AVAILABILITY AND IMPACT OF EDUCATION ON INCOME: A STUDY OF TEA PLANTATION WORKERS IN ASSAM

A THESIS SUBMITTED TO THE UNIVERSITY OF HYDERABAD FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN ECONOMICS

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DECELARATION

I hereby declare that the research work embodied in the present thesis entitled **"Availability and Impact of Education on Income: A Study of Tea Plantation Workers in Assam"** is an original research work carried out by me under the supervision of **Dr. Phanindra Goyari**, School of Economics, University of Hyderabad, and has not been submitted for any degree in part or in full to any other university or to this university.

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CERTIFICATE

This is to certify that the thesis entitled **"Availability and Impact of Education on Income: A Study of Tea Plantation Workers in Assam"** submitted by Dipali Bosumatari as a part of the degree of Doctor of Philosophy in Economics is original and the work has been carried out in my supervision during the academic session 2008-2013. Thesis has not been submitted for any degree in part or in full to any other university or to this university.

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List of Abbreviation

SC/ST	Scheduled Catse and Tribe
ACMS	Assam Cha Mazdoor Sangh
PLA	Plantation Labour Act
CPI	Consumer price Index
LIC	Life Insurance Company
NUEPA	National University of Educational Plannning and Administration
NER	North Eastern Region
CMIE	Centre for Monitoring Indian Economy
DPI	Director Public Instruction
LP	Lower Primary
NREGA	Notional Rural Employment Guranttee Act
TGC	Tea Garden Cell
SSA	Sarva Sikhsa Abhiyan
CCP	Community Centre Personal
ATEWB	Assam Tea Employment Welfare Board
AATSA	All Assam Tea Tribe Students Association
MoU	Mamorandum of Understanding
GOI	Government of India
EGS	Education Guarentee Scheme
UEE	Universalisation of Elementary Education
TGER	Tea Garden Education Register
TGEC	Tea Garden Education Committee
DISE	District Information System for Education
VER	Village Education Register
OBC	Other Backward Caste
TV	Television
SBI	State Bank of India
NGO	Non Governmental Organisation
OLS	Ordinary Least Sqaure
CBWE	Central Board for Workers Education
UNICEF	The United Nations Children's Fund

Abstract

This thesis mainly examines the availability, accessibility and impact of education on earning of tea plantation workers in Assam. Both primary and secondary data have been used has been used in the present study. The primary data have been collected through field surveys in four tea gardens of Udalguri district of Assam. Specific objectives of the study are: (i) to give an overview of the present state of education among the tea plantation workers in Assam, (ii) to evaluate the availability and accessibility of education among the workers in the sample tea gardens and to analyze the reasons behind the disparities in the level and access of education among the tea plantation workers and (iii) to examine the influences of education on the employment, earning, saving and investment patterns of sample workers.

Some of the main findings of the present study are: (i) Majority of sample population are still illiterates and available schools are limited to the primary level only, (ii) School drop-out students were found higher among the illiterate parents than in literate families, (iii) Parents who are literate and educated are sending more children to schools compared to illiterate parents, (iv) At all levels of schooling, number of girl students has been lower than number of boy students, and the number of school going girls goes on falling at every higher class of education, (v) Majority of sample workers is in the category of manual workers, whose main source of income is the wage income from garden works and their annual average salary is very low, (vi) Workers with higher level of education are engaged in higher paid works than the less educated workers, (vii) Education was found to have positive influence on the earning, saving and investment of sample workers for the total sample workers as well as for all income groups.

Chapter 1
Introduction

1.1 Background

Tea is one the plantation crops like coffee and rubber, whose plants last for several years during which produce can be obtained. Tea is one of the most popular beverages in the world and consumed by a large number of people. Tea, as common beverage, has been playing a pivotal role in the national economy of so many developing countries in the world. Owing to its increasing demand, tea is considered to be one of the major components of world beverage market. Tea is consumed in almost all the countries of the world though the process of preparation is different in different regions of the world. Despite commonly consumed beverage of the world, tea cultivation is confined only to certain specific regions of the world due to specific requirements of climate and soil conditions. Majority of the tea producing countries are located in the continent of Asia where China, India, Sri Lanka are the major producers. African tea growing countries are located mostly around the tropical regions where Kenya, Malawi, Rwanda, Tanzania, Uganda are major producers. Apart from these regions, some quantities of tea are also being produced in Argentina, Brazil, Iran, Turkey, Russia and Georgia.

China, India, Sri Lanka, Kenya and Indonesia are principal producers of tea amongst tea producing countries in the world. These five countries together account about 77 percent of world tea production and 80 percent global exports (Majumder et al., 2012). China secured the first position both in terms of cultivated area and production with 1419530 hectares of area under tea and 1467467 tones of production in 2010. India with 583000 hectares of area and 991180 tones of production secured the second position in the world tea in 2010 (Table 1.1).

