January to April.

On the basis of the variations of temperature rainfall and wind, four distinct seasons may be identified for the region - the winter, pre-monsoon and the period of retreating monsoon. The winter season covering the period from December to February is characterised by cool weather and frequent morning fog. During the winter months, temperature over greater part of the valley remains well above 12°C with a diurnal range of around 5°C. The total annual rainfall in this season rarely exceeds 114 mm. The eastern portion of the valley is cooler than the western portion. Pre-monsoon or the summer season covers the period from March to May. This season is characterised by rapid rise of temperature lowering of diurnal temperature range and frequent thunder showers of Nor' westers and hailstorms. The average temperature of the season is 23°C, while the total amount of rainfall is around 520 mm. The monsoon season spreads over the period from June to September. This season is also known as the period of southwest monsoons. This season in the valley is characterised by high humidity, weak variable surface winds and cloudy

sky. The weather becomes sultry and oppressive due to high humidity, although the incessant rain cause moderate effect on temperature. The average temperature during this season is 27°C with an average diurnal range of 6° C and the total annual rainfall exceeds 1300 mm. There are 15-20 rainy days during each of June, July and August and about 14 rainy days in the month of September. With the approach of the period of retreating monsoon, which covers the months of October and November, monsoon weakens with speedy retreat followed by fair weather, with the advance of the season, mist and fog appear in the morning. The diurnal range of temperature increases with a variation from 2.8°C to 5.6°C and winds become northerly. The average temperature in the season remains around 21°C, while the total rainfall does not exceed 152 mm.

Though there is a broad climatic homogeneity. Throughout the Brahmaputra valley, there are considerable local variations in rainfall, range of temperature and other weather phenomena like mist, fog, etc. The eastern part of the valley experiences high rainfall and low range of temperature, whereas the western part receives high rainfall and has relatively high range of temperature. The central part of the valley exhibits transitional character with a rain shadow area around Hojai and Lanka areas of Nowgong district.

The following table of rainfall and temperature recorded in three meteorological stations in the tea growing areas of Assam clearly shows the difference in regard to these two climatic elements.

Table 1 - Rainfall recorded in three Meteorological Stations located in tea growing areas of Assam during 1988.

Months	Station		
	Dirok	Tocklai	Thakurbari
January	21.4	10.3	9.9
February	53.9	21.3	16.6
March	169.6	103.2	76.7
April	192.1	174.9	110.9
May	298.0	306.6	385.1
June	333.0	272.5	162.6
July	523.1	263.4	426.5
August	617.0	248.8	423.2
September	205.4	151.2	454.4
October	219.1	155.0	105.1
November	28.7	33.6	48.1
December	4.9	11.1	3.8

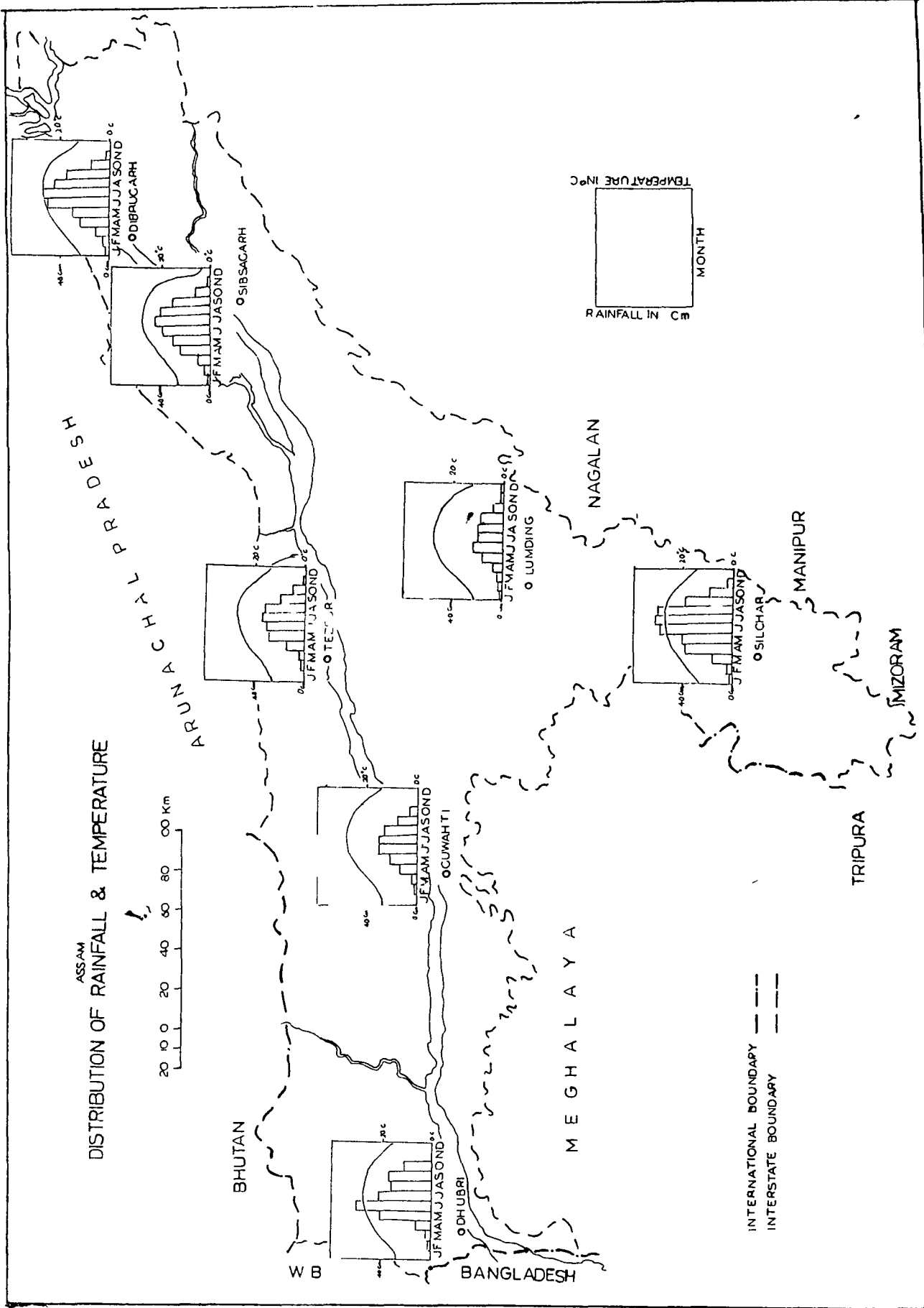


Table 2 - Temperature recorded in three Meteorological stations located in tea growing areas of Assam during 1988.

(Temp. in °C)

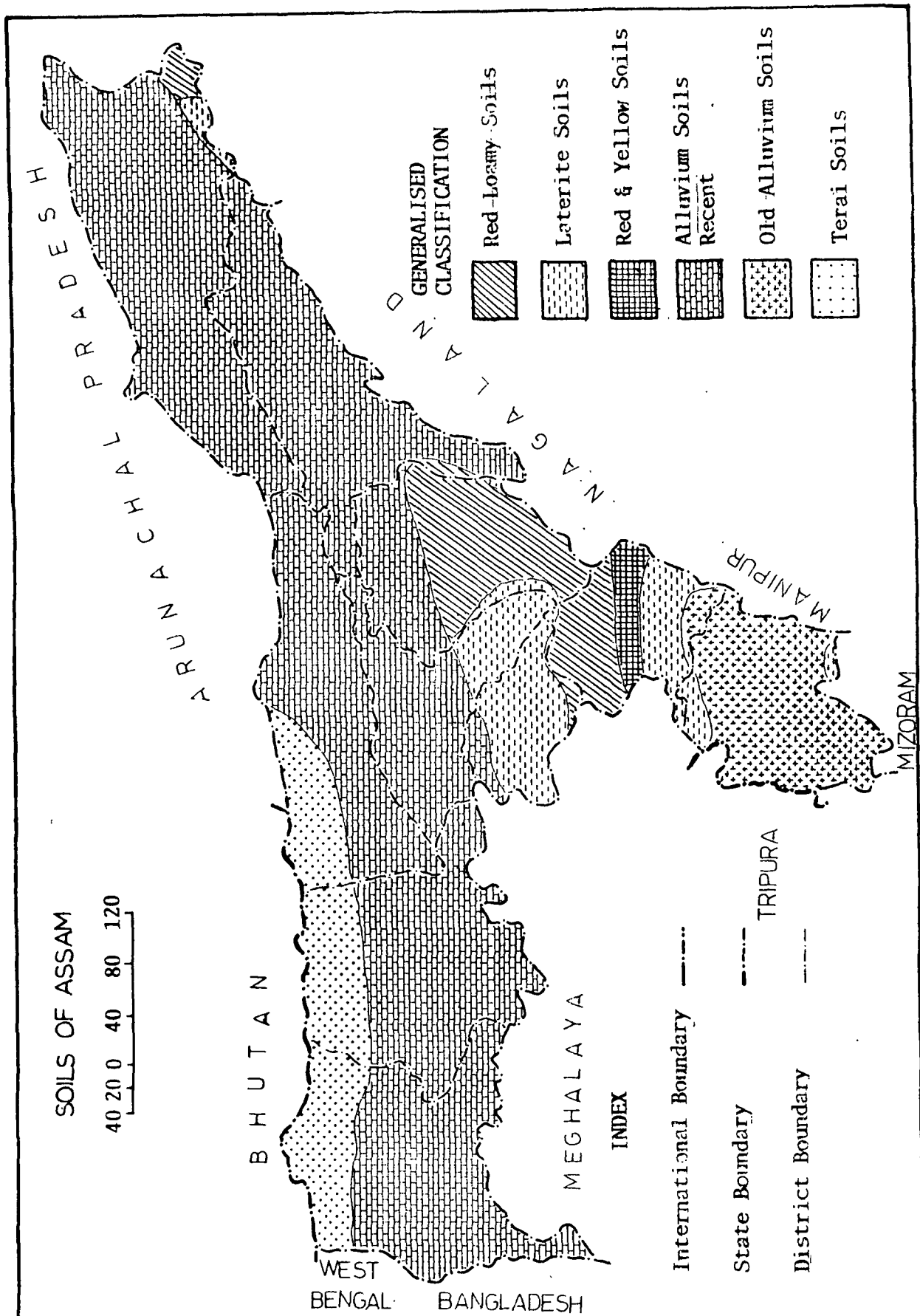
Months	Station					
	Dirok		Tocklai		Thakurbari	
	Min.	Max.	Min.	Max.	Min.	Max.
January	8.1	22.8	10.0	22.6	9.6	24.1
February	11.6	25.2	12.9	25.5	13.4	26.7
March	15.1	26.1	17.0	27.0	16.9	28.2
April	17.1	27.5	19.8	27.9	19.9	29.3
May	20.0	29.2	22.8	29.4	22.5	29.7
June	23.4	33.1	25.6	32.9	25.0	33.1
July	23.3	30.8	25.5	31.6	25.5	31.8
August	23.0	30.9	25.6	21.6	25.4	30.9
September	22.4	30.8	24.8	30.8	24.2	30.4
October	20.0	29.2	22.5	29.2	21.4	30.2
November	13.9	27.2	16.1	27.1	15.0	27.8
December	10.8	24.8	13.0	24.6	12.3	25.3

Soil and Natural Vegetation

Soil composition and its productivity being basic factors for agricultural development exert noticeable impact upon the distribution of population and settlements. The soils of the study area fall into five broad types viz., new

alluvium, old alluvium, laterite, submontane soils and hill soils. The new alluvial soils are found in the riparium tract of the valley which are subjected to annual floods and renewal. These soils are less acidic and are often neutral or alkaline. These soils are suitable for cultivation of rice, jute, pulses, mustard and vegetables. The older alluvium are generally found above flood levels and are highly acidic with lower amount of potash. Due to acidic character, the soils are suitable for tea plantation. These soils are also suitable for cultivation of sugarcane, pulses, mustard and fruits and vegetables. The lateritic soils cover a very limited area of Nowgong district. These soils are very poor in plant nutrients and are of limited agricultural value. The submontane soils are located in the northern periphery of the valley along the foothills of the Himalayan ranges. The soils are formed by coarse debris deposited by the streams flowing down from the mountain ranges. These soils are wet, not suitable for agriculture and are mostly covered by dense vegetation. The hill soils are found along the southern fringes of Jorhat, Sibsagar and Dibrugarh districts of the valley. This soil belt is mostly covered by forests.

In the given table a suitable classification of tea soil has been provided mainly to facilitate the tea cultivation in North East India (Table 3). The vegetal cover of



MAP No 4

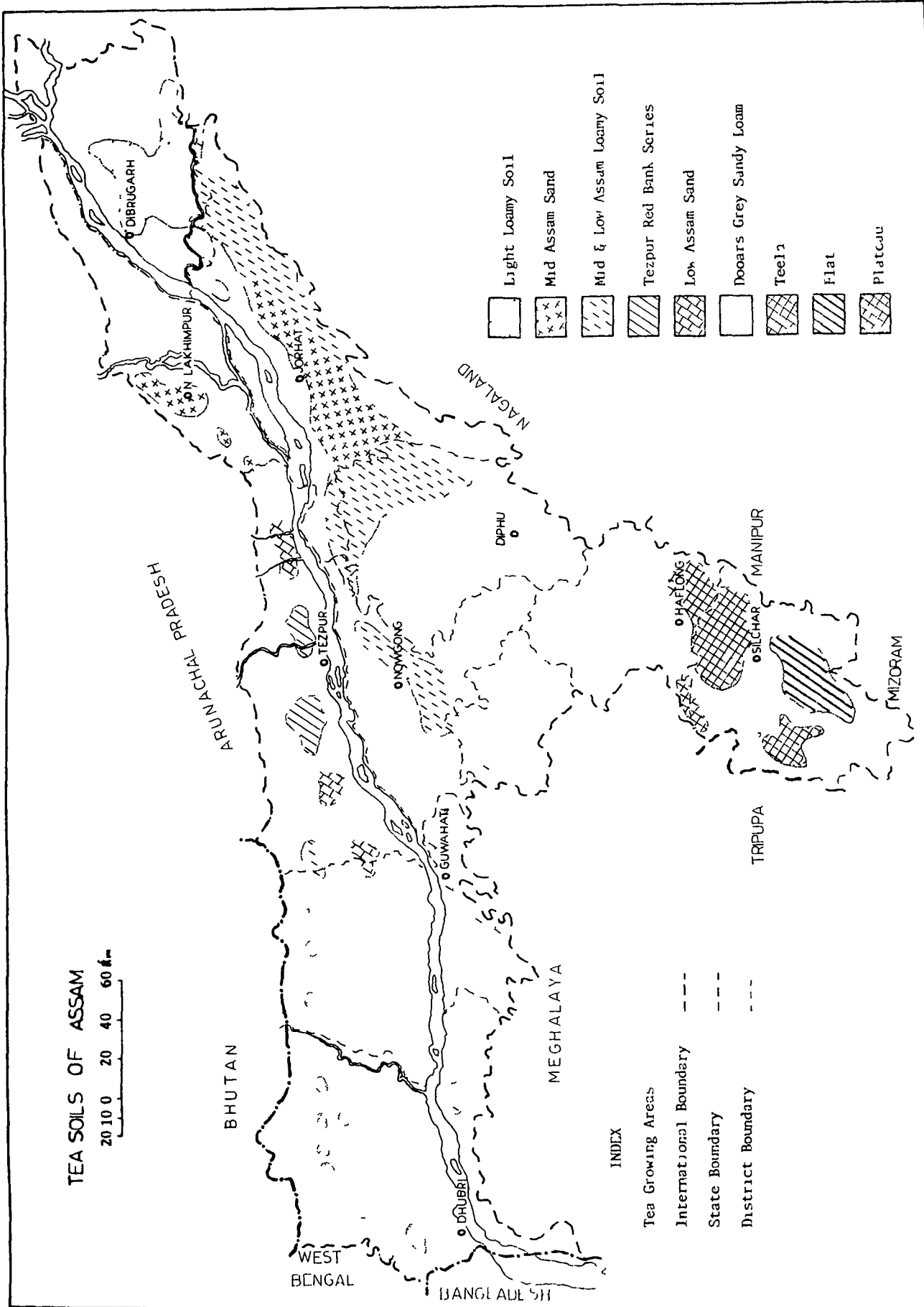
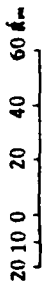
Table 3 - Textural and Structural Status of the Tea Growing Areas of North East India.

		Tea growing areas of North East India											
		Dooars	Terai	Darjee- ling	Plateau	Cachar	Jorhat	Nazira	Dibrugarh	N. Lakhimpur	Borsola	Nowgong	
					Teela	Flat	Peat	+	+	+	+		
								Golaghat	Doom	Dooma	Viswanath	Mangaldai	
		Silty clay loam, sandy loam	Coarse sandy loam	Coarse sandy loam	Silty clay loam	Coarse sandy loam	Silty clay loam	Silty loam	Silty loam, coarse sandy loam	Silty clay loam, silty loam, coarse loam	Sandy loam, silty loam	Silty clay loam	
		44-83	69-77	69-81	75	43-47	67	41-72	37-54	72-93	57-75	59-73	
		37-77	55-65	56-69	36	25-64	54	78	20-38	12-37	58-88	33-71	
		37-53	58-64	50-69	72	31-52	27	78	6-30	12-32	58-83	27-63	
		41-72	67-68	66-79	76	48-54	40	-	33-41	12-59	68-92	51-63	
Loss of aggregate in 20 Yrs		16%	16%	13%	-	-	-	-	25%	15%	20%	32%	
Regain of aggregate in next 20 Yrs.		8%	8%	11%	-	-	-	-	16%	8%	13%	32%	
		50-86	43-57	17-47								27-72	
		Total aggregate (% W/W) in 0-30 cm soil layer											

TEXTURAL CLASSES

Collected from Debendra Nath Saikia's Ph.D. Thesis, "Influence of certain soil physical conditions on Nutrient Availability: Their uptake and growth of Tea (Camellia Sinesis L.), 1985, AAU.

TEA SOILS OF ASSAM

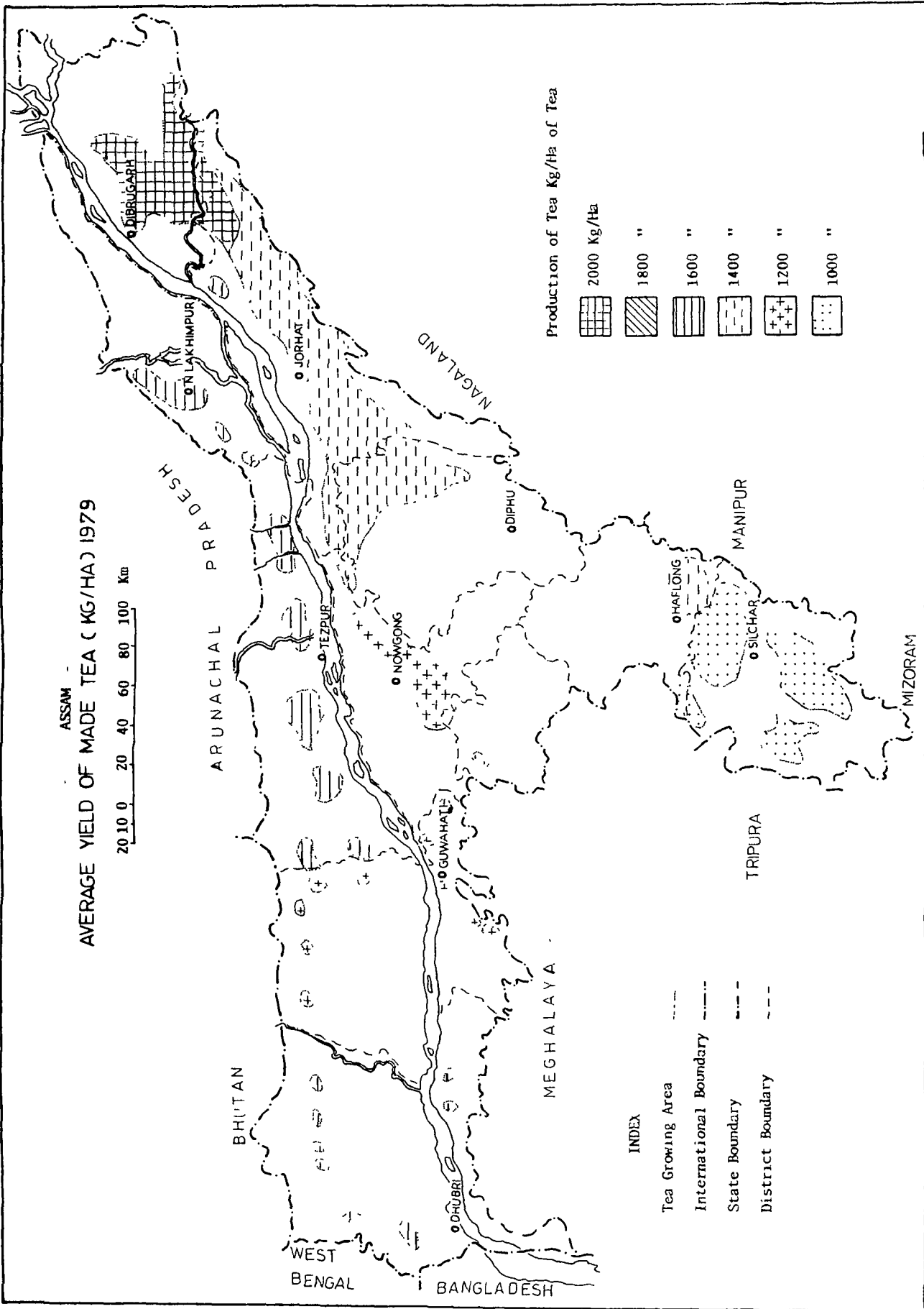
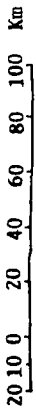


- Light Loamy Soil
- Mid Assam Sand
- Mid & Low Assam Loamy Soil
- Tezpur Red Bank Series
- Low Assam Sand
- Dooars Grey Sandy Loam
- Teela
- Flat
- Plateau

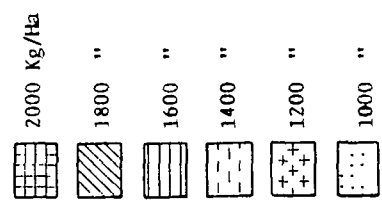
INDEX

- Tea Growing Areas
- International Boundary
- State Boundary
- District Boundary

ASSAM
AVERAGE YIELD OF MADE TEA (KG/HA) 1979



Production of Tea Kg/Ha of Tea



INDEX

- Tea Growing Area
- International Boundary
- State Boundary
- District Boundary

the earth surface has close relation with the productivity of soil and the overall natural environmental conditions of human habitation. The ecological set-up which has indirect control over agricultural activities and efficiency of human labour are greatly dependent upon the natural vegetation of a region. The natural vegetation of the Brahmaputra Valley falls into six broad vegetation types: evergreen and semi-evergreen forests, sal forests, mixed deciduous, savanah and bamboo, cane and miscellaneous varieties. The evergreen and semi-evergreen vegetation which require alluvial soil capable of retaining higher amount of water and annual rainfall exceeding 2,500 mm flourish in Lakhimpur district and in parts of Jorhat and Sibsagar districts. The important species of evergreen vegetation are - Sam (*Ariocarpur chaplasha*), Gandsarai (*Cinnamomum glanduliferum*), Jita champa (*Michelia champaca*), Maki (*Shorea assamica*), Nahar (*Mesua ferrea*), Khair (*accacia catechu*), Ajhar (*Hages Traemia veginee*), Kathal (*Artecarpus integrifalia*), Sonaru (*Cassia fistula*), Gomari (*Gmelina arborea*), Urium (*Bischoffia Javanica*), Amari, Kadam, Dhuba, Silikha and Agar. All these evergreen trees are used as timber wood and construction materials and are of great economic value. The mixed evergreen vegetation is usually found in the fringe areas of the evergreen forests and along the northern boundaries of Darrang and Sonitpur districts, where annual rainfall varies from 1750 mm

to 2,000 mm. The main species of this type are Jia (*Larrea grandis* A. rich), Paruli (*Stereospermum chelonoides* DC), Bhelu (*Tetrameles nudiflora* R. Br.), Bhola (*Morus laevigata* Wall), Hatipolla (*Pterospermum acerifolium* Wild), Udal (*Sterculia villosa* Roxb.), Kohir (*Bridelia restusa* Sprang), Outenga (*Dillenia indica* L.), etc.

The sal forest areas are located in the districts of Kokrajhar, Barpeta, Goalpara and imparts of Nowgong district. The sal species (*Shorea robusta*) has a very high commercial value owing to its long cylindrical bole and absence of middle storey. The most important sal forest tract of the valley is the Mechpara wards estate of Kokrajhar district which covers 205 Sq.Km. of area. The south-western section of Darrang district also contains a limited area of sal trees.⁶ Mixed deciduous vegetation occurs mostly in the lower Brahmaputra Valley in the transitional areas between high land and savanah forests and sal forests of the valley. These are confined to the districts of Dhubri, Kokrajhar, Goalpara, Barpeta, Kamrup, Nalbari and Darrang. The important species of this type include simul, Makri-sal, Bajan and Sidha. The grounds of such forests are usually covered by thatched grass

6. Das, H.P. Geography of Assam, (National Book Trust of India, New Delhi, 1970), p. 444.

and reeds. The savanah vegetation occurs in the well drained highland areas all throughout the valley. The important species of the type include Kum (*Careya arborea* Roxb.), Bihmora (*Randia dumetorum* Lant), and Amlukhi (*Emblica officianalis* gaestr). The most common grass found in the lowland savanah situated along the river banks is uluberina (*Saccharum spontanium*).

The riverine forest occurs along the northern fringe of the valley along the Himalayan foothills from Kokrajhar district in the west to Sonitpur district in the east and in the flood affected areas along the river banks throughout the valley. The important species of this vegetation are - Koroi (*Albizzia procera* Benth), Simul (*Bombax malabaricum* D.C.), Khakon (*Duabanga sonneratioides* Ham) and Sisso. In addition to above types of vegetation, bamboo, cane, reeds and various species of grass occur in different parts of the valley. There are many species of bamboo like Jati, Bhaluka, Mokal and Kotoha. These are of great economic value and are used for construction works and as raw materials for pulp and paper industry.

The Brahmaputra valley has a total of 11,497.5 Sq.Km. of Government reserve forests, which constitute 17.65 per cent of the total area of the valley and 70.02 per cent of the total area under reserved forests in the state, of Assam.

Thus, the foregoing discussions clearly reveals the intricate relationships in which the tea industry has developed. Each location of tea cultivation has also clearly indicated the relationship with the Brahmaputra valley. So much so that, the socio-cultural milieu, as applicable and illustrated by the tea garden areas of the state show close association with the general distribution of the state i.e., impact of socio-physical factors in distribution and activities in the state.

CHAPTER III

SOCIO-CULTURAL PERSONALITY

SOCIO-CULTURAL PERSONALITY

The present socio-cultural personality of Assam is the outcome of a long historical process of migration assimilation and settlement of various ethnic groups, coming from different parts of South-East Asia (including India) at different points of time to this region. Although various streams of migration of various groups to this region took place and the subsequent resultant evolution, diffusion and unification of their cultural attributes changed significantly, their original socio-cultural traits are not difficult to recognize. It is on this mosaic that the tea industry superimposed itself. It introduced elements of the Chotanagpur plateau and inextricably intertwined the region with the subcontinent. For the state, the immigration further complicated the socio-cultural and economic content. For the immigrants, this movement in search of employment provided a totally new platform upon which their respective identities could be built up.

For a better understanding of the present socio-cultural personality of the region, which has influenced the process of development of the region in many ways, the people process of the region needs to be understood.

The present cultural scenario of the state has evolved through the ages by a long process of peopling compatible to its physical set-up along with soil, climate and natural vegetation. Favourable environmental factors played an important role in attracting different groups of people at different points of time in the historical past. The Brahmaputra valley not only attracted various tribal groups from south-east Asia during the pre-historical, ancient, medieval and early modern period but also attracted more technologically advanced agricultural communities from the subcontinent of India. However, the migration from Gangetic plain and delta started very late as the fertile plains of India had sufficient lands even for increasing population of those regions till 18th Century. Apart from this period a more important factor which restricted significant migration from the Indian mainland to Assam, prior to the modern period, was its location in terms of distance and accessibility.

It is not easy to trace the sequential succession of peopling mainly due to two reasons. Firstly, there is no tangible evidence to find out the successive human occupation of the land during its historical past and secondly, due to large scale inter-mixing of various socio-ethnic groups it becomes difficult to isolate the various temporal streams of migrants.

The present social composition of population of Assam is an outcome of intermixing between various racial and linguistic groups who came to this part of the country at different points of time in history from different point of origin and in several waves and streams. From available literature at least eleven waves of migration can be traced.¹

It is believed that the Austro-Asiatic stream consisting of Mon-Khemar and Khasi-Syntengs of present day. Meghalaya were the first to occupy the Brahmaputra valley. Differences in opinion exist with regard to the routes of their migration, which may have been from the east or from the south-east. Most probably they entered the valley from the south-east as evident from the racial and cultural affinity they display with the people living in Malaya Peninsular and Chottanagpur plateau. These groups were however pushed to the hilly periphery of the region known presently as Meghalaya by subsequent waves.

The Tibeto-Burman groups followed them. They entered Assam through various river valley and mountain passes of the Northern, North-eastern, and South-eastern hills. The migration of this stream continued well upto 18th and early

1. M. Taher, 1988. "The Population Base of Assam", in North-Eastern Geographer, Vol. 19, No.1 & 2, p. 2.

19th centuries. This group was divided into two branches.

(a) North Assam branch, which includes Monpas and Sherduk-pens living in the Bhutan and Arunachal border of Assam, Mishing and Duris of Upper Assam, and

(b) Assam-Burmese branch which can be further divided into several sub-branches like, Naga groups living in Karbi-Anglong and North Cachar Hills, Naga-Bodo and Naga-Kuki sub-groups which along with many others include Karbis of Karbi Anglong, and Kuki-Chin group include Kuki, Hmar, Meithei of North-Cachar and Karbi-Anglong and Bodo group, the latter being an important group of this branch. The Bodo group includes Garo, Mach, Koch, Lalung, Demasa, Kacharis and Bodos scattered all over Assam.

Besides this migration of Indo-Aryan group of people into the region was also significant. They migrated from north-eastern peninsular areas and settled in the Brahmaputra plains. Further these migrations interacted with already complex population content of the region. This leads one to suggest that the Hindu population in the region was the result of their interaction with other ethno-linguistic groups of previous and subsequent migrants. They were also responsible for initiating the process of sanskritisation in the region.

After 12th century A.D. a series of Muslim invasions took place. Md. Bin Bakhtiar Khiliji was the first Muslim invader who invaded Assam in 1205 A.D. Successive territorial trusts and retreat left many among the invading forces in the region - either to rule or as captives. Many of their captives were skilled artisans and were absorbed as workers under the native rulers, and were settled in different parts of the valley. Thus, these new elements from the south Gange-tic valley were introduced in the social scenario of the region. These settlers are now found to be concentrated between Hajo and Sipaghar in the north bank of Brahmaputra.

The Ahoms, an offshoot of the great Tai were the next important stream of migrants. They were the speakers of Siamese-Chinese linguistic branch. They came to Assam through Phangsus pass after crossing the Patkai Range. Ahoms under Sukapha established a kingdom north of Brahmaputra. In course of time the Ahom kingdom expanded in size to include the territories occupied by Morans, Borahis, Kacharis and Chutias. Often the size of Ahom kingdom covered the whole of Assam. Like their counterparts in northern and north-western India, the Ahoms gradually merged their socio-cultural identity with the inhabitants they had conquered and ruled. This brought about an entirely new basis of identity of the Ahoms. This enabled them to make a positive contribution

in the evolving order of regional socio-cultural landscape of the region.

Ahoms gradually extended their effective territorial control from Upper Assam to include the Lower Assam as well as the Ahom intergennum (13th to early 19th century) which provided the needed stability for the socio-cultural elements of the region to acquire territorial characteristics except a few Muslim invasion. This was followed by fission and fusion between groups and sub-groups who together constituted a dynamic set up in the region. For religious and economic purposes, rulers in the region sponsored selected migration of people, from North India like Uttar Pradesh, Bihar, Bengal etc.

Besides these a new influx of Tai or Siamese-Chinese linguistic sub-group had also taken place. These groups consisted of Khamtis, Khamyangs, Aitons, Phakis and Turungs sub-groups. They came to Assam across the Patkai from Upper Burma at different points of time between the seventeenth to nineteenth centuries. Moreover the Burmese incursions into the state in the early part of the 19th century also left its impact. Particularly with growing instability in Upper Burma, tribal feuds and dismal economic conditions encouraged waves of migration. These migrants were largely Kachin and Kuki-Chin people from Upper Burma who crossed

the Patkai and Arakan Yama range to the NE India. Besides occupying present day Manipur, Mizoram and Arunachal Pradesh, they also moved into parts of Assam, e.g. Singphos of the Changlang border of Dibrugarh district and various Kuki tribes living in Karbi Anglong and North Cachar hills and foothill areas of Cachar.

Assam was annexed to the British India in 1826 (after the defeat of Burma and through the Treaty of Yandaboo. Initially the objectives of annexation were strategic and administrative. However, with the growing prospects of commercial activities and through various administrative measures and revenue reports, the economic potential of the region significantly moulded the British India response. The revenue reports clearly brought about the economic situation in the region. It also evolved the administrators to identify the land use pattern of the state. This encouraged them to promulgate Wasteland Acquisition Act of 1832. Moreover with the discovery of tea and its suitability for cultivation many of the lands lying fallow and unsuitable for cultivation of traditional crops. Along with favourable agro-climatic condition, a pattern was set for the large scale introduction of tea in the state. In this regard, the administrators were faced with the problem of labour, which was so essential in the cultivation and production of tea. Years of instability had resulted

in depopulation of the area. Moreover, the local inhabitants were least interested in the colonial activity and completely detached themselves from the colonial developmental (or exploitative, from the Indian viewpoint) efforts. Tea became subjected to global economic impact and the colonial administrators found it all the more imperative to introduce large scale cultivation in the state. With all physical factors in favour, the administrators were compelled to resort to -

(a) free and easy grants and lease of land to British entrepreneurs along with assistance in capital to start tea gardens; and

(b) permission to import labour from other parts of the sub-continent.

In the process, instability and worsening conditions of famine prevailing over the central Indian tribal belt provided a fertile ground for inducing labourers (who were facing unprecedented difficulties to meet minimum requirements) to migrate. This encouraged, partially, the large scale migration of people speaking Austro-Asiatic and Dravidian languages who came to work in the tea gardens. This wave of migration started in 1835 and continued till 1940. The British needed manpower to run the administration in the newly acquired territory and introduction of money economy

in spheres of trade, commerce, business, construction etc. This attracted large scale migration from different parts of India and Nepal mainly consisting of Indo-Aryan linguistic groups.

Towards the last decade of 19th century landless Muslim population of Mymensingh district of East Bengal (now Bangladesh) started infiltrating into the state. It is a known fact that their migration was encouraged by the Zamindars of old Goalpara district and the British. Between 1901 and 1947 the immigration of this stream was largest. These people were basically cultivators and presently occupy extensive areas of Goalpara, Kamrup, Nowgong and Cachar districts of Assam. They were Bengali speaking population which is a branch of Indo-Aryan linguistic family.

During the time of Independence following the partition, immigration of Hindus from the then East Pakistan (now Bangladesh) to this region took place in large numbers. This was continuing till the independence of Bangladesh in 1971. As the size of immigration was considerable and took place within a short span of time, it had a direct impact on the socio-demographic scenerio of Assam.

Within this broad spectrum that had imprints of large scale movements of population within and to the region, the

population groups and sub-groups who constituted the working force in the tea gardens in the 19th and early 20th centuries, constituted a distinct entity. Initially as tea garden labourers and latter as settlers, these central Indian inhabitants have merged themselves with the regional culture.

The aboriginal people of Central India or Central Indian tribal and low-caste Hindu population who had migrated to Assam in search of jobs or employment are regarded as the 'Tea garden and ex-tea garden labour community.' There are about 23 Central Indian tribes in Assam, they are Bhils, Bhumij, Gonds, Goraites, Ho Kharia, Khonds, Kissans, Kolami, Konda, Korku, Korwa, Koya, Kurukh, Kamars, Lohars, Mogh, Munda, Pans, Parja, Laria, Santhals and Saoras. Besides there are population of other sub-groups who have been classified as scheduled castes in other parts of India, and came to Assam to work in the tea gardens. The most important of these sub-groups are known as Kumars, Lohars, Chammers etc.

In the beginning, the major obstacle to creating a tea industry in Assam was the lack of an adequate local labour supply. Diseases, civil conflict, and the Burmese invasions had depopulated much of the province. For the local Assamese cultivators there was little incentive to work as low income wage labours in unhealthy jungle terrain; they were comparatively prosperous, for there was much land.

The British first thought of solving their labour problem by importing Chinese coolies from Singapore, it was assumed by the British that the Chinese, whatever their background, knew how to cultivate and prepare tea.² But this could not succeed.

Finding an alternative labour supply proved not to be an easy task. Labourers were imported from other parts of India, first from the Chittagong region of East Bengal, then later from the hill areas of southern Bihar, but the mortality rate was apparently appallingly high.³

A system of contract labour was established. By the turn of the century there were 764 tea gardens in Assam, employing 400,000 persons and producing 145 million pounds of tea per year. The number of migrants to the plantations soared even higher between 1911 and 1921, when the tea industry imported 769,000 labours. Another 422,000 came during the following decade. (See Table 4).

Migration rose again during the Second World War, when tea garden labourers from Assam were employed by the American and British armies to build roads and aerodromes to defend Assam against a possible Japanese invasion from Burma.⁴

2. Weiner, M. 1978. Sons of the Soil; Migration and Ethnic Conflict in India, Princeton University Press, p.89.

3. Ibid.

4. Ibid.

Table 4 - Decadal Immigration of Tea Garden labourers in the Brahmaputra Valley of Assam, 1881-1931.

(in '000)

Census Year	Total labour population living in the tea gardens	Decadal variations	Decadal Natural increase on mid-Census population	Decadal Net migration
1881	107.0	-	-	-
1891	225.6	118.6	6.7	111.9
1901	385.7	160.1	-11.5	171.6
1911	461.8	76.1	50.0	26.1
1921	723.7	261.9	29.6	232.3
1931	747.2	23.5	85.3	-61.8

Source: Annual Reports on Immigration Labour in Assam for respective years.

The migration of tribal peasants to the plantation estates in Assam was stimulated by a variety of reasons. Enticement by recruiting agents, conflict in the family, scarcity of food, money and employment, besides adventurism and escape from law, were some of the major reasons of migration. But in other ways, they were the product of deep underlying social and economic forces that were at work in Chhotanagpur and other neighbouring tribal belts of Madras and Bombay presidencies.⁵

5. Xaxa, V. 1985. "Tribal Migration to Plantation Estate in North-East India: Determinants and Consequences", Demography India, Vol. XIV No.1, p. 73.



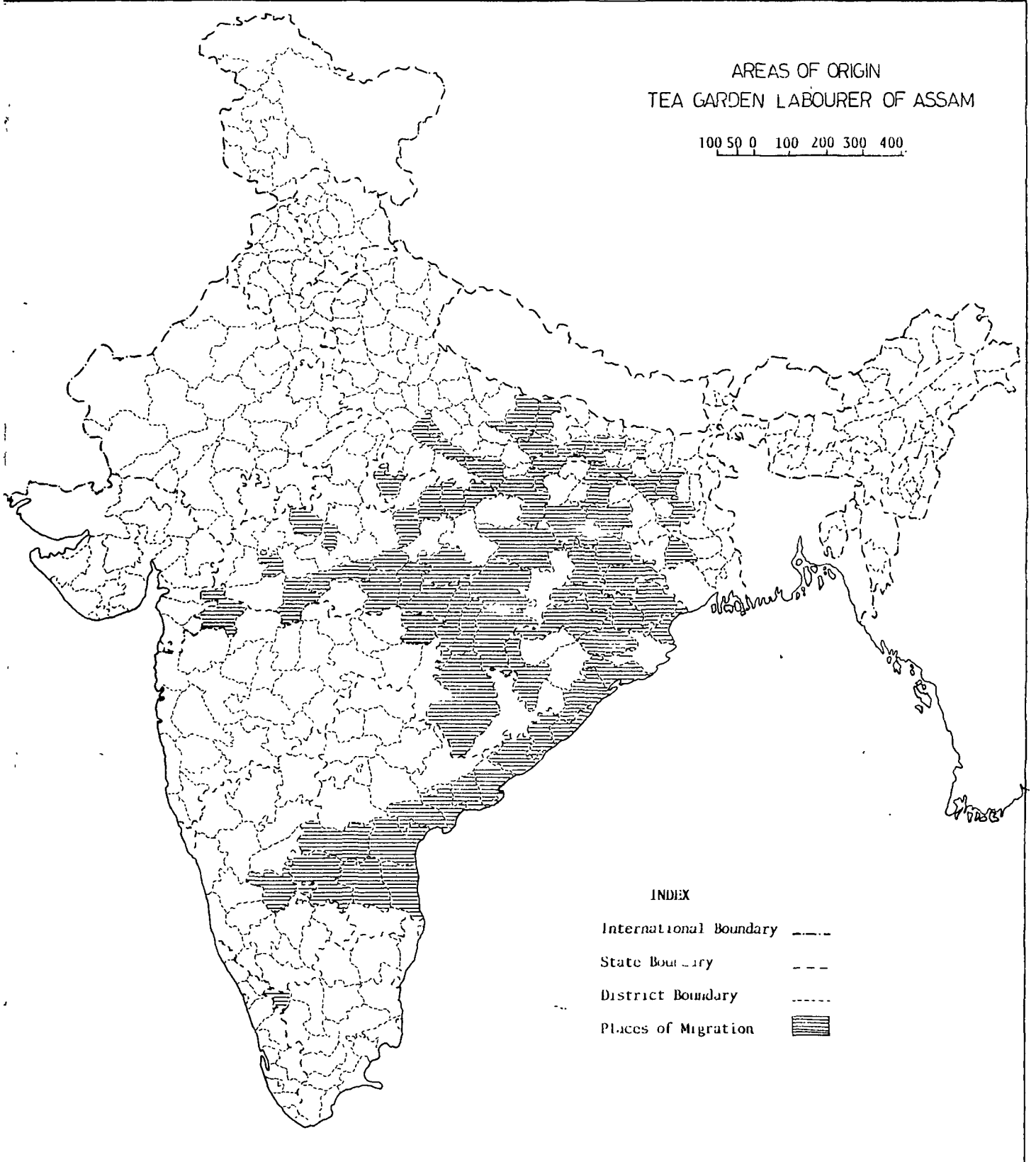
Plate 1. Tea plucking in Mornai T.E.




Plate 2. Overview of Dirok T.E.

AREAS OF ORIGIN
TEA GARDEN LABOURER OF ASSAM

100 50 0 100 200 300 400



INDEX

- International Boundary - - - -
- State Boundary - - - -
- District Boundary
- Places of Migration 

The economic threat to the tribal belt of Central India came into existence along with the introduction of new system of landholding. Instead of the previous system of village chiefs who had control over the village cultivable wasteland, the zamindar and ryotwari systems came into existence.