Tea industry in India is one of the largest organized industries. It is one of the oldest organized firm sectors with a large network of tea producers, retailers, distributors, auctioneers and exporters in the country. India is the largest producer of black tea as well as the largest consumer of tea in the world. India is the second largest producer of tea as well as the largest consumer of tea in the world. In the face of stiff competition from many tea growing countries of the world, India's world ranking as an exporter has come down

Table 1.1: List of Top Ten Tea Producing Countries in the World (2010)

Countries	Area (Ha)	Rank	Production (tones)	Rank
China	1419530	1	1467467	1
India	583000	2	991180	2
Kenya	171900	4	399000	3
Sri Lanka	218300	3	282300	4
Turkey	75851	7	235000	5
Viet Nam	113200	6	198466	6
Iran	19473	10	165717	7
Indonesia	124573	5	150342	8
Argentina	37221	9	88574	9
Japan	46800	8	85000	10

Source: Food and Agriculture Organisation (www.fao.org)

from number one to number four and production from number one rank to number two recently (Table 1.2). The rank of Indian tea has not come down in terms of exporter but also in terms of production too. Currently India produces 23 percent of total world production and occupies 15 percent of world's tea area. India secured the second highest position in terms of tea consumption in the world with 21 percent of total world tea consumption. Moreover, nearly 80 percent of the tea produced is consumed within India

Table 1.2: Status of Indian Tea in the World

Tea	World	India	Rank	% Share
Area (Million Ha)	3.94	0.58	2nd	15
Production (Million Kg)	4162	966	2nd	23
Yield (Kg/ Ha)	1143	1668		
Export (Million Kg)	1738	193	4th	22
Consumption (Million Kg)	3980	837	2nd	21

Source: Taken From Majumder et al. (2012)

India's large tea plantations are mostly concentrated in Assam and North Bengal. Though the state of Assam occupies a unique position in the tea map of the country, other states like Tamil Nadu, Karnataka, Kerala and West Bengal do produce a good amount of tea in India. They do contribute from a minimum to moderate quantity of the tea production of the country. The tea gardens in south states are mainly concentrated in the Nilgiri Hills and Western Ghats. Small areas are also found in Punjab, Uttar Pradesh, Bihar, Tripura and

Himachal Pradesh in the North. On the whole, these states taken together contribute to the historical growth and culture of tea in India.

The state of Assam situated in the North Eastern part of the country is the wonderland of tea. The soil and climatic conditions of Assam are very much suitable for tea cultivation. Assam tea bushes are grown in a lowland area of clay soil rich with the nutrients of the floodplain. The land of Assam is well drained fertile acid where tea plants grow very well. Moreover, Assam has moderately hot and humid climate which are very fit and suited for the tea plants. Because of it lengthy growing season and generous rainfall, Assam is one of the most prolific tea producing regions in the world. Suitability of soil and climatic conditions are not only important factors for growing tea plant but also affect the productivity, crop distribution and quality of tea. Therefore, good and suitable soil and climatic conditions are very important in growing tea plants.

The area and production of tea in Assam has been increasing over the years. The total percentage share of area under tea plantation in Assam to all India level was 52.6 percent in 1980 which increased to 55.7 percent in 2010. But the contribution of tea production to the all India level has not increased so much. The percentage share of tea in 1980 was 52.8 percent which has decreased to 50.6 percent in 2010 (Table 1.3).

While many studies have been done on the problems of tea production and productivity, technology adoption, marketing etc., very few studies are available on the education of tea plantation workers and its relation to earning, employment and saving behaviour. The present study is an attempt in that direction.

Table 1.3: Percentage Share of Area and Production of some States in all India

	% Share of area to all India				% share of Production to All India			
States	1980	1990	2000	2010	1980	1990	2000	2010
Assam	52.6	55.5	52.8	55.7	52.8	53.9	53.2	50.6
Kerala	9.5	8.3	7.2	6.4	8.9	8.4	7.6	6.9
Tamil Nadu	9.7	9.2	14.8	14.0	13.0	15.4	15.5	17.3
West Bengal	24.7	24.6	21.3	20.1	23.4	20.8	21.9	23.2
Tripura	1.6	1.4	1.3	1.6	0.6	0.7	0.7	0.9
Others	1.9	1.0	2.6	2.2	1.3	0.8	1.1	1.1

Source: Various Issues of CMIE and Tea Statistics

The rest of this chapter is organized as follows: Section 1.2 deals with brief discussion on the importance of tea industry in Assam Economy. The socio-economic

settings of tea plantation workers are briefly described in Section 1.3. Section 1.4 highlights the motivations of the study. Section 1.5 describes the significance of the study. Section 1.6 outlines the objectives of the study. Hypotheses are described in Section 1.7. Data sources and methodologies are discussed in Section 1.8. The last Section 1.9 is about the organization of the thesis.

1.2 Importance of Tea Industry in Assam Economy

Tea industry occupies a very prominent place in the economy of Assam. The most important feature is the growing prosperity and commercial importance of the state of Assam has been the remarkable expansion of the tea industry since the early part of the 20th century. Tea industry of Assam contributed about 20 percent to the state's income in the year 1990-91 (Economic Survey, Assam 1991-92). Assam is not only the biggest producer of the tea in India but it also contributes substantially to the foreign exchange earnings. It also has the potential source of revenue income for the state government. The state collects a substantial amount in the form of taxes and duties. Besides agricultural income tax, tea has been contributing sufficient amount in the form of carriage tax, land duty, professional tax, and factory license fee on tea production and manufacturing units and sales tax on the tea sold in the local markets. Therefore, the contribution of tea industry to the economy of Assam cannot be ignored.