It was not thus a matter of mere coincidence that when the British firms were establishing plantation estates in north-east India, tribal peasants from the biggest tribal concentration in India were being pushed off from their zones by an organised system of recruitment. The extent of out-migration from Chhotanagpur, was 3,30,000 in 1891; 2,82,000 in 1901; 7,07,000 in 1911 and 9,47,000 in 1921; clearly reflects this link.⁶

Social Composition

The complex process of peopling into the region as evident from the preceding discussion has produced a social mosaic unprecedented in terms of diversity and scale. While the elements of social composition are intertwined to an extent difficult to isolate one from the other, an attempt is made in this section to systematically present the patterns

6. Ibid, p. 75.

of social composition with regard to language, religion, caste and tribal components of population separately to get an overview of the complex social personality of the region.

Language

The linguistic composition of the people in the state present a highly confused picture though the speakers of all four main linguistic families could be found viz. Indo-Aryan, Tibeto-Burman, Austro-Asiatic and Dravidian. Some of the major languages spoken in the state include Assamese (spoken by 60.89 per cent of the total population of Assam), Bengali (19.71 per cent), Hindi (5.42 per cent), Bodo (5.65 per cent), Nepali (2.39 per cent), Kari (1.31 per cent), Mishing (1.21 per cent) and Oriya (1.03 per cent). Assamese of course is the dominant language of the Brahmaputra valley and the proportion of speakers varies between 61.16 per cent in Lakhimpur to 85.77 per cent in Sibsagar district. The proportion of Assamese speakers is the lowest in Karbi Anglong (13.61 per cent), North Cachar Hills (2.8 per cent), Cachar (0.50 per cent) and in Karimganj district (with 0.08 per cent). Bengali is the second most important language of Assam and a predominant language of Barak valley. Bengali is spoken by 77.76 per cent of the population of Karimganj and Cachar districts, 13.31 per cent of Nagaon 14.70 per cent of Dhubri, Goalpara and Kokrajhar, 14.38 per cent of North Cachar Hills,

13.31 per cent of Sonitpur and Darrang, 12.34 per cent of Kamrup and Barpeta, and 11.05 per cent of Dibrugarh district. Bengali speaking population of Brahmaputra valley mainly comprises of the population which migrated during the colonial period in search of job and post independent migrants from East Pakistan. In regard to Barak valley, a segment of the Bengali speaking population is indigenous to the places and others are the later migrant from Bangladesh.

Hindi speaking population is more or less restricted to the tea gardens and urban centres of Assam. It has been observed that in Dibrugarh and Cachar, they account for 11.28 per cent each, while in Karbi Anglong 7.6 per cent and in Darrang 6.05 per cent. In other districts they are considerably less.

Speakers of various tribal languages like Bodo, Rabha, Dimasa, Karbi etc. are scattered all over. Speakers of Karbi and Dimasa languages are found in two hill districts of Karbi Anglong and N.C. Hills. Bodo speaking population dominates in Kokrajhar and Udalguri sub-divisions of Darrang district. Rabha speaking population is mostly found in Dudhnoi and Boko Thanas of Goalpara district. Apart from them there are numbers of tribal communities who speak different tribal languages. A considerable proportion of Nepali speaking population is also found in Assam but they are scattered all

over. A major area of concentration of Nepali speaking population is found in Behali and Biswanath Thanas of Sonitpur, Margherita Thana of Dibrugarh and Goreswar thana of Kamrup. In the two hills district of Karbi Anglong and N.C. Hills also are found in considerable proportion.

There is a considerable proportion of tea and ex-tea garden labour population, roughly it can be estimated at 50 lakh. Many of them speak their own mother tongue such as Mundari, Santhali, Oroan, Kharia and so on. Besides this language/dialect like Sadhri is used to communicate between various migrated sub-groups. Further, having settled in the vicinity of the tea garden areas, these population groups have also started returning Assamese as one of the languages spoken by them, at least among the majority of the tea areas in the state. Table 5 shows the population of ten important languages spoken in the tea gardens of Assam.

Religious Make-Up

In Assam there are followers of all various religious faiths. On the basis of numerical majority the religious groups have been considered as major religious groups while others have been regarded as minor religious groups. According to 1971 Census, Hindus (72.51 per cent), Muslims (24.56 per cent), Christian (2.61 per cent), Buddhists (0.15 per cent)

Table 5 - Population of ten important languages spoken in tea gardens of Assam (1971).

District	Bhumij	Gondi	Kharia	Kisan	Oraon	Mundarj	Parji	Santali	Savara	Orya
Goalpara	12	-	61	-	7,551	5,005	-	55,703	-	8,552
Kamrup	63	7	240	9	4,116	1,557	-	9,709	101	2,590
Darrang	603	1,441	1,338	484	5,040	26,281	1,791	6,560	1,222	40,281
Nowgong	374	138	1	-	1,157	1,605	-	674	34	7,480
Sibsagar	223	479	1,677	30	2,164	6,651	639	3,660	145	26,570
Lakhimpur	2,537	315	2,791	388	10,713	31,934	1,355	5,870	1,131	47,683
Karbi Anglong	344	101	952	6	1,456	3,312	-	673	259	2,966
N.C. Hills	-	-	-	-	6	-	-	4	-	83
Cachar	268	134	1	-	828	1,003	-	3,233	813	991
Assam										

SOURCE: CENSUS OF INDIA 1971

and Sikhs (0.08 per cent) can be regarded as major religious communities of Assam.

Hindus are the largest religious group forming majority of the population in 15 out of 18 districts of Assam. Their proportion is highest in Jorhat (94.14 per cent) followed by Dibrugarh (89.55 per cent). The proportion of Hindu population is comparatively less in Karimganj (55.14 per cent), Goalpara (53.76 per cent), Barpeta (51.08 per cent) and Dhubri (34.80 per cent).

On the basis of numerical strength, Muslims are the second largest religious community in Assam. They are largely concentrated in Dhubri district (64.46 per cent) followed by Barpeta (48.69 per cent), Karimganj (44.24 per cent), Goalpara (40.42 per cent) and Cachar 37.64 per cent). In other eight districts their population is less than 10 per cent.

The proportion of Christians is the highest in North Cachar Hills (21.87 per cent) followed by Karbi Anglong (7.99 per cent), Darrang and Sonitpur (5.06 per cent in each), Kokrajhar (3.58 per cent) and Dibrugarh (3.51 per cent). The small Buddhist population is confined to the five Upper Assam districts, while the Sikhs constitute 0.20 per cent of Sibsagar's and 0.11 per cent of Nagaon's populations respectively.

The migrants from Chota Nagpur however present an interesting scenario. For example, the groups like Munda, Oraon, etc. were traditionally animists, but after having settled in the Brahmaputra valley, they were converted to Hinduism; the migrants also included Christians. In the study area particularly in the tea estates, the situation is reflected as – Mornai with a majority Christian population, Dirok having nearly 25% Christian population and Tamulbari with dominant Hindu and animist followers.

Table 6 - Proportion of followers of 6 major religions to total population in Assam in 1971.

Districts	(in %)					
	Buddhists	Christians	Hindus	Jains	Muslims	Sikhs
Goalpara	0.20	3.59	53.92	0.18	42.25	0.04
Kamrup	0.04	0.88	69.96	0.10	28.93	0.09
Darrang	0.17	5.06	78.45	0.07	16.19	0.06
Nowgong	0.01	0.71	59.70	0.08	39.39	0.11
Sibsagar	0.24	2.09	92.22	0.06	5.27	0.12
Dibrugarh	0.70	3.51	92.41	0.03	3.09	0.20
Lakhimpur	0.22	2.60	89.57	0.04	7.54	0.03
Karbi Anglong	0.35	7.99	90.27	0.01	1.30	0.08
North Cachar	0.20	21.87	77.03	-	0.86	0.04
Cachar	0.02	1.32	58.71	0.05	39.89	0.01
Assam	0.15	2.61	72.51	0.09	24.56	0.08

Occupational Participation

The Census of 1971 reveals that the work participation rate in Assam was 27.96 per cent, that of males being 48.83 per cent and of females only 4.66 per cent. There is a spatial variation in the work participation, with North Cachar Hills having the highest (41.91 per cent), followed by Karbi Anglong (31.16 per cent) and Dibrugarh (30.16 per cent). A high rate of work participation in the hills indicates a poor economy, based largely on shifting agriculture, with either surplus generation, needing men, women and children of the families to work.

Of the working population of the state more than three-fifths were engaged in agriculture in 1971, 55.86 per cent as cultivators and 9.92 per cent as agricultural labours. Besides, 10.91 per cent of the workers were engaged in the plantations and 1.32 per cent in mining, quarrying and forestry. Thus, primary occupations engaged 78.01 per cent of the workers. The secondary occupations engaged 4.14 per cent, factory manufacturing 2.75 per cent and household industries 139 per cent. In the Tertiary sector, trade and commerce engaged 5.65 per cent, other services 9.69 per cent and transport, storage and communications 2.51 per cent, totalling 17.85 per cent.

Spatially, the proportion of workers engaged in agriculture varied between 83.89 per cent in Karbi Anglong to

36.04 per cent in Dibrugarh. Further, Dibrugarh (31.67 per cent), Sibsagar (24.64 per cent), Darrang (14.36 per cent) and Cachar (12.28 per cent) had substantial proportions of workers engaged in tea plantations. Agricultural labourers were highest in Cachar (19.93 per cent) followed by Nagaon (13.22 per cent).

In the secondary sector, Kamrup had the highest proportion of workers engaged in household industries (2.14 per cent), while in factory manufacturing the leading districts were Dibrugarh (1.77 per cent) followed by Kamrup (1.01 per cent). As far as the Tertiary sector is concerned, Dibrugarh ranks first with 8.03 per cent in Trade and Commerce, followed by Kamrup (6.75 per cent) and Goalpara (5.93 per cent).

Literacy Pattern

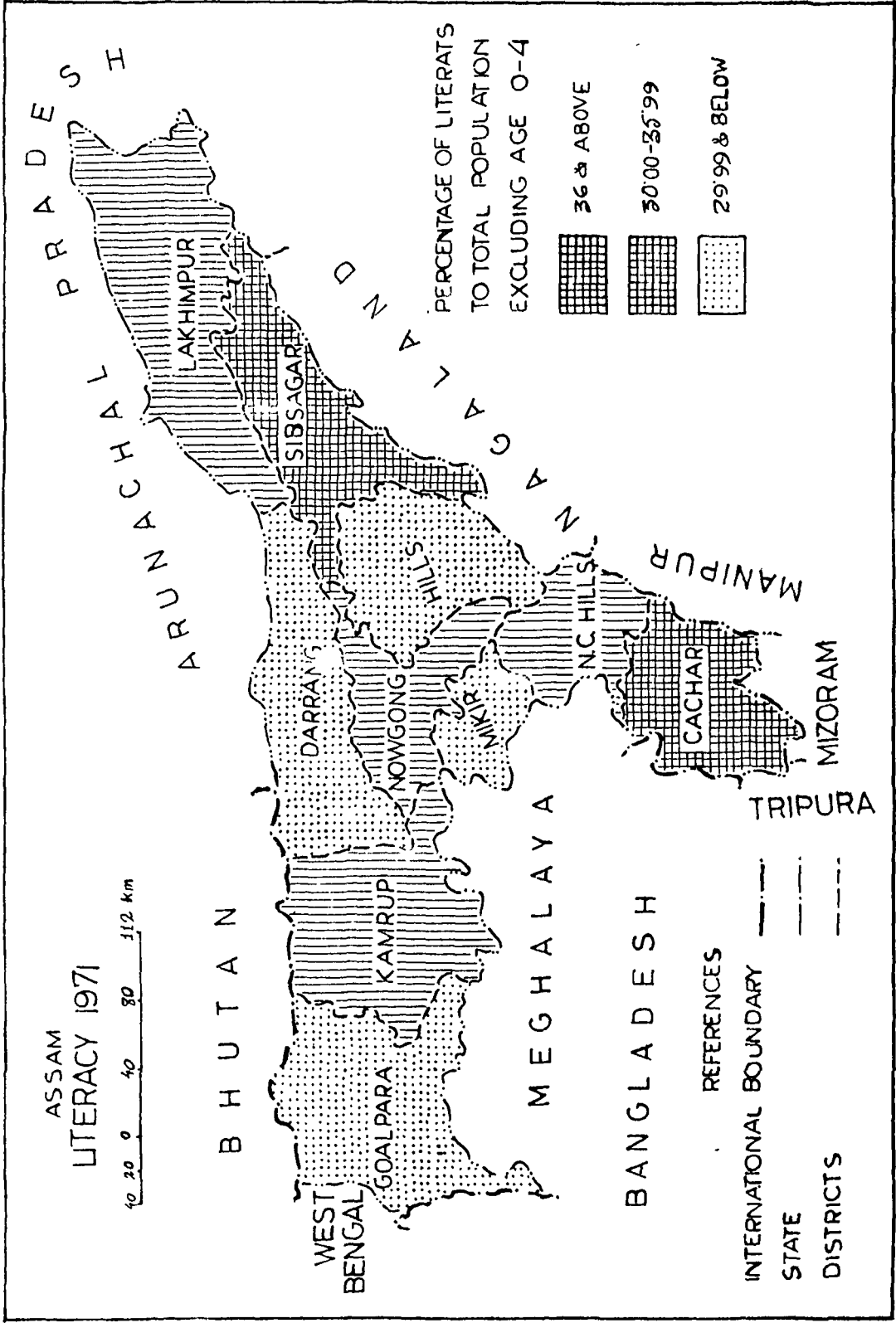
Educationally the people of Assam are more backward in comparison to India as a whole. The literacy rate for India as a whole was estimated to be approximately 29.3 per cent according to 1971 Census. During 1971, male literacy was 39.5 per cent, while female literacy was 18.4 per cent. During the same year in Assam the general literacy rate was only 28.15 per cent and male and female literacy rates were 36.08 and 18.63 per cent respectively.

The literacy rate of Assam showed variations in different districts. In three districts, Goalpara, Darrang and Mikir Hills came under the range of 29.99 per cent and below. In another four districts namely, Kamrup, Nowgong, Lakhimpur and N.C. Hills the literacy range was between 30 to 35.99 per cent. The remaining two districts namely, Sibsagar and Cachar fall in the 36 per cent and above category. The highest percentage of literacy exists in Sibsagar, with the lowest existing in Mikir Hills.

Table 7 - Literacy Rates in Assam (1971)

District	Total Population (excluding age group 0-4)	Literates	Percentage of literates to total popula- tion
Assam	12,413,545	4,295,564	34.60
Goalpara	1,819,332	488,989	26.88
Kamrup	2,357,271	821,030	34.83
Darrang	1,437,051	395,078	27.49
Nowgong	1,389,849	486,041	34.97
Sibsagar	1,542,193	672,766	43.62
Lakhimpur	1,768,672	635,627	35.94
Mikir Hills	312,072	72,697	23.29
North Cachar Hills	68,582	20,724	32.09
Cachar	1,437,395	523,819	36.44
Mizo	285,128	178,793	62.71

SOURCE: CENSUS OF INDIA 1971



MAP NO 8

An important cause of low literacy rate in Assam may be attributed to the fact that there is a high concentration of illiterate tea garden labourers in the state. The case study of three tea estates shows that only 47.76 per cent of the population of the three tea gardens are literate while 52.24 per cent are illiterate.

A further break-up of literates according to educational level reveals that 41.15 per cent have studied between Class I to III. 42.11 per cent between Class IV to VII, and 15.55 per cent between Class VIII and X. Only 0.96 per cent studied between Class XI - XII and only 0.24 per cent have studied upto graduation level.

Table 8 - Educational attainment in three selected tea estate of Assam.

(in %)

Age groups	Male	Female	Total
I - III	39.70	43.71	41.15
IV - VII	43.07	40.40	42.11
VIII - X	16.48	13.91	15.55
XI - XII	0.37	1.99	0.96
B.A.	0.37	0	0.24
Literates	47.76	27.40	37.66
Illiterates	52.24	72.60	62.34

SOURCE: COLLECTED BY THE AUTHOR

The poor educational standard of tea garden labour have grave consequences on the overall socio-economic milieu of Assam. Since the tea garden labourers form a large segment of the population of Assam low literacy rate among them have adversely affected the overall performance of literacy and educational standards in the state. In its turn low level of education has retarded the process of skill formation and human resource development in the state.

Some of the important causes for the low literacy and educational backwardness may be outlined as follows:

(1) In the tea gardens only primary school facilities are available. To acquire higher education in schools and colleges the children have to go out from the tea gardens to distances of 3 to 4 kilometres.

(2) Income is another determining factor in terms of education. Most of the labourer families in tea gardens are large while their incomes are generally very meagre. The labourers survive by a hand to mouth existence. They have neither surplus money nor the time to think of a better living or higher status. It can be observed that lack of enthusiasm for education is not always due to their values and order of priorities but due to material circumstances and financial adversities.

(3) Most of the parents among tea garden labourers are either illiterate or poorly educated. They hardly realise the importance of education as a result they do not encourage their children to go for higher education.

(4) Moreover, lack of higher ambitions, the functioning of the school systems within the tea garden areas which leaves much room for improvement are also reasons behind the low educational attainment among tea garden labourers and their children.

Density of Population

Population is unevenly distributed over the state. The density is relatively high along the two built-up strips of Brahmaputra valley. It is due to the high concentration of service centres, urban areas and settlements aided by a well developed transport network in these areas. Another high density area is found in the adjacent higher grounds of the Barak flood-plain. The density gradually decreases from these two built-up strips and higher ground towards the foothills and flood plain. But due to the influence of immigrant Muslim peasants during the present century, the lower part of the Brahmaputra flood-plain from Dhing westward upto Mankachar has a high density of population.

According to 1971 Census, the highest density was recorded in Nowgong district with 302 persons per square

kilometre followed by Kamrup with 289, Cachar with 246, Goalpara with 215 and Sibsagar with 204 persons per square kilometre. Other four districts had densities less than 200 persons per square kilometre. The lowest density was recorded in N.C. Hills with only 16 persons per sq. kilometre. In the given map, however, the density in each police station has been considered to get a more accurate picture of the density of population.

Along with other immigrants the tea garden labourers have also influenced the population distribution and density of Assam.

Table 9 - Population, Distribution and Density in Assam (1971)

State/ District	Total Population	Total Area in Km ²	Density/ Km ²
Assam	14,957,542	99,610	150
Goalpara	2,225,103	10,359	215
Kamrup	2,854,183	9,863	289
Darrang	1,736,188	8,775	198
Nowgong	1,680,995	5,561	302
Sibsagar	1,837,389	8,989	204
Lakhimpur	2,122,719	12,792	166
Mikir Hills	3,79,310	10,332	37
N.C. Hills	76,047	4,890	16
Cachar	1,713,308	6,962	246
Mizo	332,390	21,087	16

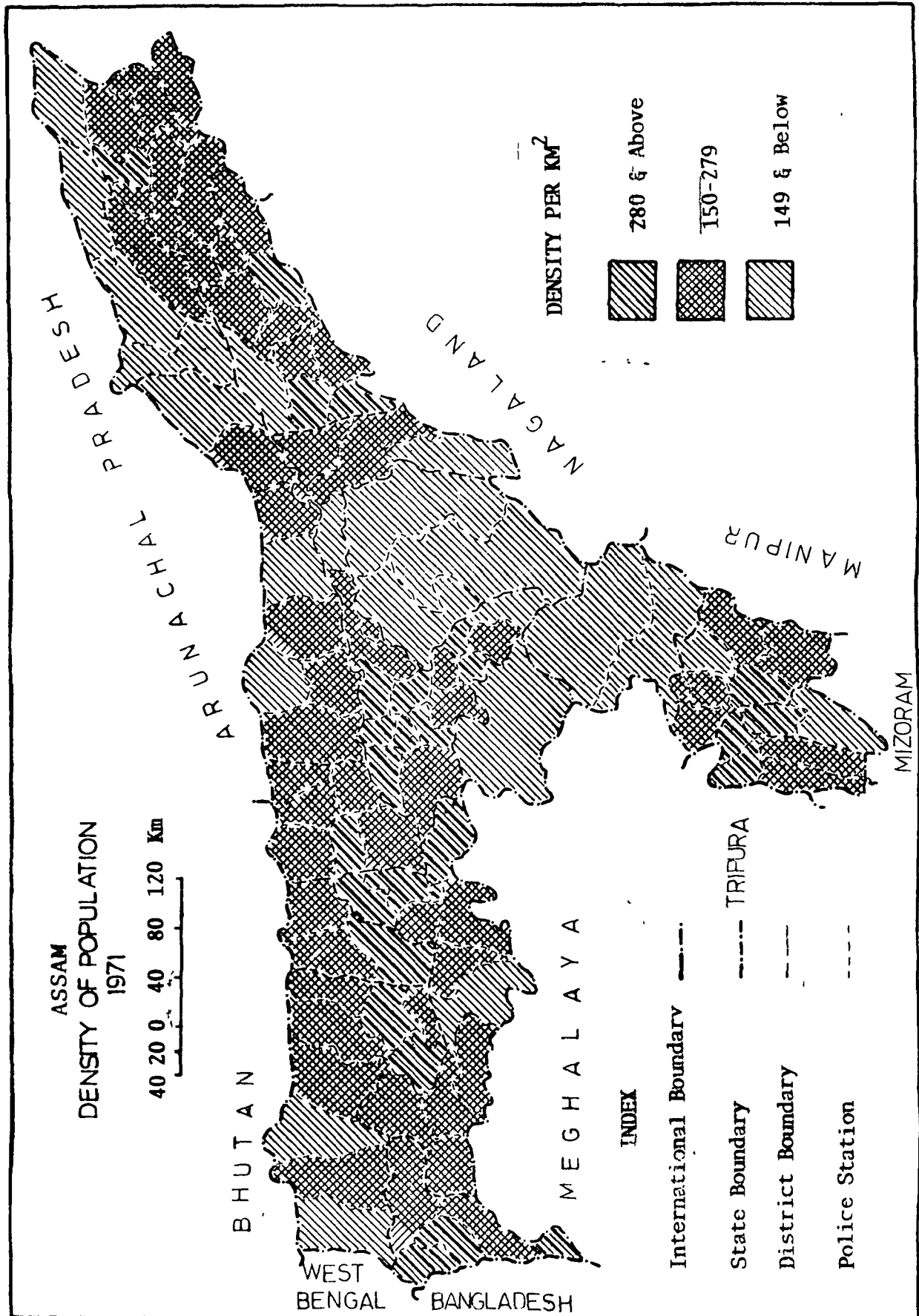
SOURCE: CENSUS OF INDIA 1971



Plate 3. Drainage pattern of Dirok T.E.