Besides export oriented, tea industry, being a labour intensive, provides employment to a large number of workforces. According to the latest figures, the state of Assam alone has employed directly about 2 million workers in the industry both in the field and factory. Out of these total employed workers, about 50 percent are women workers and children (Tea Digest, 2005-06, Tea Board of India). In tea industry, women and children are considered better pluckers and the most productive labour. Many people also depend on tea directly or indirectly which includes the workers engaged in producing units, transport sector, warehouses and tea stalls and traders.

The tea industry is continuing to contribute towards industrialization in Assam through development of many ancillary industries such as plywood mills, fertilizer, cane and bamboo crafts, etc. which are growing as a result of tea industry. Plywood, fertilizer and tea machinery manufacturing industries have been developed based on the tea industry. The plywood industry in India owes its origin to the development of the tea

industry, and the difficulties were created by the two great world wars on the import of tea chests required by the tea industry. Fertilizer is another item which figures largely in the requirements of the tea industry. Nitrogenous manure is generally used in promoting the growth and development of the plants (Chakravorty, 1997). Sulphate of ammonia has been found by the experts to be the most effective in promoting the proper growth and development of the tea plants. The other suitable fertilizers for the tea plant are Urea, Ammonium Sulphate nitrate and Calcium Ammoniom nitrate. About 70 percent of the fertilizers supplied to the tea gardens are of Indian manufactured and the rest are imported from foreign countries.

The tea industry has also been providing impetus for the development of transport and communication in certain region. The development of railways, coal exploration, utilization of timber resources, construction of roads, etc was aimed primarily at serving the industry. Before starting tea industry in Assam, the British rulers made use of the transport system inherited from the Ahom rulers with little development to serve their purpose. Most of the roads have been constructed by the tea gardens, joining the main link roads of Assam. The tea garden not only contributed much to the construction of link roads but also made local boards responsible for the maintenance of such roads. The tea industry's contribution is substantial to the transport earnings in this region. It also contributes much to the earning of railways in the form of earning from means of communication because a large number of people engaged in tea industry have to travel throughout the year.

1.3 Socio-economic Settings of Tea Plantation Workers and Some Acts

Like any other plantation crop, tea also requires a large number of regular labour forces under the control of a more or less strict management. By nature, works in tea plantation are of two types- agricultural and industrial. Works such as digging, hoeing, plaguing, planting, weeding, pruning, plucking, etc. are essentially agriculture in nature. In respect of its mode of capital investment, management pattern, processing, marketing, etc., it is organized efficiently like an industry. Thus, the plantation is a large scale enterprise in agriculture.

In Assam, tea plantation was the first capitalist enterprise introduced by the British government in the early part of the nineteen century. The British occupied Assam in 1926

and explored possibilities of growing tea (Saikia, 1994). Initially, attempts were made to recruit labour from within Assam as that would have entailed much lower cost in the recruitment of labour. But it did not succeed as the number of landless agricultural workers in the then Assam were few and was not readily available. There was virtually no labour force to work as a full time worker in the plantations. During its teething period, the local people were almost the sole source of labour. But quick inflow of British capital for the expansion of plantation rapidly increased the demand for labour. This resulted in a mad search for labour. It was because of this labour shortage that a contractual system of labour supply developed. Therefore, by 1853 indentured labour from outside the state of Assam had to be recruited. These labourers were mostly subsistence agricultural families or families engaged in other primary occupations. They were from the states of Bihar, Bengal, Orissa, Maharastra, Madhya Pradesh, Andhra Pradesh, Madras and Uttar Pradesh (Saikia, 1994). They belong to the communities of Orang, Munda, Kheria, Santal, Bhumji, Bedia, Kurmi, Kumar Keot, Khandait, Gorait, Gudba, Tanty, Dusad, Dhanwar, Proja Bhuyan, Sober, Ghasi, Baroi, Swashi, Goala, Naik, Purti, Mishra, Kuzur, and many other communities, having different languages, socio-religious practices, customs and traditions (Sharma and Das, 2009). The majority of the workers were identified either as SC or ST or backward classes in different states, who used to live in their own homogeneous population under their village organizations.

The misfortune of these indentured labourers started with their journey to the gardens. According to Phukan (1979), one third of the tea plantation workers died during their long journey to the tea gardens. Upon their arrival of the gardens they got a new identity, i.e., coolie, and were turned into property of the tea companies. These workers belonging to many ethnic identities cleared jungles, planted and tended tea seedlings and samplings, planted shared trees and built luxurious bungalows for planters. But their destiny tied to the huts in the labour lines that they built themselves. All the indentured workers who were brought were kept together in the same labour lines though they were from different tribes, castes and religions. Since the tea plantation workers settled in the labour lines, their lives and livelihoods remain tied to the labour lines and turned into property of the tea companies. They are people without choice and entitlement to property. The houses in labour lines are given by the employers that comes first fringe benefits. One worker gets one house that is supposed to be maintained by the employer. However,

generally the workers themselves do the repair and maintenance. Living conditions in houses in the labour lines are generally unsatisfactory and outrageous in many instances. Typically, a single room is crowded with people of different ages of a family.

The work condition of the tea workers who spend most of their working time under the scorching sun or getting soaked in rains is a concern. A woman tea leaf plucker spends almost all her working hours standing. The working hours of the tea leaf pickers, who are almost exclusively women, work six days a week from 8 O'clock in the morning until 4 O'clock in the evening. Generally, they have a break of an hour for lunch which they bring with them, or go home to eat if working in a nearby tea field. Men mainly work as field supervisors, carry out weeding and spraying, or work in the tea factory.