Plate 4. Meteorological Station in Dirok T.E.



CHAPTER IV

HISTORY OF TEA INDUSTRY IN ASSAM

HISTORY OF TEA INDUSTRY IN ASSAM

Tea was introduced in England during early or mid 17th century. Then onward tea drinking gradually got popularized in England. It has been recorded that tea,

"consumption rose from twenty thousand lbs in 1700 to over one million lb in 1721, nearly six million lb in 1768 and nearly eleven million lb in 1721, nearly six million lb in 1768 and nearly eleven million lb in 1785. The sale of tea was then handled largely by small dealers. It has been stated that before the end of the eighteenth century there were thirty thousand wholesalers and retailers of tea in England. By 1816, imports had reached thirty-six million lb."¹

And till then China was the main source of tea for England. During thirties of nineteenth century due to the adverse political relationships with England the trade link got cut-off between China and England. As a result, the supply of tea suffered as because so far Chinese were playing monopoly over the tea market of the world.

By this time tea drinking in England had well developed and the article was considered as the article of "national importance".² This shortage in the supply of tea

-
1. Griffith, P. 1967. The History of the Indian Tea Industry, p.21.
 2. Ibid.; p. 37.

compelled England to either go for some new tea market or to find out some suitable place for the cultivation of tea. By the seventh decade of the 18th century British East India Company had consolidated most part of Northern India. "In 1778, Sir Joseph Banks was asked to prepare a series of notes for the East India Company on the cultivation of new crops, and in them he advocated the cultivation of tea in India."³

Perhaps it was due to the superficial observation in the similarity of climate and soil in many part of India with China that led many scholars to hope the possibility of tea cultivation in India (See Appendix A). Sir Joseph Banks began by discussing the geographical limits within which satisfactory tea could be produced and on the basis of the experience of China and Japan arrived at the conclusion that black teas grow best between the 26th and 30th parallel of latitude and green teas between the 30th and 35th.⁴ He expressed his hope that in the northern parts of the Province of Behar Rungpoor and Cochranghar good black tea can be grown.

Thus the introduction of large scale tea cultivation coincided with refusal of the Chinese government to renew the agreements granting the East India Company the rights

3. Ibid., p. 33.

4. Ibid.

of Monopoly Trade in 1833. In order to maintain its primacy, the East India Company appointed a committee under Lord Bentinck in 1834 to study and suggest effective measures to introduce tea cultivation in India particularly in Assam. In 1835, tea seeds were procured from China. This was followed by the scientific study of indigenous tea plants. The conclusions of the study proved that plants found in Assam were of the same quality as the seeds imported from China. The seeds from China were cultivated at an experimental level in Assam, Dehradun and Nilgiri hills. The first successful cultivation of tea at the experimental areas in 1837. The production under Company's supervision gradually increased.

Extension of tea cultivation in Upper Assam followed the British administrative consolidation. With the absorption of Sibsagar and Lakhimpur tracts, the cultivation was thrown open to private enterprises. Companies were formed in Calcutta and London in 1839 and were later amalgamated as the Assam Company. Jorhat Tea Company was absorbed in 1859. Thus, the initial period of the tea industry saw British dominance in Production and Trade. The state policies were also conducive for large scale cultivation of tea in the region. The enactment of Wasteland Acquisition Act of 1832, soon brought areas under the state control which were unfavourable for

the cultivation of traditional crops, but with favourable agro-climatic condition these areas were ideal for tea plantation. The state granted considerable tracts of land as lease and easy terms for entrepreneurs.

The salient features of the state policies were the Assam Rules of 1854 which provided a legal status for a 99 years lease. Later in 1861, it was reinforced by Lord Canning Rules which gave the light of ownership of tea garden lands. These were followed by a Commission in 1868, that registered and generated guideline to encourage the cultivation and production of tea in Assam. Mechanization and the use of machinery was gradually introduced from 1871 onward, for example, mechanical roller in 1872, and Sirocco dryer in 1877 as well as the introduction of C.T.C. in the first quarter of 20th century Indian Tea Association was formed in 1881. that took into cultivation, production and research in tea in the country. They also initiated the establishment of Tocklai (Jorhat) Research Station in 1911.

Thus, the tea industry in Assam gradually expanded both in area and production so much so that it consistently shared more than 48 per cent of the total area under tea and contributed more than 50 per cent of tea production in the country. Within Assam, 93 per cent of the area was concentrated in the Lakhimpur, Sibsagar, Darrang and Cachar sub-

regions and contributed more than 95 per cent of the production. Rest of the area was located in Kamrup, Nowgaon, and Goalpara.

With special expansion of tea industry in Assam the emergence of numerous tea estates lead to their classification on the basis of ownership. These can be broadly stated as:

- (1) Estate owned by proprietor or partnership firms - with both cultivation and manufacturing of tea being undertaken.
- (2) Estate owned by limited companies registered in India. It has two subdivisions. Public limited companies and Private limited companies.
- (3) Estate owned by limited liability companies.
- (4) Estate owned by limited liability in U.K.

Thus, out of nearly 800 tea gardens in the state, 267 were managed by non-Indian and the rest by Indians. Most of the later gardens were small with an average size varying between 150 to 175 acres. As against 750 to 800 acres of the former. Most of the gardens own by Indians came up only in the last 45 years. Efforts to reduce the foreign holding is on. In other words in 1950, they were only 214 tea estates

in the fourth category, of which 204 estates had more than 200 hectare each. 10 gardens were less than 2 hectares. These limited companies were located in four gardens in Cachar, two in Sibsagar - Jorhat, one in Darrang - Sonitpur and Nowgaon each. In the third category they were nearly 160 ownerships, 145 gardens had more than 100 hectares each with 14 gardens having less than 100 hectares. In the second category, out of 128 gardens only 30 gardens had more than 200 hectares, the rest 98 had less than 200 hectares. In the first category, out of 246 gardens, 31 gardens had more than 200 hectares.

As noted earlier, tea industry was labour intensive. The local population were reluctant to participate. As a result, the labour had to be imported from other parts of the country. Initially to attract labour, the Planters Association was formed in 1859 that organized labour recruitment from lower Bengal to Assam. In 1861, the government appointed a committee to enquire into conditions of immigration of labour. This led to the enactment of Inland Immigration Act III (Bengal Code) 1863, which made the licensing of the recruitment mandatory. And by another Act, Act VI (Bengal Code) of 1865, wages and conditions of labour was formalised.

These were followed by Act of 1870 and 1873 (of Bengal Government) and of 1882 (Government of India towards

streamlining immigration into tea estate of Assam) 1882 Act continued till 1901 and was replaced by Act VIII of 1915 which continued till 1933. This act modified the procedure of recruitment through contractors and garden Sardars. The implementation of this act was supervised by Assam Labour Board which kept the purview. The work of the District Labour Association was brought under the purview of act and whose improvements in working condition was notified in the Tea District Labour Act XXII of 1932.

Besides three improvement plantation legislations were also introduced. These were in the form of the Workmen's Breach of Contract Act 1859, The Employers and Workmen (Dispute) Act of 1860, IX of 1860 and Sections 490 and 492 of Indian Penal Code of 1860 regulated the condition of employment in plantation. These were reinforced by Tea District Emigrant Labour Act of 1932 which recommended free movement of labour, security of labour and a better administration of law.

After independent, Plantation Labour Act of 1951 was made applicable, repealing earlier Acts. Other important acts affecting the tea industry of Assam can be identified as Assam Factory Rules, Assam Plantation Labour Rules 1956 etc.

"A system of contract labour was established. The British employers recruited indigent tribesmen from the hill areas of south Behar, a region known as Chota Nagpur, paid their transportation and provided them with housing and medical care in return for a contract that indentured the labours to their employers. By the turn of the century there were 764 tea gardens in Assam, employing 400,000 persons, and producing 145 million pounds of tea per year. The number of migrants to the plantations soared even higher between 1911 and 1921, which the tea industry imported 769,000 labours. Another 422,000 came during the following decade.

Migration rose again during the Second World War, when Assam tea garden labours were employed by the American and British armies to build roads and aerodromes to defend Assam against a possible Japanese invasion from Burma.

A considerable amount of assimilation has taken place. The children of migrants attend schools conducted in Assamese. Many of the tribals now observe Assamese Hindu rituals, especially the Bihu festivals that are so central to assamese cultural life. According to the 1961 Census, only 204,000 persons reported that they speak a tribal language of Behar and Orissa (Santali, Oraon, Munda or Sadan/Sadri) as their mother tongue, though clearly the number of persons who are tribal migrants is considerably larger. The 1921 Census estimated that migrants to tea gardens and their descendants numbered a million and a third, one-sixth of the total population of the province.

A substantial number of the tea garden labourers have now become ex-tea garden labourers. Some have settled as cultivators, either as landholders or tenants in land provided by the government. Others have found employment in construction industries. Of the 38,000 construction workers in Assam, 21,000 are migrants. Almost all the remaining construction workers in Assam are Khasi tribes-

man, a non-Assamese speaking ethnic group from the Khasi and Garo Hills districts that are now part of the State of Meghalaya. Technically, therefore, even the Khasis working in Assam as construction labours are migrants.

The tea plantation migrants have never been nor are they now economic, cultural or political threats to the Assamese. The jobs they hold are not those sought by the Assamese. Their tendency to assimilate linguistically makes them model migrants to the Assamese. And though there are trade unions among the tea plantation labours, they play no significant role in the politics of the state. Nor are the tribal migrants in day-to-day social contact with the Assamese, for those who live on or near the tea plantation. A number of laws and rules - the Plantations Labour Act of 1951, and the Assam Plantation Labour Rules of 1956 - require plantation owners to provide housing accommodations, dispensaries and hospitals, creches for the children of woman workers, and schools for children who work on the plantations. Canteens for meals and recreational facilities must also be provided by employers. The effect of these provisions is to limit routine contacts between tea garden workers and Assamese."⁵

Thus, with the development of tea plantation after 1855, the problem of labour supply became acute in Assam. Not only the local people of Assam were unwilling to work in the tea gardens, but also there was acute shortage of adult population in Assam to work in the tea gardens. Assam at that time was still experiencing the effect of Burmese occupation which lasted up to 1826 in which Assamese population was deflated by one-half and as such there was not enough adult population even to cultivate all the available lands

5. Weiner, M. 1978. Sons of the Soil, Princeton University Press, New Jersey, pp. 89-91.

to supply enough food grains to the state. The Government, therefore, encouraged labour importation from other parts of the country for the tea gardens. These tea garden labourers were imported from Bihar, Orissa, united provinces and the then central provinces and central India, by labour contractors of Calcutta who used to collect them through their agents. At first they used to come and stay in the tea gardens for five years. (1. Bengal Govt. publication, Paper relating to the Tea industry in Bengal, Calcutta (1873), 2. Gaits, A history of Assam). But the treatment meted out to these labourers both during their journey to Assam and their stay in the gardens was so inhuman that the Government had to intervene many a time to improve the lot of these tea garden labourers. Gradually these labourers did not like to go back to their home provinces; rather they settled down in the tea gardens and their adjoining areas. With the increase in the number of tea gardens, the number of labourers who came from other parts of the country also went up considerably. In 1901, the total number of labourers stood at 6,54,000. After 1911, great expansion took place in the tea gardens as a result of which in the decade 1911-21 alone about 7,69,000 labourers were imported into the State. In the decade 1921-31 about 1,69,000 labourers were imported into Assam. After 1931, mass importation of labourers for tea gardens into Assam slowed down which was totally stopped by 1941 as the

total number of tea garden labourers rose to 10,00,000 which was enough to meet the requirement of the Assam tea gardens. Almost all these labourers settled down in the adjoining areas in Government wastelands as firm labourers.

As per 1951 Census, 12 per cent of total population of Assam was supported by the tea industry. Excluding this population there is a large proportion of agricultural population in Assam whose forefathers were immigrant tea garden labourers. This immigrant population has settled mainly in Lakhimpur, Sibsagar, Darrang and Cachar districts of Assam. The tendency of labourers to leave the tea estates and settle on farm lands in Assam is unmistakable. A number of the estates have made it a practice to grant rice plots to their workers at nominal rent. No boon is greater than this in the eyes of the workers. The chief goal of the labourers was to save money, buy land and, thus, be his own master. The provision of garden plots partly met this aim. The inquiry of 1921-22 found that garden possessing extensive riceland usually had a more stable labour force. Many workers had moved off the estates altogether to take up rice land elsewhere, since Assam, especially in the upper Brahmaputra valley, has been a virgin land where new soil was available, this was easily possible. In 1921, it was estimated that half a million persons were outside the gar-

dens. These added to the 10,60,000 labour population living in the estates in 1921, made 15,60,000 or 30 per cent of Assam's total population of 51,57,000 in 1921. The importation of labourers for tea gardens in Assam continued up to 1931 which was totally stopped in 1941. As per 1931 Census, "in 1931, there were about 1.4 million persons falling into the 'Collie' class in Assam. 'Of these approximately 90,000 were employed in the gardens, and 5,000,000 were living outside the gardens and earning their livelihood in some other way." As both the birth and death rates of this class of people are assumed to be high, their annual growth rate can be presumed in the neighbourhood of 1.5 per cent or an average during the the period 1931-71, which leads us to, conclude that by 1971, this class of immigrants amounted to 22,40,000 (14,00,000 males and 8,40,000 females) or at least 20,00,000 in Assam.

The Census Commissioner of Assam of 1931 Census had observed about this segment of immigrant population thus, "In Assam a 'Coolie' is always a 'Coolie' and whether he works on a garden or whether he has left the garden and settled down as an ordinary agriculturist, his social position is nil. From the point of view of Assamese society a person belonging to a coolie caste or tribe is complete outsider and is as 'exterior' as any of the outsider caste

I have classed as 'exterior'. Indeed from many points of view the social position of coolies and ex-coolies is worse than any class in the province; they are educationally terribly backward; they have no recognised leaders or associations to press their claims or to work for their social advancement they are foreigners to the country and as a class, they are much addicted to liquor" (Census of India, 1931, Vol.3, Part I, pp. 222-224). This observation of 1931 Census Commissioner about the social position of the immigrant tea garden labourers in Assam is true even in 1971, after the 40 years of that comment. Kingsley Davis wrote, "The effect of the migration upon the estate territory has been to create a numerous coolie class at the bottom of the social scale and to promote a very rapid growth of population" (Kingsley Davis, the Population of India and Pakistan, p. 117). Thus, it can be safely concluded that the total number of this class of immigrant population who have settled in this state permanently stands at 20,00,000 if not more. One striking feature in this respect is that in the whole of India, Assam is an extreme example where a single industry, the tea industry, has encouraged very large scale internal migration from the states of Bihar, Orissa and Madhya Pradesh for quite a long time, about 60 years, a trend which has virtually stopped only after 1941.

Table 10 - Number of Immigrants Categorywise settled in Assam as in 1971.

Immigrants Categorywise	Population	P.C. to total population
Immigrant tea garden labour from Bihar, Orissa and M.P.	20,00,000	13.42
Immigrant Muslim settlers from erstwhile East Bengal, now Bangladesh	30,00,000	20.13
Hindu refugees from erstwhile East Pakistan now Bangladesh	15,00,000	10.03
Immigrants from other parts of India	20,00,000	13.42
TOTAL	85,00,000	58.00

SOURCE: CENSUS OF INDIA 1971

PART II

With such a background, the present study has taken up three tea estates for analysis. The tea estate, varying in size and composition, more or less reflects the characteristics of the tea industry in the state.

Mornai Tea Estate

Establishment and development of Mornai Tea Estate is directly related with the Santhal revolt of 1855 and Christian missionary activities. Before discussing about Mornai Tea Estate, it will be worthwhile to highlight the Santhal revolt and the role played by Christian missionary in the migration of Santhals from their original homeland to the present areas in Assam (this is because this estate was wholly a church venture).

Prior to the Santhal revolt, a Christian mission was organized in Sweden to work among the Santhals in India to spread Christianity among them. This mission was known as 'Santhal Home Mission in India'.⁶ After their arrival they have succeeded in converting a large number of Santhals for their aboriginal religion to Christianity. The centre of their missionary activity was at Dumka in Santhal Pargana.

6. Hodne, O. 1982. The Seed Bore Fruit, C.D. Media 127, Manicktala Street, Calcutta.

During the Santhal insurrection of 1855-57 the missionary played a neutral role. Though, the insurrection ended in 1857, yet the repercussion lasted for much longer period. It has been recorded that the newly converted Christian Santhals of Dumka region applied to Mr. Skrefsrud, then incharge of Santhal Home Mission for India stationed at Dumka to find out a suitable area, where they can settle down in a group. For this purpose he succeeded in locating an area in Southern Australia and even the Government of Australia was ready to accommodate them. But this plan remain unimplemented mainly because the Government of India did not agree to this proposal.

Skrefsrud later on communicated with the Government of Assam. Ultimately an area of thirty square mile could be found 30 miles north of Dhubri. This area even today is known as Santhal colony. The first batch of Santhals consisted of 42 families accompanied by a missionary known as 'Buarson'. The first contingent of people arrived at the colony on 8th February 1881.⁷ One week after the first group of immigrants, another batch consisting of thirteen Santhal families joined the first group in the Colony. The process thereafter remained operative for a long time result-

7. Ibid.

ing into increase in populating in the colony. In 1888, after 7 years of establishment of the colony population had reached 600 persons. The following table clearly reflects this point. They bought 1886 Halisa⁸ land under paddy cultivation. In 1910, the population of the colony reached 4,486 persons and the cultivable land had increased to 12,280 Halisa.

Table 11 - Migration of sample tea garden labourer families in Mornai Tea Estate.

Year	District				Total
	Ranchi	Santhal Pargana	Singbhum	Gumla	
1890-1895	-	6	-	-	6
1896-1900	-	-	-	-	-
1901-1905	-	1	-	-	1
1906-1910	1	-	-	-	1
1911-1915	-	-	-	-	-
1916-1920	-	1	-	-	1
1921-1925	-	-	-	-	-
1926-1930	1	-	-	-	1
1931-1935	2	1	-	2	5
1936-1940	2	5	-	-	7
1941-1945	9	9	-	-	18
1946-1950	6	2	-	-	8
1951-1955	3	-	-	-	5

8. One halisa is equal to 4 kotha.

Table 11 (Contd.)

Year	District				Total
	Ranchi	Santhal Pargana	Singbhum	Gumla	
1956-1960	3	1	1	-	5
1961-1965	2	-	-	-	2
1966-1970	-	-	-	-	-
1971-1975	1	-	-	-	1
1976-1980	1	-	-	-	1
Total	31	26	1	2	
Percentage	51.6%	43.3%	1.6%	3.3%	

The above mentioned Santhal colony has a very close link with the establishment of Mornai Tea Estate. A few months after the arrival of first batch of Santhals at the colony, the government allowed the Eastern Dwars Tea Company to establish tea garden in the adjacent area. The establishment of this tea garden at a closer proximity had adversely affected the colony. The Santhals settled in the colony had gradually started going to the tea garden as wage labourers. This shift in the occupation from cultivators to wage labourer in tea gardens not only deteriorate their financial position but also led to their social and moral decline. Looking this deteriorating condition of Santhal colony, Mr Skrefsrud requested the government to close down the tea garden. But the government could not do so because the

government on its own was keen in solving the problem of Santhals. To do this it had asked the company to stop further extension of the garden. In the mean time, Mr Skrefsrud had restrained Santhals of the colony from working in the garden. Due to these restrictions the garden had to face two main problems - (a) They did not get sufficient labour for their tea cultivation, and (b) They could not extend their cultivation any further. Ultimately the garden did not prove to be profitable and the authority wanted disposed it off. At this junction Mr. Skrefsrud had bought Mornai Tea Estate along with Tamai Tea Estate. This transaction took place in 1890.

The Mornai Tea Estate had become the focal point of most of the social and economic activities. (See Tables 12 & 13 for workers and non-workers composition). Mr. Skrefsrud was the first Manager of the garden. The labourers for the garden were recruited from the colony. It is recorded that in 1891, in Mornai Tea Estate, 200 acres of land was brought under tea cultivation (55,000 pound of tea was produced in 1910).⁹ This gradually increased to 1,65,000 pounds by the turn of the century. Between 1908-18 (under L.P. Nealsen's stewardship) the Mornai Tea Estate underwent major renovations in techniques, production and management.

9. Ibid.

Table 12 - Workers and dependents among the sample tea labour families of Mornai Tea Estate.
(in %)

	Male	Female	Total
Population	50.52	49.48	100
Workers	42.35	55.73	48.97
Permanent	61.45	48.60	54.21
Temporary	38.55	51.40	45.79
Dependent	57.65	44.27	51.03

Source: Collected by the author in his sample study.

Table 13 - Age structure and sex-ratio among the sample labour families in Mornai Tea Estate.