Women who are a major workforce in the tea industry continue to face increased discrimination. Plucking the leaves from the plants is a very hard and tiring job. Their social status has ensured that their plight has been continuously ignored for generations. These workers have very low literacy rates and non-availability of any other livelihood in the region ensures that the children of the plantation workers are left with no other option than to work on the plantations under abysmal conditions. There is no escape from the vicious circle of the highest level of exploitation. The plantation workers also do not enjoy even basic amenities like safe drinking water, and often workers suffer from diarrhea, cholera and other waterborne diseases. Malaria is also rampant.

Education, an important ladder for transformation of a community or society for betterment, is at the root of the social exclusion of the tea workers. There were few schools in the gardens which were run by garden authorities. Very few government schools are available in the tea garden areas. Added to it, the quality of education provided in these schools remains to be a concern. An overwhelming majority of the children of the tea plantation workers drop out from schools before they can use education to step in to other profession and thus they have to enter the tea gardens as labourers. Therefore, the literacy rate among the tea garden workers and their families is very low. To protect them from such suffering or ill fortune, many legislations and acts have been introduced since the early part of the 20th century. Some of these Acts[1] are briefly described below:

[1] These items are drawn from Griffith (1967), Awasthi (1975), Nomani (2008) and Tea Board of India (www.teaboard.gov.in).

(i) Assam Labour and Emigration Act 1901: The commission of enquiry appointed by the government of Bengal in 1895, criticized the prevailing system of labour recruitment and recommended several remedial measures. On the basis of these recommendations, Assam Labour and Emigration Act was passed in 1901. This act was the first legislation which gave some protection to plantation labour. This act prohibited the recruitment of labour except through licensed contractors. The act was modified in 1908. Abolishing the system of panel contract for new contracts except in the recruiting district and prohibiting recruitment by unlicensed contractors and the right of arrest of workers by planters was the main feature of the modified act. The act was further modified in 1915. In this modified act, government abolished the system of indentured labour in Assam valley and recruitment by all sorts of contractors. The act provided for the establishment of Assam Labour Board for supervision of recruitment by tea garden sardars.

(ii) Tea District Emigrant Labour Act 1932: The Assam Labour and Emigration Act 1915 proved inadequate for regulation of recruitment and unintelligible to the common people. Therefore, the Tea District Emigrant Labour Act was passed in 1932. This act repealed the Assam Labour and Emigration Act 1915 and thus removed the last vestige of panel contract form the statute book.

Defects of the Acts: The labour investigation committee found that the existing Act was really emigration legislation but not actually a piece of labour legislation as it did not regulate working conditions in tea plantation. Further the commission found that in plantations, wages were inadequate, housing conditions were unsatisfactory and medical and welfare services required substantial improvement and expansion. Therefore, commission suggested the enactment of a separate plantation labour code for the whole of India as the conditions of life and employment on plantations were quite different from those of other industries. As result, the government of India undertook measures to improve wages and living conditions of the plantation workers. Further an industrial committee on plantation was set up by government to consider the conditions of plantation industry.

The district emigrant labour act 1932 regulates merely the conditions of recruitment of labour employment in the tea gardens. The workmen's compensation act 1923 which

applies also to tea plantation does not confer any substantial benefit on tea labour as accidents in the tea gardens are few. The other labour act 1936, the industrial employment standing order act 1946 and the industrial disputes act 1947, benefit plantation labour to a very limited extent. The labour investigation commission observed that as the conditions of life and employment on plantations were different from those of other industries, a separate bill is necessary to be introduced. The bill regulates the conditions of plantation labour and also prohibits children below 12 years from employment in any tea garden.

(iii) Plantation Labour Act 1951:

This Act extends to the whole of India except the State of Jammu and Kashmir. As per the this Act, all permanent workers in the tea industry are entitled to receive various social welfare benefits like health care, free education, etc. On the other hand, the temporary or casual workers are not eligible to claim such benefits. Therefore, to reduce expenditure on such benefits and to increase the profit, the management of the industry started casualisation of the workers.

(iv) State Legislations in Assam:

The government of Assam has been passing certain rules to regulate the conditions in the tea gardens and their workers. Some of these important rules and acts affecting tea plantation are The Assam Factories Rules (1950), The Assam Industrial Disputes Rules (1958), The Minimum Wage Rules (1952), The Assam Plantation Labour Rules (1956), The Assam Tea Plantation Provident Rules (1959) and The Assam Maternity Benefit Rules (1965). Most of these rules tried to improve the welfare of tea garden workers directly and indirectly. Few features of these Rules and Acts have been described briefly below:

The Assam Factories Rules (1950): Under these Rules, the main provisions are relating to safety and welfare arrangements for workers inside the factory in the tea gardens of Assam. The rule makes it compulsory to allow compensatory holidays if a worker in the garden has not utilised the usual holiday under any circumstances.

The Assam Industrial Disputes Rules (1958): In case of any disputes between the management and labour in tea garden in Assam, the matter must be decided on the basis of

provisions given under the rules. The procedure for arbitration agreement has been laid down under section 7 of the rule. The important matters like submission of the statements by the parties, proceeding before Labour Court Tribunal and formation of work committee, etc. have been given in section 11, 12 and 41 respectively.

The Assam Minimum Wages Rules (1952): The Assam Minimum Wages Rules also govern the workers engaged in the tea gardens of Assam both in the field and factories. The plantation labour act 1951 has conferred powers on the state governments and on that basis the government of Assam framed rules during 1952 for regulating the conditions of workers in tea gardens of Assam. Mode of computation of cash value of wages, terms and conditions of payment of wages and the deductions permissible from wages, publicity to the minimum wages fixed under the act, weekly day of rest, number of hours of work that constitute a normal working day and extra wages for over time, etc. are the important provisions under these rules.

The Assam Plantation Labour Rules (1956): The government of Assam has framed certain rules to regulate the working of the tea gardens in Assam under the plantation labour act 1951. The rules are in connection with the matters like inspection of the gardens, health and welfare activities in the gardens of Assam. The important provisions under these rules are, powers and functions of inspector, duties of certifying surgeons, health, latrine accommodation, hospitals, welfare, hours and limitation of employment and sickness and maternity benefits.

The Assam Tea Plantation Provident Rules (1959): The provident fund scheme for the tea garden workers has started since 1959. The scheme is implemented through the Board of Trustees and executive committee.

The Assam Maternity Benefit Rules (1965): Women constitute a major portion of workers in tea gardens. The maternity benefits are given to women for the sake of maintaining health and safety of the children. The tea garden women workers are governed under the rules farmed by the government of Assam.

The Tea Board of India has also been introducing various labour welfare schemes in India (Tea Board of India, 2012-13). Some of these schemes are: (i) Scheme of capital grants for construction of new health centers, construction and extension of hospital/medical clinic buildings etc., (ii) Scheme of capital grants for hospital/medical clinics towards extension of treatment facilities and also to purchase medical equipments, accessories and ambulance, (iii) Scheme of capital grants to the institutions/organizations who are running rehabilitation and therapy center for the physically challenged persons, (iv) Scheme for Book Grants to libraries started and maintained by Tea Producers' Association/registered voluntary organization/Labour organization, (v) Scheme of Board's financial assistance for disabled persons dependent on tea plantation workers, (vi) Scheme of Financial Assistance for Vocational Training Course for the wards of tea plantation workers & their dependants (Effective from 1st April 2007), (vii) New scheme for improving health of tea garden population during 11th Plan period, etc.

In order to bridge the gap of difference between tea plantation labourers and labourers in other sectors, the Government of India through the Central Board for Workers Education under the Ministry of Labour and Employment had launched the workers education scheme in the country ever since 1958. The Board conducts various types of training programmes for the workers of organized, unorganized and rural sectors of our economy. In the initial stage, Board used to educate the organized sector workers on trade unionism. But with the change of the national industrial environment, the training programmes also underwent a drastic change towards productivity education to quality and cost effectiveness education today through joint educational programmes in organized sectors and awareness programmes in unorganized rural sectors. For tea plantation and other plantation workers, the Board conducts trainings on productivity, quality, cost effectiveness and cost reduction education to have bright future of the plantation industries of the country in general and north east India in particular.

Inspite of these provisions and rules, many tea garden workers are still socially and economically backward as compared to other societies. Vast majority of them are still illiterate, economically poor with poor standard of living, addicted to alcohol, malnourished, suffer from poor working conditions, low wages and far away from the modern means of communication (Kumar, 2006). Majority of workers are deprived of the basic minimal necessities in their lives. Their wages have not seen any real increase for so

many years. After working for 7 to 8 hours, the workers get on average Rs. 70 to 80 per day which is very low for a descent living.

The tea plantation industry is considered to be one of the largest organized industries in India employing large workforces. The workers are unionized. In West Bengal, there are about 32 recognized unions. In Assam, the Assam Cha Mazdoor Sangh (ACMS) is representing the workers for the last 50 years, and is the only recognized union, though there are some more registered unions, some of them even affiliated to the central trade unions. Yet, there is not a single tea plantation area where the Plantation Labour Act (PLA) is fully implemented (Kumar, 2006). In most cases, the workers are never considered to be skilled except a handful of workers who work in the tea processing factories. Many remain unskilled as ever with no promotional avenues open to them. In many gardens, workers, permanent or temporary, inexperienced or experienced, receive the same wage and are classified as daily wage workers. There is no question of computing dearness allowance or variable dearness allowance according to the scale of the Consumer Price Index (CPI). Daily wage earners do not receive the wage for Sunday as it is an unpaid holiday. Arrears due after every wage agreement are seldom paid. Most agreements are clearly silent on facilities like housing, healthcare and education.

More than 85 per cent of the tea plantation workers of Assam are from the lower and tribal communities. In Assam, they do not enjoy the special status, as their brethrens elsewhere do. They are merely referred to as the tea labourers or ex-tea labour community. Their children cannot avail of any reservation facility in educational institutions; many youths cannot compete in the employment spheres. After passing from the lower primary schools of the gardens, they are forced to join the tea labour workforce as unskilled workers with no educational and alternative employment opportunities. Generation after generation, they remain tied to the gardens. They are ‘born in the gardens and die in the gardens’.

1.4 Motivations

The main motivation of the present study is due to the fact that very few studies exist on the present topic, i.e., educational backwardness of tea plantation workers and its linkages to employment, income and saving or investment pattern.