Age group	Total	Male	Female	Sex Ratio
0 - 10	97	56	41	732
11 - 20	106	50	56	1120
21 - 30	73	27	46	1703
31 - 40	45	24	21	875
41 - 50	35	19	16	842
51 - 60	16	9	7	777
61 - 70	16	11	5	454
All Ages	388	196	192	979

Source: Collected by the author in his sample study.

After 1918, the church found the management of the tea estate difficult. In order to maintain the quality and production, the church handed over the management of the tea estate to the Bhutan Duars Tea Association Limited on a contract basis, on 60 : 40 basis. As a result, the returns from the tea estates has been consistently high – averaging about 6,00,000 Kg of C.T.C. and 3,50,000 Kg of orthodox tea.¹⁰

Transport and Communication

The garden is located at a remote corner of Kokrajhar district. In the initial stage the unadequate network of communication hampered the activities in the garden. This was partially overcome with the emergence of tea gardens in the other parts of the state. Besides with the strengthening of administrative infrastructure and initiation of other commercial activities induced wider communication spread and better connectivity. Now the garden is connected with the N.F. Railway line (about 11 Km north of the garden), and connected with important transport and urban nodes with all weather roads.

Education

From its initial stage the labourers received proper attention for their educational development. Earlier there

10. According to Garden's record.

was no school within the garden but children were sent to a mission school run by the same missionaries about 3 Km away from the garden. But afterward along with the growth of population within the garden. Two L.P. Schools were established. Now the tea garden has apart from two L.P. schools, one government aided M.E. school. There are 442 students studying in those two L.P. Schools and 8 teachers are employed. Following table clearly illustrates this.

Table 14 - Educational attainment among the sample labour families in Mornai Tea Estate.

Classes	Total	Male	Female
I - III	33.18	31.40	35.35
IV - VII	46.36	47.93	44.44
VIII - X	18.64	19.83	17.17
XI - XII	1.81	0.83	3.03
Literate	58.76	61.73	51.56
Illiterate	43.30	38.27	48.44

Source: Based on Sample Study conducted by the author.

Health and Welfare

Like any other tea garden area this place also was a malaria prone area in the earlier time. So the garden authority had to pay special attention for the health of labourers and other employees of the garden. Presently,

there is a hospital with 24 patient accommodation capacity. There is one doctor, one nurse and other employee to look after health and sanitation within the garden. In case of emergency patients are taken to Dhubri, the district headquarters of Goalpara District.

As far as labour quarters are concerned, initially the garden authority provided both katcha and puccka quarters. Earlier puccka quarters were constructed according to their own scheme. But now, it is done according to the arrangements and provisions made in the plantation labour acts. Thus from the records available, there are about 300 Assam type quarters and about 200 katcha quarters for labourers. There are also provisions to construct some more quarters; part of these are under construction.

Recreation Facilities

The garden has special provision for recreation for labourers. The garden authority have provided a labour club along with T.V., Radio set, Newspapers and sports facilities. There is also an auditorium for garden employees where time to time various programmes for entertainments are arranged.

Besides, the tea garden also provided for facilities for cultivation of food crops to its employees, the pattern of landholding as a result is clearly reflected in the following table.

Table 15 - Landholdings among labour families in Mornai Tea Estate.

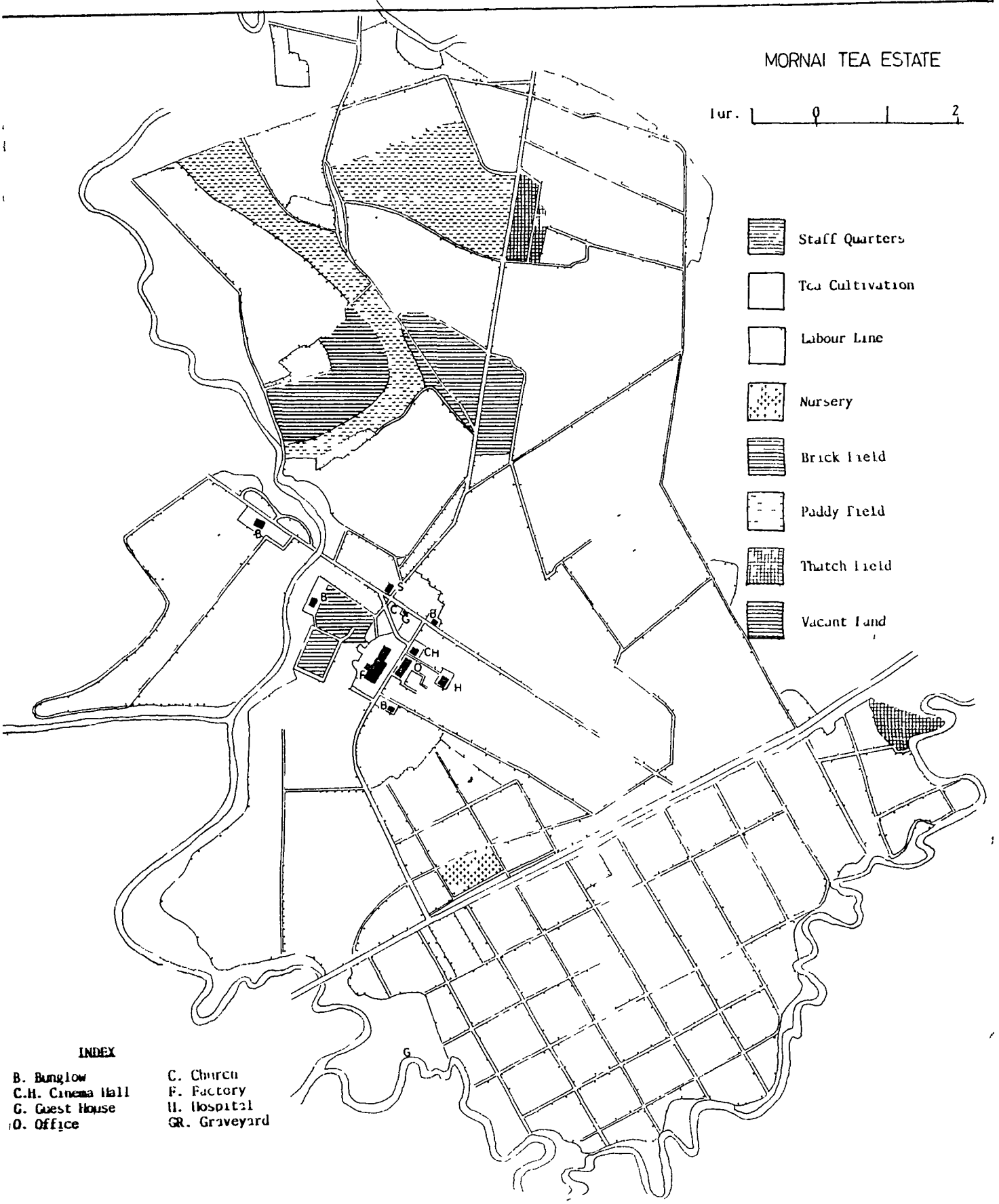
(in bigha)

Land for cultivation	No. of families	Percentage
1 - 3	6	27
4 - 6	3	14
7 - 9	3	14
10 - 12	6	27
13 - 15	-	-
16 - 18	-	-
19 - 21	2	9
22 - 24	-	-
25 - 27	1	5
64 - 66	1	5

SOURCE COLLECTED BY THE AUTHOR

MORNAI TEA ESTATE

1 ur. 0 1 2



INDEX

B. Bungalow
 C.H. Cinema Hall
 G. Guest House
 O. Office

C. Church
 F. Factory
 H. Hospital
 GR. Graveyard

Tamulbari Tea Estate

Tamulbari Tea Estate is one of the oldest tea estates, established by one native tea cultivator, Haribilas Agarwala in Dibrugarh district in 1885. Haribilas Agarwala was a well established businessman and running about 60 shops all over Assam. In 1883, he was having a tea box manufacturing industry.¹¹ and was also running a lucrative business of opium.¹² When he came to know about the growing prospect of tea cultivation, he had bought a plot of land about 6 Km away from Lahoal and established his Tamulbari Tea Estate.

For the tea garden he brought labourers from different parts of India. Most of the labourers were brought from Vizagapatam (Waltair) and Purulia. It also could be seen that after the expiry of the contract period, labourers from nearby tea gardens had come and joined the garden. It has been observed that there are about 15 families of Mala tribe who were the first migrants to the garden. Apart from them there are also other tribes like Munda, Orangs, Santhals, Kharias etc. Presently, there are 1208 labourers engaged. Among them, 630 labourers are permanent and others are temporary. Initially it was a small garden but along

11. Chowdhury, P. Asomar Sah-Barua aru Unaish Satikar Bidot Samaj, Students Stores, College Hostel Road, Guwahati, p. 85.

12. Guaha, A. Plantar Raj to Swaraj, p. 56.

with the time the garden has expanded. At present the garden has a total gross area of 547.31 hectares of which 281.93 hectares of land is under tea. The garden has all the facilities to produce both C.T.C. and orthodox tea.

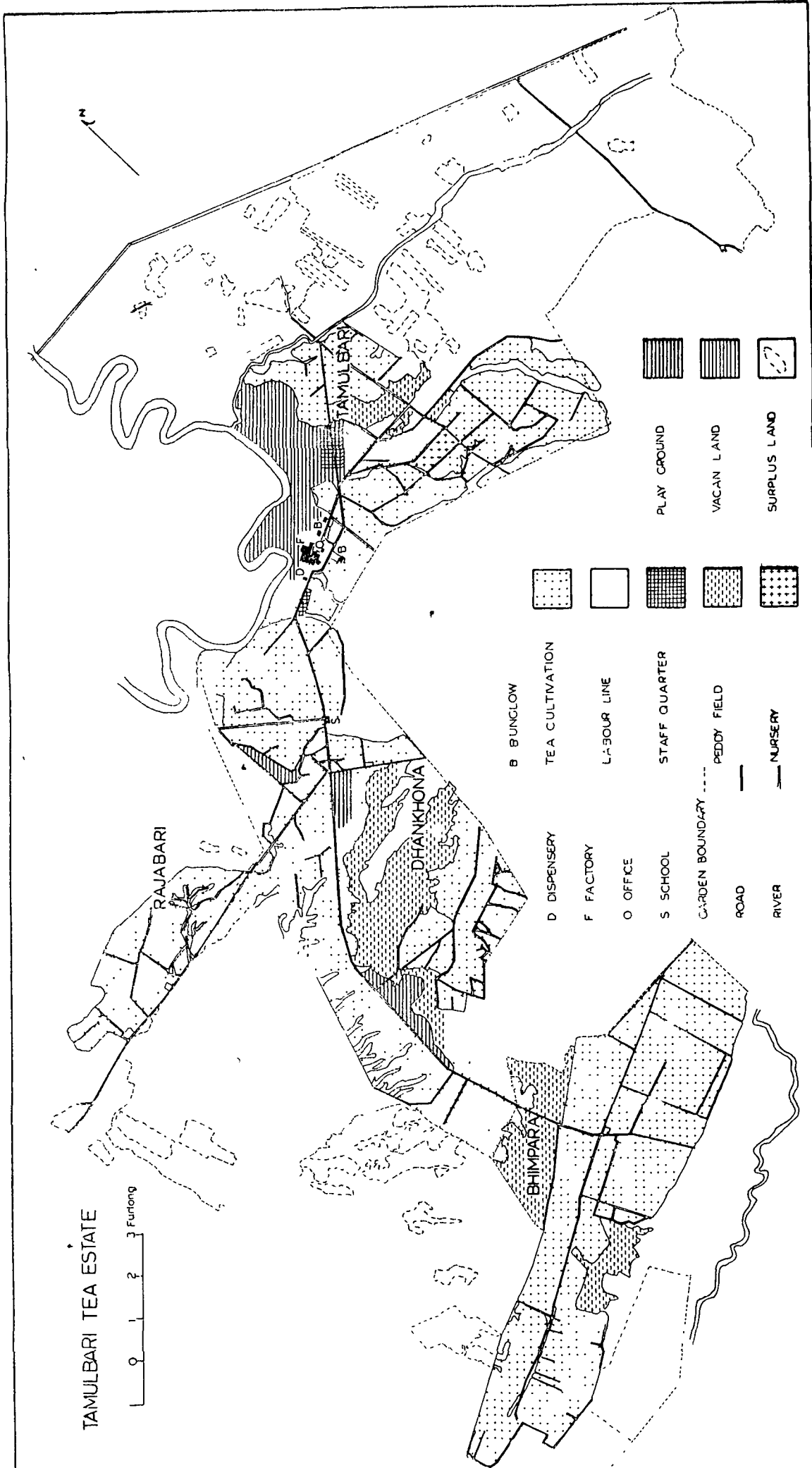
Tamulbari Tea Estate is located much closer to the main road. Initially, there was a negligible presence of educational facilities in the tea garden but with the legislation of Plantation Labour Act, one L.P. School was established. At present there are 73 students and 3 teachers in the school.

There is a hospital provided by the garden authority to offer health & services to the garden employees. The hospital has a capacity of 8 beds. There is a staff of 6 in the hospital which includes a doctor, a compounder, a nurse, a midwife and two other employees.

For recreational facilities there is a labour club provided by the garden authority. A few sport equipments are also being provided viz. football, volley ball etc. and for entertainment there is a T.V.

Tamulbari Tea Estate is one of the oldest native tea estate in the region. One of the most striking fact which could be observed in the tea estate is, unlike many big tea estate, most of the labourers have got some amount

TAMULBARI TEA ESTATE



- D DISPENSERY
- F FACTORY
- O OFFICE
- S SCHOOL
- GARDEN BOUNDARY
- ROAD
- RIVER
- B BUNGLOW
- TEA CULTIVATION
- LABOUR LINE
- STAFF QUARTER
- PEDDY FIELD
- NURSERY
- PLAY GROUND
- VACAN LAND
- SURPLUS LAND

of land for cultivation. These areas were once garden's property but as they came under land ceiling act, they were given to the tea labourers at a nominal situation.

Dirok Tea Estate

Dirok Tea Estate is in Margherita region of Dibrugarh district. It is about 50 Km south of Tinsukia. Margharita is a well known coal-town of Upper Assam. The region is rich in other natural resources too, particularly it has sufficiently large reserve of coal and petroleum. An extensive area of the region is covered by forest. It may be largely due to the large resource base and presence of favourable environmental conditions for the tea cultivation. Margharita received special attention from the British after the annexation of Assam in 1826. For exploiting the natural resources of the region an English trading community formed The Assam Railway and Trading Company on July the 30th, 1881. After the survey the Company arrived at the conclusion that the soil of Margharita region has a greater potentiality for tea cultivation. To initiate the process the company started clearing the forest cover of the area in 1890 and by 1891 they succeeded in planting tea plant in an area of 78 acres. Later on for organising and extending tea cultivation all over Margharita region. The Assam Railway and

Trading Company had organised 'Makum Tea Company' and named the garden as 'Margharita Tea Estate'. In 1923, during the time of Mr. J.M. Kilburn who was the Manager of Margharita Tea Estate, Tea cultivation had been extended as far as Dirok about 5 Km west of Margharita Tea Estate. Along with the increase in area under tea, it was designated as a division of Margharita Tea Estate. In 1928, Dirok Tea garden was separated from Margharita Tea Estate and put under a separate Manager and was named as Dirok Tea Estate.

In 1923, to start plantation in Dirok, seedlings were brought from Doidam Tea Estate near Makum. In the same year an area of 27 acres of land was put under tea. Initially plantation activities were carried out with the help of labourers of Margharita Tea Estate. Along with the passage of time area under tea has increased. In 1932, the area under tea was 783 acre and it had increased to 800 by 1951. In 1952, Lekhajan grant, adjacent to Dirok Tea Estate was taken up for the plantation of tea. In the same year an area of 11 hectares land of Lekhajan Grant was put under tea. Along with the increase in area under tea, Lekhajan tea area was designated to a division of Dirok Tea Estate. In 1952, area under tea in Lekhajan division was only 11 hectares in 1960, it reached 120 hectares, in 1970 it had increased to 232 hectares and till 1981, it had

further increased to 242 hectares. At present, Dirok Tea Estate has a total registered area of 1105.58 Ha. including both Dirok and Lekhajan division, out of which 687.88 Ha of land was under tea.

The garden authority have been taking keen interest to improve the efficiency of the garden. To acquire scientific knowhow and help they become the member of Tocklai Tea Research Association. Accordingly the garden authority is using all the latest scientific technology for production purposes. Presently, in the garden different types of H.Y.V. plants, insecticide and pesticides and sophisticated machines are widely used for the production purposes. In 1958, a 'Clone Nursery' was established in the garden to facilitate plantation of 'Clone plant'. A table of annual tea production of the garden has been given here below. Prior to 1960, due to the inadequate records no information could be provided.

Table 16 - Yearwise production of made tea in Dirok Tea Estate.

Year	Production (Kg)
1960	6,94,074
1961	7,28,611
1962	7,21,764
1963	6,62,206
1964	8,15,078

Table 16 (Contd.)

Year	Production (Kg)
1965	7,23,967
1966	7,60,414
1967	8,29,205
1968	8,53,209
1969	9,55,241
1970	9,31,193
1971	9,92,288
1972	10,41,110
1973	11,36,278
1974	11,13,134
1975	11,93,135
1976	12,03,615
1977	12,99,915
1978	14,34,109
1979	14,26,844
1980	15,02,776
1981	12,52,391
1982	13,65,101
1983	13,45,583
1984	16,97,624

Apart from plant and soil, mechanical side of the factory was also equally important to improve the efficiency of the garden. Initially, processing of tea leaf was done by 'orthodox' method but after 1960 "Mc Tear Rotervane" was introduced. But due to high demand and need to maintain

quality of tea again orthodox method was replaced. At present both the orthodox and C.T.C. methods are used for the tea processing. Earlier, before processing raw tea leaf in factory there was provision of withering house to wither raw tea. But after 1960 'Withering Tunnel' was introduced for the purpose. Later on, this method was dropped as it did not prove to be economical. 'Electric Fan' was introduced in 1970 for withering purpose is still existing. Similar way, along with time method of fermenting is also undergoing a change. From 1952 onward several innovative works are carried out subsequently. In 1957, 1958, 1959, 1960 and in 1978 fermenting room, Engine room, Sorting room and Drying rooms were improved respectively. Today, a bulk of tea produced in the garden is going to several auction markets inside and outside the country.

Transportation

For the growth and development of an industry, transport and communication is one of the most important determining factors. During the initial period transport networks to Dirok was inadequate. Mainly waterways were used for transportation purposes. In 1884, the Assam Railway and Trading Company had extended railway line to Ledo. This extension of railway had offered railway transport facilities to all adjacent tea gardens of Margharita area. They

have constructed branch railway line to their respective gardens. There was a railway line between Margharita railway station to Margharita railway factory. A godown was constructed near Margharita tea factory to store tea boxes for exporting to market. This arrangement continued even after independence for quite sometime. After 1970 instead of railway, road transportation facilities was mostly in use.

Labour

Like any other tea gardens of Assam, Dirok Tea Estate also was facing acute labour shortage in its initial stage but this problem was overcome by importation of labour from outside the state. Labourers for this garden were imported from Ranchi, Singbhum, Hazaribag of Bihar, Bastar, Sambalpur, Gangapur of Madhya Pradesh, Kalahandi, Koraput, Utkal of Orissa and Vishakhapatnam of Madras etc. Labourers mainly belong to tribes and castes of Central India. Some of the important castes and tribes are Munda, Orang, Kharia, Tali, Lohar, Bhumis, Baraik, Sikhbaraik, Bhuwian, Samasi, Bawri, Paik, etc. From the available record a table regarding importation of labour has been presented here below.

Table 17 - Importation of Labour in Mornai T.E.

Year	Number
1940	340
1941	213
1942	240
1943	400
1944	245
1945	365
1946	305
1947/48	423
1950	171
1951	373
1952	383

Apart from above there were a few internal labour migrations from different districts and even from within district. There was a labour migration from Cachar in 1953 which was mostly composed of Kalandi tribe. A table of permanent labourers employed in the garden has been given here below.

Table 18 - Permanent labour employed in Dirok T.E.

Date	Total permanent workers
1.1.62	1,903
1.1.63	2,206
1.1.64	1,957

Table 18 (Contd.)

Date	Total permanent workers
1.1.65	1,907
1.1.66	1,614
1.1.73	1,424
1.1.74	1,403
1.1.75	1,471
1.1.76	1,581
1.1.77	1,505
1.1.78	1,581
1.1.79	1,575
1.1.80	1,611
1.1.81	1,655
1.1.82	1,597
1.1.83	1,587
1.1.84	1,550

From the given table a declining trend in regard to permanent labour employed could be observed, whereas the area under tea was increasing year after year. Probably it may be due to the application of latest scientific technology. Of course, during peak plucking season when a large number of labourers was required this demand is met with the temporary labourers.

During pre-independent period the labourers were regarded as merely a means of production, no serious thought for their upliftment and welfare was contemplated. In return of their hard work, labourers received a small house to

live and a very meagre sum to fulfill their basic requirements. Often the dwelling place of labourers were very unhygienic and were surrounded by unhealthy atmosphere. After independence, the authority have started thinking seriously to improve the living standard of labourers. For this purpose the Government of India had legislated Plantation Labour Act in 1951 and under this the Government of Assam have formulated Plantation Labour Rule in 1956. As a result of these regulations the living condition of labourers have considerably improved. According to scheme prepared by the government in 'plantation labour rule of 1956' garden authority have started constructing labour quarters. In Dirok 452 labour quarters were constructed upto 1971. Apart from them according to new scheme of government by 1978 a large number of single unit pucca quarters were being constructed. A table in this regard has been presented here below.

Table 19 - Construction of labour quarters in Dirok T. E.

Year of Construction	No. of houses
1975	19
1976	28
1977	45
1978	50
1979	2
1980	55
1981	28
1982	30
1983/84	17
Total	274

For these construction purposes a substantial amount of financial help was received from the government. To improve the atmosphere in labour line, till recently 187 sanitary latrines and 95 concrete bathrooms have been constructed. Apart from these in each settlement area within the garden, arrangement have been made to provide drinking water facilities. Recently the garden authority have formulated a large scheme to provide 80,000 gallon purified drinking water for all the settlement area within the garden.

Hospital

In the earlier time Dirok was a malaria prone area. In the initial stage of the garden many labourers had died due to malaria and black fever. Garden authority have played an important role in eradication of these devastating disease. Of course, during earlier time there was an absence of full-fledged hospital within the garden. During those days to look after the health of labourers an official was appointed who was popularly known as 'line compounder'. Later from 1939 onwards a dispensary was started (apart from this another dispensary was started at 'bottom garden'). In 1940, a doctor was appointed to supervise the health service of the garden. Along with the increase of population in 1959 another dispensary was opened in Lakhajan Division. Presently, there are one doctor, two pharmacists, one nurse, one trained midwife, and one dresser.



Plate 5. Tea Processing Centre of Dirok T.E.



Plate 6. Water tank and access road in Dirok T.E.

Education

Prior to independence no special attention was given to this. Though the British Government initiated few schemes, it was after independence that decisive facilities were introduced through the provision of 'plantation labour act of 1952'; primary school facility was provided within the garden. There was a school in Dirok division and another school was opened in Lakhajan Division in 1949. Of course, in Lakhajan division prior to 1979, in the garden church children were receiving their primary education. At present there are 4 teachers and about 200 students in these two schools.

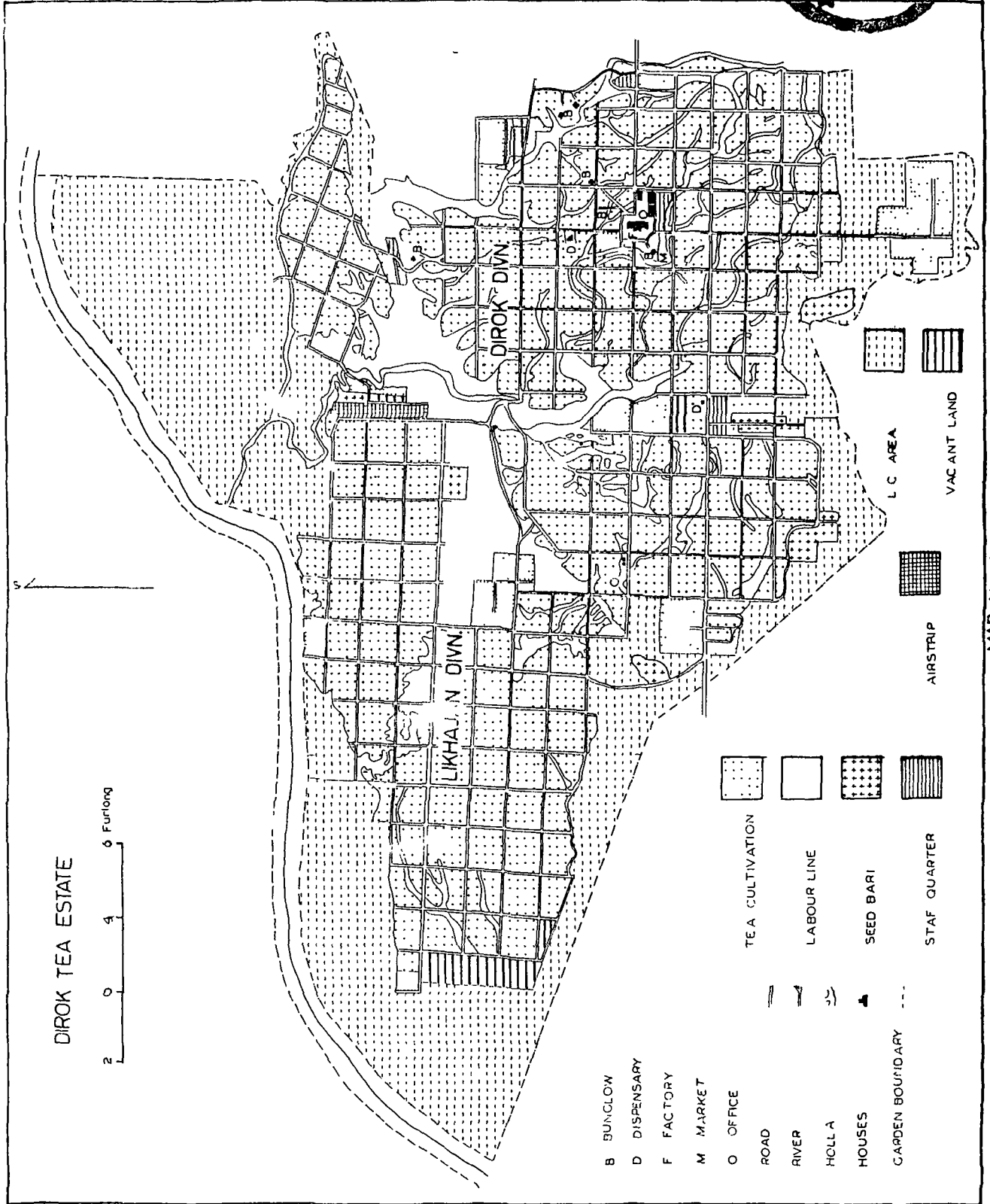
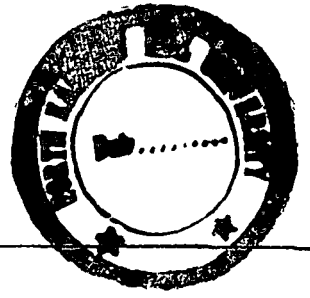
Child Care

According to the 'plantation labour rule of 1952' there should be children park in each tea garden for the children between the age of 2 to 6 years, and creche in every 27 Ha of plantation for children below the age of 2 years. Along with the development of the garden these schemes were also being implemented. There are several creche and two children parks have been constructed. Different playing equipments are being provided by the garden authority.

Welfare and Recreation Centre for Labourer

Initially there was no any provision of club or recreation centre for labourers within the garden. In 1960,

102584



MAP No. 12

garden authority allowed labourers to use the old office building as club and provided with a radio, newspaper and some sport equipments. In 1983, in Lakhajan division another club was opened for labourers. A radio and other facilities were also provided from them.

CHAPTER V
SUMMARY AND OBSERVATIONS

SUMMARY AND OBSERVATIONS

The prevailing conditions in Tea Estates of Assam by and large coincide with the selected three tea estates. The analysis so far has attempted to identify the important features of the study area and its implications.

Physical Aspects

(a) Topography

As discussed earlier in the present study all three tea gardens are located over two distinct topographic settings except for Dirok Tea Estate which is located in the foothills, other two are primarily located in the plain. The high or elevated ground apart from providing good drainage facilities also protected the garden from the annual recurring floods. Although Tamulbari and Mornai are largely located in the plain, they are unaffected by the floods, as the slope is towards the river. This has enabled the gardens to function throughout the year. Besides, using latest technical knowhow and inputs, agricultural activity in selected sites within the gardens have gradually assumed significance.

(b) Soil

Along with topography and climate, soil has an impact on the production of tea. Out of the three selected tea gardens two viz. Dirok and Tamulbari tea estates have high loamy soil and Mornai tea estate lying on the Dooars exhibited grey sandy loam soil. These have also been found conducive for limited agricultural activity.

(c) Climate

The climate of Dirok and Tamulbari tea estates are more favourable than Mornai tea estate. The Upper Assam receives more rainfall than the lower Assam though the temperature is more or less the same. This has, in a way, led to specialization of cultivation of commercial crops, particularly tea, oil seeds, etc.

Social Aspect

In social aspects of the labourers in the selected tea gardens indicated a superimposition on and transplantation of characteristics. The migration of tea labourers to the area brought significant adjustments and changes in their socio-economic milieu. Their present socio-economic conditions as a result, exhibited complexity at every scale. In a way this has provided these migrants a distinct basis in which their identity could be firmly established.

(a) Migration

The migration of labourers in all the three tea gardens has taken place from an extensive area of Central India. Among the 180 samples, tea garden families 93.5% have migrated from 7 districts of Bihar, 1.9% have migrated from 2 districts of Orissa, 1.9% have migrated from two districts of Madhya Pradesh, 0.6%. These are families who had migrated from Uttar Pradesh - 1 district, and of West Bengal.

The large scale migration from Bihar was not only due to the economic reasons but also due to family conflict, crime, enticement by recruiting agents etc. The central Indian tribal resistance movements were also partially responsible for large scale tribal migration from various central Indian plateau regions to the region. The reflection in this regard could be seen in Mornai Tea Estate. 43.3% of the total migrants are from Santhal Pargana (and it was mainly due to Santhal Revolt of 1855).

The migrants were composed of several tribes and caste of central India like Munda, Orang, Santhal, Kharia, Lohar, Kumar etc. but in regard to all the three tea gardens Mundas are the predominant group. The Santhals are found mostly in Mornai tea estate but in another two tea gardens Orangs and Kharias are the next dominant groups.

MIGRATION OF LABOURERS IN THREE TEA ESTATES

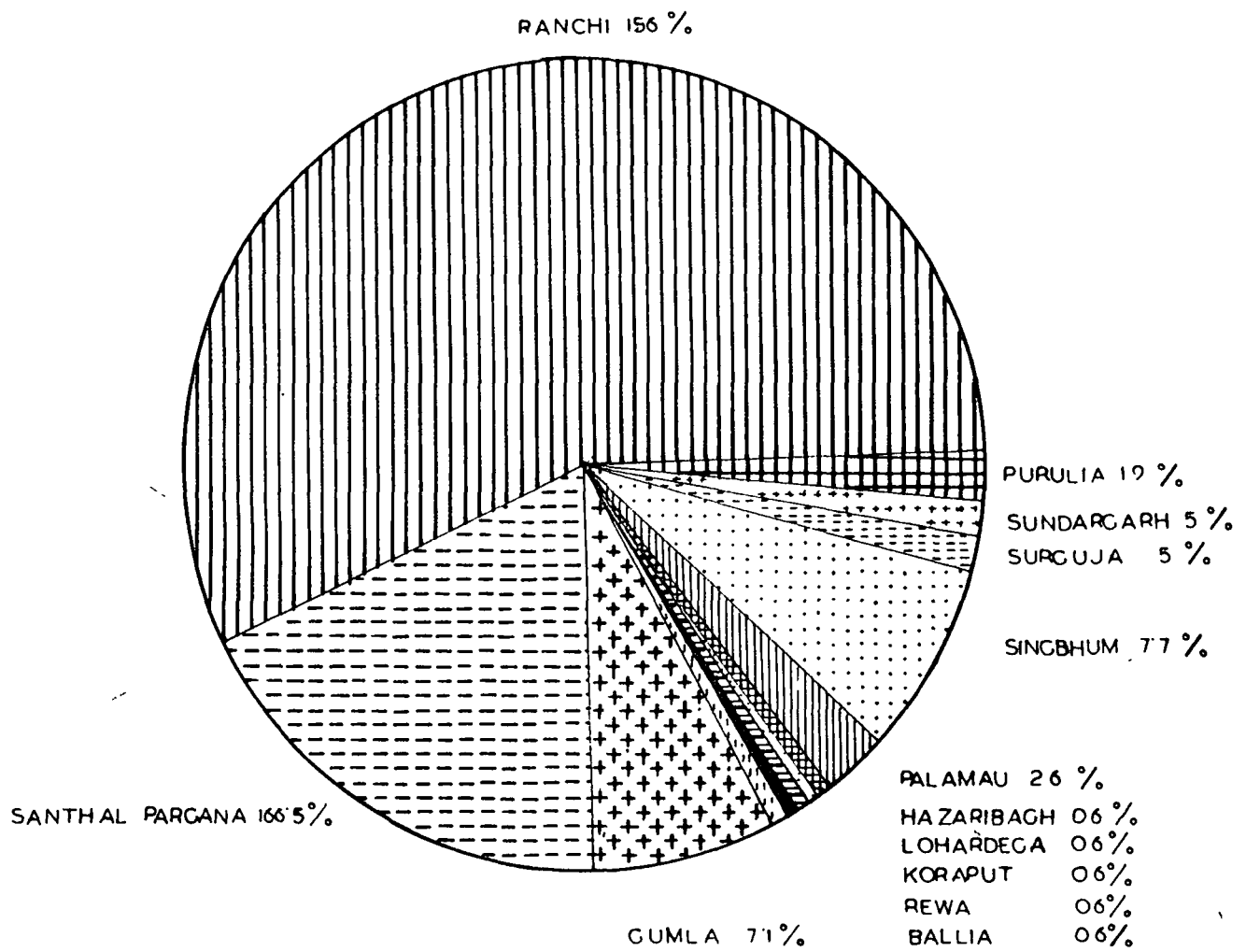


FIG. 1

Though the migration to tea gardens of Assam has taken place much earlier it could be seen that from 1930 onwards the migration of tea garden labourers increased and reached the peak in 1940-45. The reason behind this peculiar trend of migration was that most of the old migrants could not specify the year of migration whereas the new migrants were able to identify the exact phase and time of movement to the region.

Due to this migration, several changes have taken place among them. This was clear from the language aspect. It could be seen that instead of returning their own tribal language they followed the Sadhri as the common language for communication. Of course in Mornai Tea Estate. Santhals Mundari and Bengali was used as the common language.

Though most of the labourers in Dirok and Tamulbari returned that they belong to Hindu religion, but it was clear during sampling that they continued to follow their old animistic religion.

(b) Workers and Dependents

Among the sample families it was observed that in each tea garden the proportion of dependents was more than the workers. Among the male population (except Dirok where the proportion of workers was more than the dependent in

Table 20 - Migration of Labourers in Three Tea Gardens of Assam.

Year	Bihar					Orissa		Madhya Pradesh		Total
	Ranchi	Santhal Pargana	Gumla	Palamau	Singhbhum	Koraput	Sundargarh	Surguja	Rewa	
1890-1895	-	6	-	-	-	-	-	-	-	6
1896-1900	-	-	-	-	-	-	-	-	-	-
1901-1905	-	1	-	-	-	-	-	-	-	1
1906-1910	3	1	-	-	-	-	-	-	-	4
1911-1915	-	-	-	-	-	-	-	-	-	-
1916-1920	-	1	-	-	1	-	-	-	-	2
1921-1925	-	-	-	-	-	-	-	-	-	-
1926-1930	2	-	-	-	-	-	-	-	-	2
1931-1935	2	1	2	-	-	-	-	-	-	5
1936-1940	4	5	-	-	3	-	2	-	-	14
1941-1945	11	9	-	1	2	1	-	-	-	24
1946-1950	14	2	-	-	2	-	-	-	-	18
1951-1955	5	-	2	-	-	-	-	-	-	7
1956-1960	13	1	1	-	1	-	-	-	1	17
1961-1965	3	-	1	-	-	-	-	-	-	4
1966-1970	2	-	4	-	1	-	-	1	-	8
1971-1975	3	-	-	-	-	-	-	-	-	3
1976-1980	4	-	1	-	-	-	-	-	-	5
1981-1985	1	-	-	-	-	-	-	-	-	1
Total	67	27	11	-	10	1	2	1	1	121

Source: Collected by the author in course of his field study.

Table 20 (Contd.)

Year Unknown

Bihar	Ranchi	21
	Santhal Pargana	1
	Hazaribag	1
	Lohardega	1
	Palamau	3
	Singbhum	2
Madhya Pradesh		
	Surguja	1
Uttar Pradesh		
	Ballia	1
West Bengal		
	Purulia	3
Total		34

Table 21 - Workers and dependents among labourer families in three selected tea gardens of Assam.

Sex	Tamulbari					
	Male	Percentage	Female	Percentage	Total	Percentage
Population	207	53.35	181	46.65	388	100
Workers	95	45.89	109	60.22	204	52.58
Permanent	56	58.95	54	49.54	110	53.92
Temporary	39	41.05	55	50.46	94	46.07
Dependent	112	54.11	72	39.78	184	47.42

Table 21 (Contd.)

Sex	Dirok					
	Male	Percentage	Female	Percentage	Total	Percentage
Population	156	46.71	178	53.29	334	100
Workers	84	54.90	85	47.75	169	50.60
Permanent	63	89.29	53	62.35	116	68.64
Temporary	21	29.76	32	37.65	53	45.69
Dependent	72	46.15	93	52.25	165	49.40

Sex	All three tea gardens					
	Male	Percentage	Female	Percentage	Total	Percentage
Population	559	50.36	551	49.63	1110	100
Workers	262	46.87	301	54.63	563	50.72
Permanent	170	64.89	159	52.82	329	58.44
Temporary	92	35.11	142	47.18	234	41.56
Dependent	297	53.13	250	45.37	547	49.28

Source: Collected by the author in the course of his field work.

other two gardens) proportion of workers was less than dependents. However, in case of females it was just the reverse only with exception to Dirok where the proportion of dependent among females are more than workers.

As far as permanent and temporary labourers were concerned except in Dirok where among both males and females the proportion of permanent labourers was more than the temporary labourers. In the other two gardens the proportion of permanent labourers was more among males than females. In case of Dirok it was perhaps due to geographical isolation but in regard to other two tea estates it was probably due to the fact that females are more neglected in the society.

(c) Age structure and sex ratio

The overall age sex structure shows that from the lower age group to higher age group the population decreased substantially. There is population in the age group 0-10. Apart from Dirok, the other two gardens exhibited ratio in favour of males but in Dirok, it was vice versa outnumber the males.

In all the three selected tea estates it could be seen that upto the age group of 31-40 the sex ratio goes in favour of females with a few minor variations. But after

the age group 31-40 the sex ratio gradually decline. The trend of sex ratio of all the three tea gardens indicate that the conditions in these tea gardens are not very favourable for women.

Table 22 - Age structure and sex ratio among labourer families among three selected tea gardens of Assam.

Age group	Tamulbari			
	Total	Male	Female	Sex ratio
0 - 10	105	61	44	721
11 - 20	103	51	52	1019
21 - 30	71	36	35	972
31 - 40	29	13	16	1230
41 - 50	38	22	16	727
51 - 60	29	15	14	933
61 - 70	10	6	4	666
70 - above	3	3	0	0
Total	388	207	181	874

Age group	Dirok			
	Total	Male	Female	Sex ratio
0 - 10	90	30	60	2000
11 - 20	94	43	51	1186
21 - 30	46	22	24	1190
31 - 40	38	17	21	1235
41 - 50	34	21	13	619
51 - 60	21	15	6	400
61 - 70	11	8	3	375
71 - above	0	0	0	0
Total	336	156	178	1141

AGE STRUCTURE IN THREE SELECTED TEA ESTATES

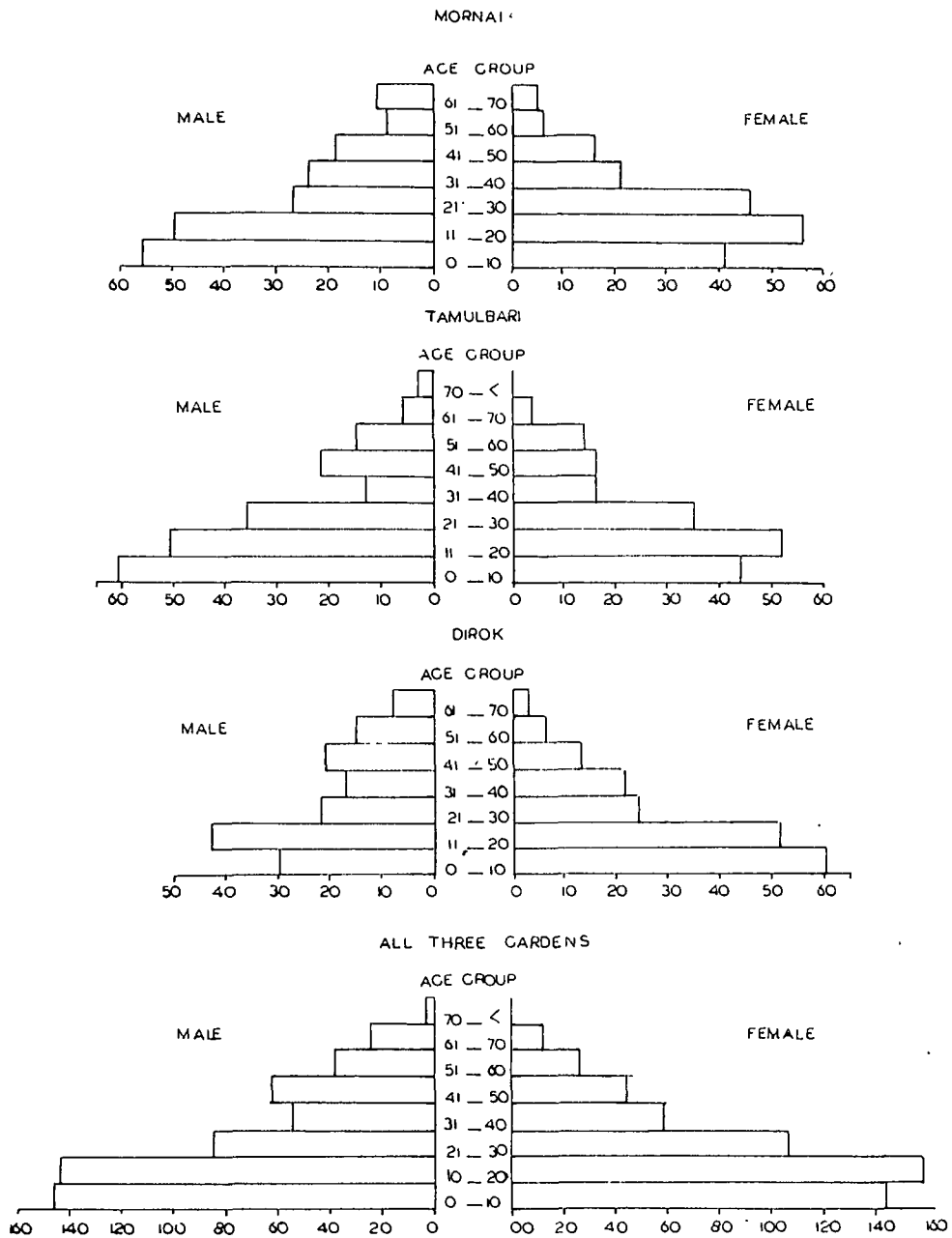


Fig - 2

Table 22 (Contd.)