The problems of the tea plantation in Assam have been studied from different angles, sometimes by group of persons appointed by the government and sometimes individually by researchers. The scientific, technological, economic and managerial aspects of the tea industry have been discussed in many books and journal articles, and ever since several measures have also been suggested to solve the problems of the industry. Studies **by** Griffith (1967) on 'History of Indian Tea Industry' and Gait (1906) on 'The History of Assam' have made passing reference to the historical background and development of tea industry. Bhattacharjee (1977), in his book 'Cachar under British Rule in Northeast India' has made a casual reference to tea garden labourers of Cachar. Awasthi's (1975) work on 'Economics of Tea Industry in India' and Guha's (1977) 'Planters' Raj to Swaraj' have analyzed the economic as well as historical and political parts of the tea industry workers. Harlalkar (1973), Singh et. al. (2006), Chakraborty (1997) and Sharma (1997) have analysed the socio-economic and political life of the tea garden workers in Assam.

While studies on different socio-economic aspects are plenty, very few studies on educational perspectives of tea plantation worker are found in the literature. Dutta (1983) and Bharali examined the education and employment of the tea garden workers of Assam. No in-depth study has yet been done in Assam in general and in Udalguri district of Assam in particular on the present topic. Thus, the present study assumes significance as it tries to draw a vivid picture of the education and its impact on economic status of tea garden workers of the district of Udalguri, which remained unexplored till today.

Another motivation behind the present study is the recent enactment of the Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE, 2009). It is an Indian legislation enacted by the Parliament of India on 4 August 2009, which describes the modalities of the importance of free and compulsory education for children between 6 and 14 in India under Article 21a of the Indian Constitution. India has become one of 135 countries to make education a fundamental right of every child when the act came into force on 1 April 2010. The findings from the present study will also be able to throw light on how and to what extent this RTE rules have been implemented, specially in tea garden areas of Assam.

The works of Awasthi (1975), Phukan (1976, 1984), Chetterjee and Gupta (1981), Griffith (1967), Guha (1981, 1977), clearly depicted the picture of agony that the tea

plantation workers went through since the introduction of tea industry in Assam. According to their writings, the misfortune of these workers started with their journey to the tea gardens. One-third of the tea plantation workers died during the long journey to the tea gardens (Phukan, 1976). On their arrival of tea estates, they were kept in labour lines. As mentioned earlier the tea plantation workers who were brought by the Britishers and later the East Indian Company from different parts of the country were from different communities having different languages, socio-religious practices, customs and traditions. They were forced to adjust with heterogeneous group of people in the same labour lines. Further, many of them were exploited in many ways by the planters in the form of low wages, more working hours, no proper housing, sanitation, and no proper educational facilities for the children, discrimination in recruitment system, etc. To protect them from such exploitations, many legislations and acts were passed. Some of these Acts were already mentioned. Despite such legislation measures, the working communities of tea plantation are still socially, educationally and economically poor. Studies like Singh et. al. (2006), Kaniampady (2003), Sharma and Das (2008 and 2009), Sengupta (2009), Kumar (2006) have pointed out that low education is the main responsible factor for their poor socio-economic development. Therefore, it is felt necessary to make an in-depth study of their present education scenario and to examine how their education is affecting their socio-economic conditions in Udalguri district, where many tea gardens, both big and small, are located.

Another motivation of the present study is that increasing demand of labour force in tea garden areas. With the expansion of area under tea cultivation and introduction of small tea growers since the early part of 1990s, the demand of labour force in tea plantation areas is increasing tremendously in Assam. Since 1990s, many educated unemployed youths have taken up tea plantation in Assam. Udalguri district is one where many small tea growers have come up. Since these are small tea gardens, the planters are not in position to provide permanent jobs to their workers. All workers in these gardens are casual daily labourers. Since they are casual labourers, they are not eligible to receive all the social welfare benefits which they are supposed to get as tea plantation workers. In this regard, the question of providing educational facilities to those workers and their children is a main concern. Therefore, study on their educational attainment is felt important.

Further, various programmes have been launched to develop and improve the education systems of tea garden workers in India since independence but they are still lagging behind which is evident from studies like Kumar (2006), Singh, et al. (2006), Bhadra (1992), Dutta (1985), Das and Goswami (2004), and Das and Islam (2006). There must be some socio-economic reasons behind unsuccessfulness of all those programmes. Therefore, the present study proceeds to examine the some of the socio-economic factors behind low educational development in tea garden areas based on field level survey data.

1.5 Significance of the Study

The progress in education is undoubtedly necessary not only to tea garden workers but also for the social, political and intellectual development of all other sections of the society. Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education enhances people's understanding of themselves and the world. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances (Ozturk, 2001). Natarajan (1990) also found that education influences economic development. It alters the attitude to work, consumption perspectives, saving propensities, economic rationality, adaptability, innovativeness, flexibility, attitude towards family size and various social attitudes. Rao (1966) found that income differentials between persons with different levels of education and also between technical and non-technical personnel.