Age group	Three Tea Gardens			
	Total	Male	Female	Sex ratio
0 - 10	292	147	145	986
11 - 20	303	144	157	1090
21 - 30	190	85	107	1258
31 - 40	112	54	58	1074
41 - 50	107	62	45	725
51 - 60	66	39	27	692
61 - 70	37	25	12	480
71 - above	3	3	0	0
Total		559	541	985

Source: Collected by the author in the course of his field work.

(d) Educational Attainment

Except Mornai Tea Estate the other two tea estates exhibited a higher proportion of illiteracy. In Mornai, the literacy rate was 58.76 per cent. In case of Tamulbari 25.5 per cent were literate and in Dirok 29.64 per cent were literate. In Mornai, the literacy rate was high. This was perhaps due to the role of the church in matters of education.

In regard to all the three tea gardens the literacy rate among male was higher than the female. The literacy rate among male was 61.73 per cent in Mornai, 37.68 per cent in Tamulbari, 43.59 per cent in Dirok. Among female

EDUCATIONAL ATTAINMENT IN THREE SELECTED TEA ESTATES

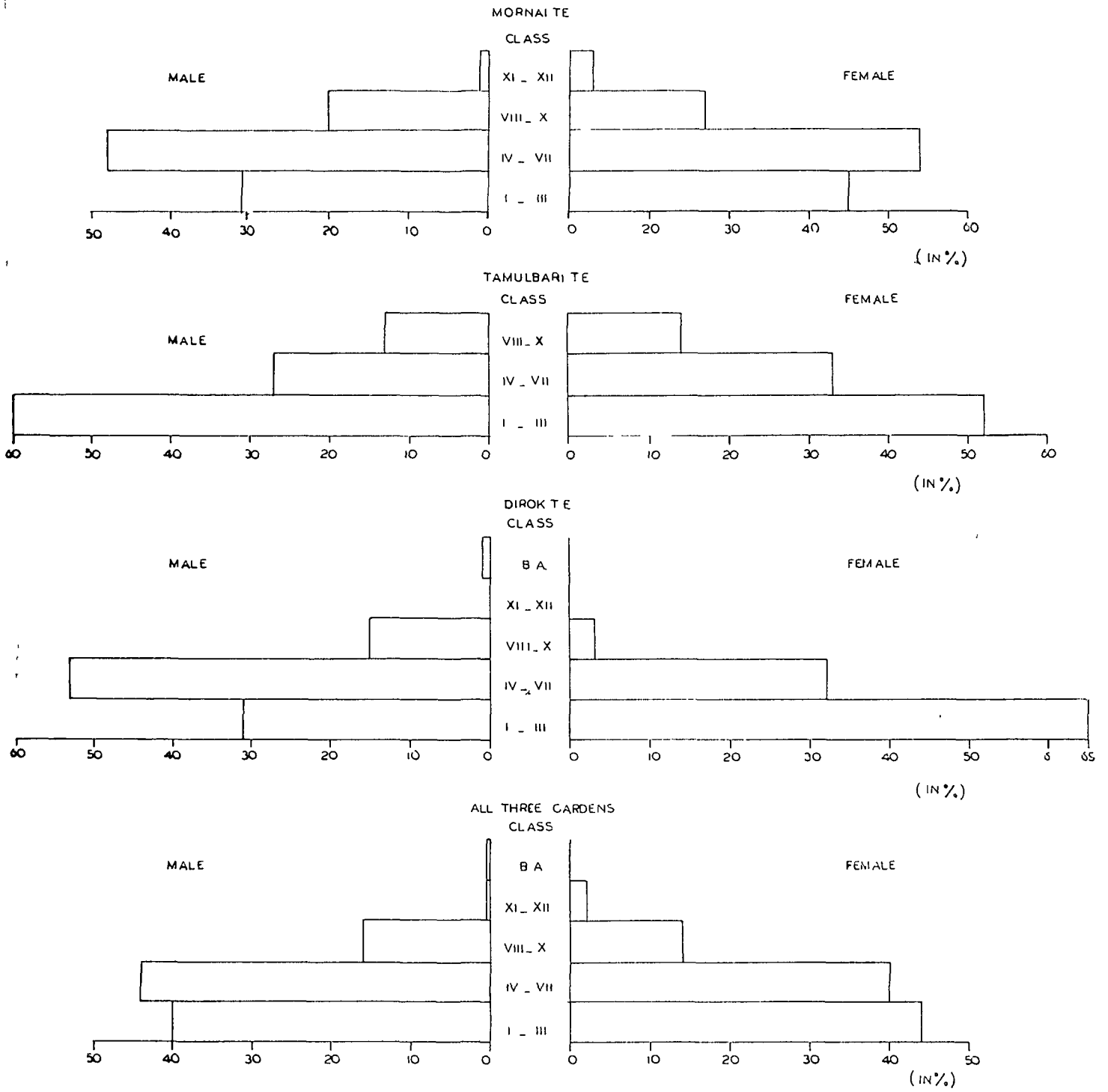


Fig-3

it was 51.56 per cent in Mornai, 17.41 per cent in Dirok and only 11.6 per cent in Tamulbari tea estate. In this regard detail discussion has already been done in chapter III.

(e) Landholdings among Tea garded labourers

In each tea estates there are considerable amount of land that were not suitable for the cultivation of tea. These lands were either leased among the labourers for cultivation of paddy or the estate themself used these lands for cultivation of some food crops.

After introduction of Land Ceiling Act in the ownership of many of this kind of land were given to the labourers who were cultivating them. This aspect was clearly reflected in the Tamulbari tea estate where most of the labourers had at least some amount of land under cultivation of food crops.

However, in Dirok Tea Estate although there were extensive land unutilised, there were no significant cultivation. This was perhaps largely due to increased union activities. Whatever land labourers have been bought by themselves.

In Mornai tea estate, it has already been mentioned that the migration of labourers had taken place earlier

than the establishment of the tea garden. After the expiry of the contract, they settled in the surrounding villages. After the establishment of the garden, some of them came to the garden to work. It should be mentioned here that the surplus land of these gardens were utilised by the garden authority for cultivation of food crops.

CONCLUSIONS

The establishment and development of tea industry in Assam depended on several factors of which physical and social aspects played a significant role. The topography, soil type and texture, climatic conditions of the area. Vagaries of nature can be classified as physical factors which the situation of the area during the early phase of development of tea industry, the migration of labourers from other parts of India be classified as social factors.

As far as Assam is concerned the climatic conditions was by and large ideal for the cultivation of tea. The cultivated and gentle undulating plains provided with suitable site for the cultivation of tea. Tea grows well in soil which is rich in nitrogen, phosphorus, potash and other minerals. Most of the soils in Assam have all these chemical properties which has further helped in the development of tea industry in the state.

Assam produces both orthodox and C.T.C. teas. Most of the gardens have machineries and other equipments to produce both the types.

In each tea gardens there are considerable surplus land available which are not suitable for the cultivation of tea. These lands are utilized to produce food crops either by the garden authority or by labourers on the basis of some agreement. Although the extension of tea gardens are going on every year but unlike the earlier time, at a slower rate due to various constraints.

The production and extension of tea garden to a large extent depend upon the managing authority. They can be classified into two, native and agencies. The tea estates owned by agencies are very well organised but on the other hand, tea gardens owned by native owners lack organising capacity.

The labourers employed in the tea gardens of Assam are not aboriginal people of Assam. They were brought from various parts of the country to work in the tea estates of Assam. Initially, the condition of the labourers were very bad but through various legislations, their working and living conditions have been improved. Though the conditions of labourers are not appreciably good even after introduction of various rules and regulations yet to a certain

extent. These rules and regulations have succeeded in bringing about a change in labour management relationships. According to the provisions made in the Plantation Labour Rules, labourers now provided with approved type houses, medical facilities, recreation facilities, education facilities etc.

Prior to their migration to the tea gardens of Assam these various castes and tribes of central India were having their own individual identities. Due to lack of unity among themselves they could not play any significant role in the socio-political aspect in those places. After their migration they have come under a common economic bond which have helped them to get consolidated among themselves. This has helped them to get a new common identity. At present they play a significant electoral role in the state. Along with different causes tribal resistant movements of central India were acting as push factor and given rise to a large scale migration to Assam. This migration from tribal subsistence economy to the modern plantation economy have caused several socio-economic changes among them, like shift of dependency from tribal subsistence agriculture to colonial plantation economy, from narrow and conservative outlook they have become more open and developed a broad outlook towards others, and a change in their language, customs and traditions.



Plate 7. Garden Hospital at Tamulbari T.E.



Plate 8. Primary School at Tamulbari T.E.

The tea garden labourers of Assam form an inseparable entity of socio-cultural set up of Assam. They are one of the most backward and under privileged segment of the state. They have many socio-economic problems, like low literacy, low standard of living, low income, crisis of identity etc. so the government should try to formulate some suitable plans for the development of this neglected segment of Assam.

APPENDICES

APPENDIX A

QUESTIONNAIRE

M. Phil Field Work 1989-90

"Socio-Physical Factors in the development of tea industry in Assam: A Case Study of three tea estates."

Sl.No. _____ Investigator _____
 Place _____
 Date _____

A. Introduction

1. Name of the head of the Household.
2. Family status.
3. Marital status.
4. Age.
5. Sex.
6. Tribal/Non-tribal.
7. Religion.
8. Caste in case of Hindus.
9. Mother tongue.
10. Technical skill, if any.

B. Demography

Sl. No.	Name of family	Sex	Age	Educational qualifications	Profession	Remark
---------	----------------	-----	-----	----------------------------	------------	--------

1.

2.

C. Migration

1. Place of origin.
2. The year of migration.
3. Who had migrated.
4. Reason for migration.
5. The agency through which the migration took place.
6. Do they still have any contact with their place of origin.
7. Remark.

D. Out-Migration

Sl. No.	Relation with the head	Age	Sex	Educational qualification	Year or migration	Migrant status	Place of migration	Frequency of visit
---------	------------------------	-----	-----	---------------------------	-------------------	----------------	--------------------	--------------------

- 1.
- 2.
- 3.

E. Economic Base of the Household

1. Primary occupation of the family.
2. Secondary occupation of the family.
3. Tertiary occupation of the family.

Sl. No.	Name of the family member	Age	Sex	Family status	Occupation	Employer	Emolument
---------	---------------------------	-----	-----	---------------	------------	----------	-----------

- 1.
- 2.

Frequency of payment	Permanent/Temporary	Remittance to the family	Any job security	Remark
----------------------	---------------------	--------------------------	------------------	--------

5. Do the family have any land of their own: Yes/No.

(a) Quantity :

(b) For what it is used :

(c) Earning from the land :

6. Do the family have any landholding through Lease/Mortgage/Rent :

(a) Quantity :

(b) What it is used for :

(c) Earning from the land :

7. The family production of crops :

(a) Quantity :

(b) Use :

(c) What is the income, if sold? :

8. Livestock own by the family

Sl. No.	Kind	Number	Use	Income
---------	------	--------	-----	--------

9. Do the family have any modern equipments of agriculture :

Sl.No.	Kind	Number	Use
--------	------	--------	-----

10. Indebtedness

Sl. No.	Type of loan	Amount	Purpose	Agency	Year	Interest	Remark
---------	--------------	--------	---------	--------	------	----------	--------

F. Social Interaction

1. Do they have any relative outside the tea estate? :
2. How often do they go out from the tea estate? And for what purpose? :
3. How often do they visit the market? :
4. How frequently do they visit Church/Temple/Mosque? :
5. Are the people outside the T.E. friendly with them? :
6. Remark :

G. Awareness

1. How frequently do they visit the hospital? :
 2. Are they aware of the welfare measures adopted by the governmental and voluntary organisations? :
-

M. Phil Field Work 1989-90

Date _____

Sl. No. _____

**SOCIO-PHYSICAL FACTORS IN THE DEVELOPMENT OF TEA INDUSTRY
IN ASSAM: A CASE STUDY OF THREE TEA ESTATES**

A. Introduction

1. Name of the Tea Estate :
2. Company of affiliation :
3. Year of establishment :
4. Location (a) District :
- (b) Sub-division :
- (c) Post Office :
5. The nearest town to the Tea Estate :
6. Distance from the TE (Kms) :
7. Gross area of the TE :
8. Area under cultivation :
9. Foreign partner, if any. :

B. Physical Factors

1. Climate
 - (a) Record of rainfall, if any. :
 - (b) Record of evaporation of soil moisture, if any. :
 - (c) Record of dew fall, if any. :
 - (d) Record of temperature, if any. :
2. Soil
 - (a) Record of soil texture, if any. :
 - i) Sub-soil
 - ii) Top-soil

- (b) Effective depth of soil :
- (c) Permeability :
- (d) Slope :
- (e) Classification of land, if any. :

C. Demography

1. Total labour engaged in the Tea Estate.

Resident									
Male	Female	Adolescent	Children	Total					
Outside									
Permanent					Temporary				
Male	Female	Adolescent	Children	Total	Male	Female	Adolescent	Child-	Total
					cent ren				

2. Total labour population within the TE:

3. Number of literate labourers

Male :

Female :

4. Ethnic composition

a) Tribes of labourers

b) Are there different 'lines' for different tribes?

D. Migration

1. Area of origin of the labourers :

2. The year from which migration of labourers started & till when :

3. Main reasons for bringing labourers :
from outside.
4. What were the means adopted for :
bringing labourers from outside.
5. Written record available on the :
early labour migration, if any.
6. Do the labourers have some contact with :
their place of origin?

E. Economy

1. Wage rate for labourers.
2. Male Female Temporary Permanent Children Adolescent
3. Do the authorities provide any land for cultivation?
 - a) How much?
 - b) On what basis?

F. Financial Aspect of the TE

1. Total annual expenditure.
2. Expenditure incurred by the TE
for the following:
 - a) Expenditure for production
(excluding the payment to labourers)
3. Total annual earnings.
4. Total annual profit.

G. Social Amenities

1. Educational institutions within the Garden, if any:
 - 1a). L. P. School.
 - i) Who provides the financial assistance?
 - ii) No. of teachers employed.

iii) Number of students: ✓

Male :

Female :

1b) M.E. & High School:

i) Who provides the financial assistance?

ii) Number of teachers employed.

iii) Number of students:

Male:

Female:

2. Do authorities provide any facilities to students going outside the garden for education purpose?

3. Hospital facility, if any.

a) Number of doctors.

b) Number of nurses.

c) Number of other employees.

d) Patient accommodation capacity.

4. Canteen facility, if any.

a) Do the labourers receive goods in subsidised rate?

5. Postal facility within the TE, if any.

6. Banking facility, if any.

7. Marketing facility, if any.

i) Weekly

ii) Daily

iii) Both

8. Provisions for drinking water.

9. Do the labourers have any association/ forum to voice their grievances?

H. Welfare

1. Is there any welfare officer in the garden?
 2. Provisions for adult education.
 3. Total number of housing accommodation for labourers provided by the authority.
 4. Welfare measures by the garden authority for the labourers.
 5. Are the labourers aware of these welfare measures adopted by the government?
-

APPENDIX B

ESSENTIAL BACKGROUND

In 1823, Robert Bruce, who went to Upper Assam in search of trade, and with the East India Company's permission became the agent for Purundar Singh learned of the existence of tea in Upper Assam and made an agreement with a Singpho Chief for a supply of the tea plant. Before the supply had been received. Mr. C.A. Bruce brother of Robert Bruce arrived on the scene. "C.A. Bruce claims that he was the first European who ever penetrated the forests, and visited the Tea tracts in British Suddiya, and brought away specimens of earth, fruit and flowers, and the first who discovered numerous other tracts."

It will be remembered that the indigenous plants produced from various places in India upto this time had not been accepted by Wallich and his colleagues as being genuine tea and the committee were thus confronted with the task of introducing from China what they believed to be a foreign plant. They were thinking the sub-Himalayas and the Nilgiris would be most favourable areas for the cultivation of tea, but before doing so. They felt, "that they must first collect more information as to soil and climatic conditions in those areas and then make a further study of the position in China."

In 1832, Captain F. Jenkins who in 1834 became the agent to the Governor-General for the North-Eastern Frontier with his headquarters at Jorhat, had been deputed to report out the economic potentialities of Assam. In his report, Jenkins expressed a brighter hope for the cultivation of tea on the mountainous region which divides Cachar from Assam and he requested the committee to send some well qualified person for identification of plants, examination of the soil in which it grows and inspection of the tract of mountains.

When Jenkins showed Tea Committee's circular to his assistant, Charlton, he had informed him again about the growth of indigenous wild tea plant growing in the vicinity of Busa near Sadiya. And a few months later, Charlton sent Jenkins from Sadiya some seeds and leaves of the tea tree of Assam.

Wallich and the Committee were at last convinced that the tea found in hill tract of Upper Assam is not only a genuine tea but identical to the tea in China.

A few months before the Tea Committee's announcement, Gordon the Secretary of the Tea Committee, had been sent to China in the Water Witch to secure tea plants and seeds and also a selected number of well qualified Chinese planters

capable of conducting every operation connected with the production of good tea. "At this stage it was made clear that the only object of the Government was to demonstrate the practicability of producing tea for commercial purposes; thereafter it would be for private enterprise to pursue the matter."

Before Gordon could procure Chinese men for tea cultivation, the existence of indigenous tea in Assam was acknowledged by the Tea Committee and Gordon was hastily called back from China. When they came to know that it can be multiplied with the help of seeds moreover they thought that even the best sorts of tea will produce only inferior sorts of plants when removed from their native soil.

By the time Gordon returned to Calcutta, however, the Committee had changed their minds regarding the second of the arguments used by them and Gordon was sent back to China to clinch arrangements for engaging properly qualified Chinese to superintend the cultivation and manufacture of tea. During Gordon's stay in China he had despatched three batches of seed to Calcutta, but not all were well selected.

The Committee were now determined to follow up the Assam discovery with vigour and a scientific panel consisting of Wallich, Assistant Surgeon M'Clelland, and Assistant

Surgeon Griffith was deputed to proceed to Assam, while C.A. Bruce was appointed under Lieutenant Charlton to have charge of the nurseries to be established there.

The scientific panel assembled at Sadiya in North-East Assam at the beginning of January 1836, after a journey of four and a half months from Calcutta, and Bruce, with his great local knowledge was attached to them. They searched systematically for the jungles, they analysed soils, and they collected seeds. Tea was found to be far more widely scattered in Assam than had been realized. They have succeeded in locating several tea tracts, some of them are two Singhpoo areas near Sadiya, another two localities were found in Muttack of Mooamoreea country from Sadiya towards Upper Assam and another one is Gabhroo Purbut near Jorhat which was under Poorundar Singh.

In March 1836, in his report recommended Jenkins, the agent to the Governor-General, to put under a systematic course of management, all those tracts which could be located so far. But the proposal put forward by Wallich was considered by the Government as too ambitious therefore limited operations to two or three areas were started. In May 1836, C.A. Bruce was promoted to be Superintendent of tea forests.

Some of the most suitable areas were in the territory

of semi-independent chiefs whose attitude towards plans for tea growing varied greatly. Poorunder Singh, for example, did not hesitate to put the Gubroo hills at the disposal of company but he wanted to retain one half of the hills for himself, so that he may also carry out the cultivation of tea simultaneously. It was quite an acceptable proposal for company. But many other chiefs were very uncooperative.

The scientific panel unfortunately disagreed about many major matters, foremost amongst which was the choice between Assam and China seeds. Wallich, for reasons already recorded, favoured the indigenous teas, while Griffith and M'Clelland strongly urged the importation of China seed. This controversy continued for sometime but ultimately the tea industry in Assam was established with China seeds.

The committees were also hopelessly divided as to the most suitable localities in India for the growing of tea. Wallich, Royle, and Falconer consistently maintained that the sub-Himalayan regions, where tea from China seed had already been grown, were the obvious choice, while Griffith and M'Clelland considered Assam much more hopeful. The Government of India ultimately had decided, to satisfy all the export, to try all the areas suggested by them and likewise, the available China seeds were being divided between the sub-Himalayan areas, Upper Assam, and South India.

In the south, six boxes of the first batch of seedlings were sent to the Nilgiris, six to Coorg, six to Mysore, and two to the Agricultural and Horticultural Society at Madras. But the overall result to introduce tea in South India was a failure. The experiment done in Assam proved to be most satisfactory.

The first plantation was established in Assam towards the end of 1835 at Sadiya, on a char near the confluence of the Koondil and Brahmaputra rivers. Ultimately, this trial proved to be a failure. In 1836, the plantation was abandoned and what over surviving plants were existing were replanted at Jaipur. In 1837, a new plantation was established at Chabua eighteen miles from Dibrugarh and proved successful. It, too, was planted with the Chine variety.

For the processing of tea Chinese technique was adopted. In November 1836, Mr. Gordon had taken a small quantity of tea prepared from indigenous tea plant at Suddaya in Assam by Chinese tea planters was acknowledged as good. Again after two months further specimen sent down from Assam. A large sample of Muttock tea produced from indigenous variety was sent to the Government of India on 12 December 1837. In May 1838, twelve boxes of Assam tea was shipped at Calcutta by Tea Committee for Honourable Court of Directors in London. The same had reached London in November in the same year and had received a favourable report.

At the same time, the first offer of a private contract in the history of Indian tea was made with the Mayor of Liverpool for five hundred or thousand chests at 1s 10½d to 2s per lb. The tea was put for auction in London in 10 January 1839.

:
With the successful manufacture of tea in Assam by the Chinese technique, the experimental stage could be considered at an end.

By 1839 at least four nurseries planted with China seed they are Jaipur, Chabua, Chota Tingiri and Mukanpukri. Apart from them Bruce also have established a nursery with the indigenous plant at Sadiya. At the same time, tracts of indigenous tea had been discovered in many parts of Upper Assam, which numbered one hundred and twenty. At this stage though a large number of tea tract could be located all over Assam, tea industry could not develop at a faster rate due to the limited number of Chinese tea manufacturers, who were considered essential. There were only two Chinese black tea manufacturers who were assisted by twelve native assistants and another two green tea manufacturers who were also assisted by twelve native assistants.

Another problem which was faced by the tea industries during this time was shortage of satisfactory local labour

regarding which Bruce had commented: "An extent of 300 by 300 will cost from 200 to 300 rupees; i.e. according to the manner in which the miserable opium smoking Assamese work. This alone ought to point out the utility of introducing a superior race of labourers, who would not only work themselves, but encourage their women and children to do the same; the plucking and sorting leaves they might be profitably turned to account for both parties. This I have not been able to instil into the heads of the Assamese, who will not permit their women to come into the tea gardens. Indeed, unless more labourers can be furnished a larger amount of tea must not be looked for at present."

In spite of all these difficulties the industry grew steadily. "Bruce's figures for the tea tracts worked by him show that production in 1838 was 4,220 lb: that it rose to 5,274 lb in 1839 and that it was expected to reach 11,160 in 1840. No corresponding figures for the indigenous tracts still with the chiefs are available. Bruce's figures indicate that this work was purely experimental."

Source: Griffith, P. The History of the Indian Tea Industry, 1967, p. 21.

APPENDIX C

ANNUAL IMMIGRATIONS OF LABOUR INCLUDING
CHILDREN INTO ASSAM PLANTATIONS

Year	No.	Year	No.
1902-03	26,684	1919-20	1,02,089
1903-04	22,162	1920-21	25,472
1904-05	24,209	1924-25	33,727
1905-06	31,830	1925-26	45,694
1907-08	84,824	1927-28	42,845
1908-09	60,773	1928-29	68,900
1909-10	39,332	1929-30	59,796
1910-11	43,657	1930-31	53,519
1911-12	58,646	1931-32	50,997
1912-13	59,873	1932-33	39,901
1913-14	58,646	1933-34	47,960
1914-15	63,638	1934-35	19,968
1915-16	1,10,376	1935-36	23,876
1916-17	48,130	1936-37	27,842
1917-18	19,407	1937-38	32,335
1918-19	2,22,171		

Source: Guha, A. Planter-Raj to Swaraj: Freedom Struggle and Electoral Politics in Assam 1826-1947, People's Publishing House Pvt. Ltd., New Delhi, 1988, p.350.

APPENDIX D

DISTRIBUTION OF THE PRINCIPAL CASTES AND TRIBES

The following Table shows the distribution of the principal Castes and Tribes throughout the districts supervised by the Local Agents of the Association.

Each Local Agency with the districts administered has been shown separately. The Feudatory States have, for convenience and in order to eliminate repetition, been grouped together under two headings; viz. Central Provinces Feudatory States and the Orissa Feudatory States.

Full particulars regarding the Local Agencies from which the States are worked are given annually in the Association's Administrative Hand Book.

MADRAS

Districts	Principal Domiciled Castes and Tribes
	Local Agency — BERHAMPORE
Ganjam	Devenga, Dombo, Golla, Jatapu, Kapu, Konda-Dora, Kummara, Madiga, Mala, Odde, Odiya, Pano, Savara, Tsakala, Velama, Yanadi.
	Local Agency — WALTAIR
Vizagapatam (Waltair)	Boya, Devenga, Gadaba, Golla, Jatapu, Kapu, Konda, Dora, Khond, Kummara, Madiga, Mala, Odde, Tskala, Velama.

MADRAS - contd.

Districts	Principal Domiciled Castes and Tribes
MADRAS AGENCY TRACTS	Boya, Bottada, Devanga, Dombo, Gadaba, Golla, Kamma, Jatapu, Kapu, Khond, Koyi, Konda-Dora, Kummara, Madiga, Mala, Odde, Odiya, Pano, Poroja, Tsakala, Velama, Yanadi.
CEDED DISTRICTS	
Bellary Cuddapah Anantapur Kurnool Guntur	Boya, Devanga, Golla, Kamma, Kapu, Kummara, Madiga, Mala, Odde, Tsakala, Velama, Yanadi.
PITHAPURAM AGENCY	
Godavari Kistna Nellore	Boya, Devanga, Golla, Kamma, Kapu, Kummara, Madiga, Mala, Odde, Tsakala, Velama.
EAST COAST	
	Local Agency - CUTTACK
Cuttack	Barhi, Dhobi, Lohar, Kewat, Kumhar, Tanti, Teli, Pan, Savara, Golla, Khandait.
Puri	Barhi, Dhobi, Dom, Lohar, Kewat, Kumhar, Mali, Tanti, Teli, Bavuri Pan.
Balasore	Chamar, Dhobi, Lohar, Kewat, Kumhar, Tanti, Teli, Bhumij, Chasa, Golla, Khandait, Pan.
	Local Agency - ANGUL
Angul	Kumhar, Teli, Pan, Kondh, Chasa.

CHOTA NAGPUR

Districts	Principal Domiciled Castes and Tribes
Ranchi	<p style="text-align: center;">Local Agency - RANCHI</p> Munda, Oraon, Kharia, Pan, Gond, Ghasi, Bhogta, Tanti, Teli, Koiri, Kumhar, Kurmi, Goala (Ahir), Kamar, Lohar, Chamar, Bho- yia, Asor.
Palamau	<p style="text-align: center;">Local Agency - PALAMAU (Daltongunge)</p> Bhuiya, Chamar, Dhanuk, Dosadh, Goala (Ahir), Kahar, Lohar, Koiri, Oraon, Teli, Bhogta.
Singbhoom	<p style="text-align: center;">Local Agency - CHAIBASA (Singhboom)</p> Ho, Munda, Santal, Oraon, Bhuiya, Goala (Ahir), Lohar, Kumhar, Kurmi, Teli, Tanti, Ghasi, Gond, Kharia.
Hazaribagh	<p style="text-align: center;">Local Agency - HAZARIBAGH</p> Santal, Mundas, Oraon, Barhi, Bhuiya, Dosadh, Kahar, Lohar, Kewat, Koiri, Kumhar, Kurmi, Rajwar, Teli, Bhogta, Birhor, Ghasi.
Manbhoom	<p style="text-align: center;">Local Agency - PURULIA (Manbhoom)</p> Bhuiya, Chamar, Dosadh, Dom, Goala (Ahir), Kahar, Lohar, Kewat, Koiri, Kumhar, Kurmi, Muchi, Musahar, Oraon, Rajwar, Santal, Tanti, Teli, Bauri, Ghasi, Kharia, Kora, Turi.

ORISSA

Districts	Principal Domiciled Castes and Tribes
Sambalpore	<p style="text-align: center;">Local Agency - SAMBALPORE</p> Bhuiya, Chamar, Dhobi, Lohar, Kewat, Kumhar, Mali, Munda, Oraon, Santal, Teli, Kolta, Agaria, Chasa, Dumal, Ganda, Gaura, Ghasi, Gond, Kondh, Kharia, Kissan.

LOWER CENTRAL PROVINCES

Bilaspore	<p style="text-align: center;">Local Agency - BILASPORE</p> Lohar, Goala (Ahir), Kewat, Raot, Dhimar, Gond, Halba, Teli, Tanti, Mehara, Chamar, Kol, Kurmi, Koiri, Khond, Kori, Kumhar, Kumbi, Pasi.
Raipur Drug Bhandara Balaghat Chanda	<p style="text-align: center;">Local Agency - RAIPORE</p> Lohar, Goala (Ahir), Kewat, Raot, Dhimar, Gond, Halba, Teli, Tanti, Mehara, Chamar, Kurmi, Koiri, Gonda, Pasi, Kumhar, Kumbi, Jhadi-Telenga (in Chanda district).

UPPER CENTRAL PROVINCES

JUBBULPORE Damoh Saugor Narsingpur Hosangabad Khandwa Mandla Seoni Chhindwara Itarsi	<p style="text-align: center;">Local Agency - JUBBULPORE</p> Lohar, Goala (Ahir), Kewat, Raot, Dhimar, Gond, Halba, Teli, Tanti, Mehara, Chamar, Kol, Kurmi, Koiri, Gonda, Gujar, Mena, Korke, Kumhar, Kumbi, Pasi.
--	--

BENGAL AND BIHAR

Districts	Principal Domiciled Castes and Tribes	
<p>Santal Parganas</p> <p>Bhagalpur</p> <p>Monghyr (Luckeeserai)</p> <p>TIRHUT DIVISION</p> <p>Saran Champaran Muzafferpur Darbhanga</p> <p>PATNA DIVISION</p> <p>Patna Gaya Shahabad</p>	<p style="text-align: center;">Local Agency - SANTAL PARGANAS (Dumka) and Sub-Agencies</p> <p>Bhuiya, Chamar, Dhanuk, Dom, Dosadh, Goala (Ahir), Kahar, Lohar, Kumhar, Kurmi, Mochi, Musahar, Rajwar, Santal, Tanti, Teli, Sauria Paharia (Male), Kora, Mal Paharia, Bauri.</p> <p>Beldar (Nunia), Bhuiya, Chamar, Dhanuk, Dhobi, Dom, Dosadh, Goala (Ahir), Kahar, Lohar, Kewat, Koiri, Kumhar, Kurmi, Musahar, Pasi, Santal, Tanti, Teli.</p> <p>Kora, Bind, Santal, Beldar (Nuniya), Barhi, Chamar, Dhanuk, Dhobi, Dom, Dosadh, Goala (Ahir), Kahar, Lohar, Koiri, Kumhar, Kurmi, Musahar, Tanti, Teli.</p> <p>Beldar (Nuniya), Dom, Dosadh, Chamar, Dhobi, Dhanuk, Goala (Ahir), Kahar, Lohar, Kewat (in Darbhanga), Koiri, Kumhar, Kurmi, Musahar, Pasi, Tanti, Teli, Bind.</p> <p style="text-align: center;">(BUXAR AGENCY)</p> <p>Goala (Ahir), Kahar, Lohar, Koiri, Kumhar, Kurmi, Musahar, Pasi, Rajwar (in Gaya), Tanti, Teli, Bind.</p>	
	UNITED PROVINCES	
	<p>Ghazipore</p>	<p style="text-align: center;">Local Agency - GHAZIPORE (and Sub-Agencies)</p> <p>Ahir, Bhar, Bhuinhar, Chamar, Dhobi, Dosadh, Gond, Kahar, Koiri, Kumhar, Lohar, Nuniya, Teli.</p>

UNITED PROVINCES - contd.

Districts	Principal Domiciled Castes and Tribes
Mirzapore	Ahir, Bhuinhar, Chamar, Gond, Kahar, Kewat, Koiri, Kol, Kumhar, Kurmi, Lohar, Teli.
Benares Jaunpur Ballia	Ahir, Bhar, Bhuinhar, Chamar, Dosadh, Kahar, Kewat (in Jaunpore), Kumbi, Pasi, Nuniya, Lohar, Teli.
Gorakhpore	Bhar, Bhuinhar, Chamar, Dhobi, Dosadh, Gond, Koiri, Kewat, Kurmi, Lohar, Pasi, Teli.
Basti Azamgarh	Dhobi, Kahar, Kewat, Koiri, Kumhar, Kurmi, Lohar, Pasi, Teli.
Allahabad Fatehpur Cawnpore	Chamar, Dhanuk, Dhobi, Kahar, Kewat, Kol (in Allahabad), Kumhar, Kurmi, Lohar, Nuniya, Pasi, Teli.
Fyzabad and districts operated from the Fyzabad Agency (vide Association's Hand Book)	Dhobi, Kahar, Kewat, Kumhar, Kurmi, Lohar, Nuniya, Pasi, Teli.

FEUDATORY STATES

State	Principal Domiciled Castes and Tribes
ORISSA FEUDATORY STATES	
Athgarh	
Athmalik	
Bamra	
Baud	
Beramba	
Borai	
Daspalla	
Dhenkanal	Bhuiya, Dom, Lohar, Kewat, Kumhar,
Dompara	Kurmi, Mali, Munda, Oraon, Santal,
Gangpore	Teli, Bhumij, Ghasi, Golla, Gonda,
Hindol	Ho, Juang, Kondh, Kora, Kharia,
Kalahandi	Kisan, Pan, Agaria, Kolta, Chasa,
Keonjhar	Dumah, Ganda, Sudh, Barhi, Chamar,
Khandpara	Dhobi, Goala (Ahir), Tanti, Agaria,
Kharsawan	Chasa, Ganda, Guria, Khandait.
Mourbhanj	
Narsingpur	
Nayagarh	
Nilgiri	
Pal-Lahara	
Patna	
Rajghar	
Rairakhal	
Rampur	

FEUDATORY STATES - contd.

Districts	Principal Domiciled Castes and Tribes
CENTRAL PROVINCES FEUDATORY STATES	
Sirguja Jaspore Gangpore	Vide Ranchi
Korea Chang Bhakar Borai Sakti Kawardah Sarangarh Raigarh Chhuikhadan Kanker Bastar Rajnandgaon Khairagarh Bijawar	Population similar to that of Raipore, Drug and Chanda.
CENTRAL INDIA STATES	
Rewah Udaipur Pannah Tickamgarh Orchha Ajaigarh Bhopal Rewah Nagod Maihar Indore Makrai	Besides the castes shown under Jubbulpore District, large numbers of Kols, Menas and Gujars are found in all these States.

SELECTIVE BIBLIOGRAPHY

SELECTIVE BIBLIOGRAPHY

- Anonymous. 1980. Assam Plantation Labour Rules, 1956 and the Plantations Labour Act 1951, Orient Low House, Allahabad.
- Awasthi, R.C. 1975. Economics of Tea Industry in India with Special Reference to Assam, United Publishers, Guwahati.
- Bald, C. 1957. Indian Tea, its Culture and Manufacture, Revised by C.J. Harrison, Thacker Spink & Co., Calcutta.
- Barpujari, Nibir. 1981. "Zinc Status of Tea Soil and Zinc Nutrition of Tea," Ph.D. Thesis presented to Assam Agricultural University.
- Barthakur, Sailandra. 1988. "Rural-Urban Interaction in the Brahmaputra Valley - A Study in Settlement System," Ph.D. Thesis submitted to Guwahati University.
- Bhadra, Mita. 1985. "The Changing Family - Authority, Role and Status of the Tea Plantation Women Workers in Darjeeling District, West Bengal," Paper presented in the Seminar on Tea Garden Labour in North-East India, Organized by North-East India Council for Social Science Research, Shillong.

- Bhowmik, S. 1981. Class Formation in the Plantation System, People's Publishing House, New Delhi.
- Bora, A.K. 1985. "Socio-Economic Problems of Tea Garden Labour Population in the North-East India," Paper presented in the Seminar on Tea Garden Labourers in North-East India, Organized by North-East India Council for Social Science Research, Shillong.
- Census of India, 1961, Vol. I, Part VII-A, "Social and Economic Processes in Tea Plantation with Special Reference to Tribal Labours," Office of the Register General India, Ministry of Home Affairs, New Delhi, August 22.
- Census of India 1971, Assam, Series 3, Part II-C(II), Social and Cultural Tables.
- _____. 1971, Assam Series 3, Part IX, Census Atlas.
- Das Rajanikanta. 1931. Plantation Labour in India, Purbasree Press, Calcutta.
- Dutta, M. L. and Bora, K.P. 1984. "Education in Tea Plantation in Assam," Journal of the Institute of Educational Research, Vol. VIII, No. 1, January.
- Dutta, M.L. 1984. "Unemployment among Tea Plantation Labourers of Assam," Sentinel, Vol. I, No. 333, March, Guwahati.
- Dutta, M.L. 1984. "Tea Workers, Income and Expenditure", Sentinel, Vol. II, No. 71, July, Guwahati.

- Dutta, M.L. 1984. "Need for Vocational Education in Tea Plantations," Sentinel, Vol. II, No. 175, October, Guwahati.
- Dutta Ray, B. (Ed.) 1981. Problems of Tea Industry in North East India, Research India Publications, Calcutta.
- Eden, T. 1965. Tea, Longmans Green & Co. Ltd., London.
- Ganguly, J.B. 1985. "The Plight of Tea Garden Workers in Assam in the Pre-Independence Day," A paper presented at the Seminar on Tea Garden Labour in North-East India, Council for Social Science Research, Shillong.
- Ghatowar, N. 1975. Bonuar Sanskriti Libonot Ebhumuki (in Assamese), Asom Sahitya Sabha, Jorhat.
- Gio, M. Giles. 1891. Tea Garden Sanitation, Secretariat Press, Shillong.
- Gopal, A.K. 1983. Creches in Plantations, National Institution of Public Cooperation and Child Development, New Delhi.
- Goswami, Homeswar. 1985. Population Trends in the Brahmaputra Valley, Mittal Publications, Delhi.
- Griffiths, P. 1967. The History of Indian Tea Industry, London, Weidenfeld and Nicolson, London.
- Harlalka, S.S. 1975. Tea Garden Labourers of Assam, People's Publishing House, Dhubri.
- Harler, C.R. 1964. The Culture and Marketing of Tea, Oxford University Press, London.

- Harrison, C.J. 1965. Indian Tea, a Textbook on the Culture and Manufacture of Tea, Thacker-Sprink & Co. Pvt. Ltd.
- Harold, H. Mann. 1934. "The Early History of Tea Industry in North East India," The Assam Review, September.
- Hassan, Mehtab. 1975. "An Enquiry into Implementation of the Plantation Labour Act, 1951: A Case Study in Tea Estates of Assam," M.Sc. Dissertation presented to the Department of Tea Husbandry, Assam Agricultural University, Jorhat (Unpublished).
- Hodne, O. 1982. The Seed Bore Fruit, C.D. Media 127, Manicktala Street, Calcutta.
- Jain, S. 1983. Tea Gardens in Assam, Patterns of Recruitment, Employment and Exploitation of Tribal Labour, Social Action.
- Kalita, D.R. and Goswami, A.P. 1985. "Socio-Economic Profile of Tea Garden Labour - A Case Study of Jorhat, Assam." Paper presented at the Seminar on Tea Garden Labourers, organized by NEICSSR, Shillong.
- Kurmi, S. 1981. Chah Bagisar Katha (in Assamese), Asom Sahitya Sabha, Jorhat, 1981.
- Misra, Sib Ranjan. 1986. Tea Industry in India, Ashish Publishing House, 8/81, Punjabi Bagh, New Delhi.
- Nag, A.K. 1985. "A Paper on the Present Day Social, Economic and Political Status of the Tea Garden Labourers

- of North-East India." A Paper submitted in the Seminar on Tea Garden Labourers, organised by ICSSR, Shillong.
- Phukan, S.N. 1984. "Unemployment in Assam Tea Gardens," Sentinel, Vol. II, No. 67, June, Guwahati.
- Phukan, S.N. 1984. "Tea Industry and Assam", The Tea Set, Vol. I, No. 12, July.
- Phukan, V. 1976. "Socio-Economic Problems of the Ex-Tea Garden Labourers Population in Assam", Ph.D. Thesis submitted in Guwahati University.
- Rothermund, D. 1978. Government Landlord and Peasant in India, Agrarian Relations under British Rule, 1865-1935.
- Saikia, D. 1978. Chah Bagisar Sramik Aru Ain (in Assamese), Bharati Press, Tezpur.
- Showdhury, P. 1989. Asonor Sah-Banua aru unaish Satikar Bidot Samaj (in Assamese), Students Stores, Guwahati.
- Sharma, Sailendra. 1986. Joyti Prashador Rasanabali (in Assamese), Asom Prakasan Parishad, Guwahati.
- Singh, K.S. 1983. Birsa Munda and His Movement 1874-1901: A Study of a Millenarian Movement in Chota Nagpur, Oxford University Press, Calcutta.
- Tasha, P.C. 1981. Chah Sramik Sanskritir Ruprekha (in Assamese), Asom Sahitya Sabha.
- Tea Board of India, 1960. "Report on the Living Conditions

of Tea Garden Workers in Assam," Indian Labour Journal, Vol. 1, No. 6, June.

Tea Board of India, 1987. Tea Statistics, Calcutta.

Tea Encyclopedia, Tea Research Association Publications, Jorhat.

Tea Districts Labour Association, 1989. Castes and Tribes on the Tea Estates of North East India, Vintage Books.

Tea Districts Labour Association Handbook, Part I, 1954.

Weiner, Myron. 1978. Sons of the Soil - Migration and Ethnic Conflict in India, Princeton University Press.

Xaxa, Virginius. 1985. "Colonial Capitalism and Underdevelopment in North Bengal," Economic and Political Weekly, Vol. XX, No. 39, September 28.

Xaxa, Virginius, 1985. "Tribal Migration to Plantation Estate in North-East India: Determinants and Consequences," Demography India, Vol. XIV.1, No. 1.

102384
 Rec. No. 102384
 Rec. by GA
 Date 16/8/94
 Class by
 Sub Reading by
 Index by
 Transcribed by