According to Behrman (1990) and Psacharopoulos (1994), increases in earnings are associated with additional years of education, with the rate return varying with high level of education. In addition, they found that returns to primary schooling tend to be greater than returns to secondary and tertiary education. Lucas (1998) also found that higher the level of education of the workforce the higher the overall productivity of capital because more educated are more likely to innovate and thus can affect everyone's productivity. In addition, it plays a very crucial role in securing economic and social progress and improving income distribution. In general concept, it is accepted that persons with higher educational status, are able to accede to economic built up programmes like investment for instance. Hence, even among labourers also those who are educated may undertake any

kind of the investment programmes like LIC, Mutual Investments, certain entrepreneurship programmes, etc, whichever is available in the society. This will uplift their economic status better than those who are illiterate in the labour societies. Studies on the role of education in plantation workers are also useful in understanding the enduring aspects of education, resistance to educational change and the maintenance of their status. Therefore, study on the impact of education on economic status has enormous importance on overall socio-economic development of the society.

Secondly, the tea plantation of Assam is the largest export-oriented sector and the biggest foreign exchange earner employing about more than two million labourers. The number of labourers has been increasing to such an extent that the plantations fail to absorb the entire tea labour population of Assam. It is observed that the replacement of excess labour population is becoming an acute problem. It is unfortunate that the tea labourers have been working for a long period of over one and half century, yet they could not succeed in asserting themselves as a conscious class of people to realize their legitimate demands from the planters. As a result, they have not been able to improve their socio-economic conditions. Many recent studies have constantly pointed out that the main reason of being deprived of their legitimate demand is due to the poor literacy among the working community of tea plantation. Therefore, it is the responsibility of the academicians to bring into light the inherent problems faced by the tea plantation labourers. Such a study is of significance not only for the academicians, but also for the planners, Government and all those who are interested in doing something for the welfare of about two million tea labour population of Assam.

1.6 Objectives

In the light of above background and motivations, in the present thesis, an attempt has been made to examine the following main objectives:

(i) to give an overview of the present state of education among the tea plantation workers in Assam,

(ii) to evaluate the availability and accessibility of education among the workers in the sample tea gardens and to analyze the reasons behind the disparities in the level and access of education among the tea plantation workers and

(iii) to examine the influences of education on the employment, earning, saving and investment patterns of sample workers.

1.7 Hypotheses

The present study is based on the following main hypotheses: (a) Higher educated workers earn higher income than those who have lower educational qualifications and have greater likelihood of being employed at higher paid employment and as a result offer greater economic security and higher ability to accumulate wealth and enabling individuals to obtain higher standard of living. According to the studies of Becker (1964), Bowen (1964), Myrdral (1968), education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising worker's future income by increasing their lifetime earnings. (b) Higher or better educated workers save and invest more than less educated workers on many respects. It is generally assumed that with higher level of education, they understand better regarding the benefits of saving and investment and hence, do higher saving and investment. Further, more educated workers with higher earnings have more ability to save than less educated individuals. Many studies like Collin (1991), Athukorala and Sen (2001) etc. have also proved that education has positive impact on saving and investment behaviour of an individual.

1.8 Data Sources and Methodology

Relevant empirical data for the present were collected through both secondary and primary sources. The data through secondary sources were collected to provide a general overview of labour force of tea industry and to provide key information about various aspects of tea industry. The primary data were collected to get into more intensive information at the micro level. The primary surveys collected more detailed information into socio-economic conditions of tea plantation workers. The secondary data were collected from websites of annual reports of Indian Tea Association, Tea Board of India, CMIE, Food and Agricultural Organization, NUEPA publications on district education information and NER data bank.

Primary data were collected from four tea estates in Udalguri district of Assam. Udalguri District has about 25 major tea estates and more than 1278 small tea gardens. The tea estates can be classified into five categories on the basis of the ownership like non-

Indian owned, Indian owned, Indian Assamese (native) owned, State Corporation owned and small tea gardens owned by a group of local unemployed youths. Many scholars and researchers have studied various aspects of the tea garden workers of various plantation districts of Assam, i.e., Jorhat, Dibrugarh, Sibsagar, Golaghat, Cachar. Being a newly formed district, no comprehensive study has yet been carried out till today in Udalguri district on this present topic. Therefore, present study covers Udalguri district as sample study area.

The primary survey adopted a multi stage random sampling method. At the first stage, Udalguri district was selected among the tea growing districts of Assam. Besides about 21 big tea gardens, Udalguri has ever increasing number of small tea gardens, both at the co-operative and individual basis. At the second stage, a list of major tea gardens in Udalguri was made. At the third stage, four tea estates (two big gardens and two small gardens, were selected for primary data collection. Bhooteachang Tea Estate (under the McLeod Russel India Limited) and Hattigor Tea Estate (Amalgamated Plantations Private Limited) are big tea gardens selected for the study. Two small tea gardens are Brotherhood Tea Growing Firm and Jwnglari Tea Farm. From these tea estates, the primary data were collected using structured questionnaires which were administered at the household level. Primary data were collected from school head masters and garden authorities also.

In Chapter 2, analysis on the overview of educational status is based on the available secondary data. Chapter 4 and 5 are on the analysis of the primary survey data. Primary data are tabulated and then stated objectives have been examined. In Chapter 6, the econometric regression analysis is adopted to examine the influence of education of sample workers on the earning, saving and investment. The earning function analysis uses the basic human capital earning function of Mincer (1974). The exact earning model is specified as the individual worker's total income is dependent function of educational level and occupation type of the individual worker. For the estimations of the saving and investment functions, linear models used by Rogg (2000) and Kibet et al. (2009) had been adopted in the present study. In both saving and investment functions, independent variables are education level and the earning of workers.

1.9 Organization of the Study

The entire thesis is organized into seven chapters. The first chapter is the introduction chapter. This chapter deals with the introduction of the problem, significance and scope of the study, objectives, hypothesis, data sources and methodology. In chapter 2, a brief overview of education among the tea plantation workers in Assam is discussed with the help available secondary data. The first section gives an account of development of education system in plantation areas before the independence. The second section describes the development of education during the post independence period, followed by the scenario of education in tea plantation after the globalization.

Chapter 3 describes the sample tea estates and primary survey data collection. Chapter 4 discusses the general profile of sample households where main items are on the demographic characteristics, occupational structure, income expenditure pattern and social organisations.

Chapters 5 and 6 form the main chapters of the thesis. The analysis of availability and accessibility of education among the sample workers is made in chapter 5. Some of the important items examined in this chapter are availability of schools in sample tea estates, the accessibility of education among workers, reasons for discrepancies in level of accessibility of education among the sample workers and the factors affecting the educational development in sample gardens. Policy measures to improve educational level among the sample workers are also discussed briefly.

The chapter 6 is focused on how education affects occupational distribution of sample workers with different levels of education. Further, disparity in gaining employment with similar level of education among the sample workers is also examined. Besides this, an attempt is made to examine how different levels of education affect the earnings of sample workers. This chapter also examines the impact of education on saving and investment behaviour of sample households.

Finally, chapter 7 provides the broad summary of the study and derives some policy implications.

Chapter 2

Education of Tea Plantation Workers in Assam: An Overview

2.1 Introduction

In this chapter, an attempt has been made to look into the development and spread of education among the tea plantation workers in Assam. In addition, we also examine the main factors behind the poor and slow development of education among the plantation workers in the state. The entire chapter is divided into six different sections. Briefly the importance and overview of education of plantation workers is discussed in section 2.2. The scenario of education among the tea plantation workers in Assam during pre-independence period is discussed in section 2.3. Section 2.4 analyses the development of education among the tea plantation workers during the post-independence period. Further, an assessment is made in section 2.5 on educational development among the tea plantation workers in Assam after 1990s. The possible factors responsible for the poor development of education among the tea plantation workers in Assam is analysed in section 2.6.

2.2 Importance and Overview of Education of Plantation Workers

Education plays an important role in economic development through imparting cognitive abilities, technical skills and knowledge, increasing productive efficiency and enhancing mobility of human resources. Education raises the earning and income level by enhancing productivity of individual workers (Johnson, 1986). Studies of Debeauvais (1974), Denision (1962) and, Goel (1975) revealed that the faster economic growth has mainly been accounted for the advancements in technology, higher investment in the improvement of the quality of human resources and increasing their productive efficiency. They further found that education makes its contribution to economic growth through increase in productivity of labour and other resources. Therefore, education in the modern time is considered as an investment which besides making one literate generates skill and knowledge and inculcates right attitude towards work and production (Rao, 1966). Educated manpower is not only important for economic development but also for efficient accumulation of capital. Trained workers can make better use of the available resources.

The benefits of education are not enjoyed by man engaged in machinery work but it also creates a general atmosphere of mental and moral development (Singh, 1977). Therefore, education becomes part and parcel of our society in the modern age.

Education is also considered as means for equalization of society (Dutta, 1983). The equalization of educational opportunities to various sections of the people in the society makes ways for equalization of opportunities in all spheres of life in the society. Therefore, in India since independence, many schemes have been passed in constitutions for equalization of education among different society. But unfortunately, the basic educational infrastructure was grossly inadequate in the country though proper priority was accorded to this problem. To equalize the educational opportunities among the various sections of the community many provisions were also made apart from the general mass literacy drive and free and compulsory elementary education schemes[1]. Apart from the general mass literacy drive, actions were taken by the Government of India to provide some schemes for the education of the working population in the country.[2] Accordingly, the Government of India through the Central Board for Workers' Education introduced educational programmes among the tea workers in Assam though the educational background of the tea garden workers was rarely of the required standard. By suitable adjustment of the curriculum and training methods, the Board tried to extend the benefits of the workers education scheme to the tea plantations (Phukan, 1979). Although the aim of such schemes was not to improve literacy among the workers, but by imparting training to the selected workers' representatives from the ground level, the board intended to increase the general awareness of the workers. Besides, an extensive adult education programme was introduced along with elementary schooling among the tea plantation

[1] These action plans were to provide free education to general mass. Accordingly, during British Colonial period, dispatch of Charles Wood put forwarded a policy agenda for education. However, the Education Commission of 1882 promoted the role of government's responsibility for education and in 1911 an Elementary Education Bill (known as Gokhale's Bill) was introduced to establish compulsory elementary education as a state's responsibility. Subsequently, in 1937 Gandhi convened a conference at Wardha, where a plan for basic national education was initiated by a committee under the chairmanship of Zakir Husain.

[2] Provision for free and compulsory education for all children up to age of 14 years was made a part of the Indian constitution under article 45 of the directive principles. Moreover, many commissions were passed to look in the development and spread of education of Indian citizens. These commissions are Education Commission 1948, Education Commission 1952, Kothari Commission 1964, National Policy on Education 1986 and 1992 etc. Moreover, particularly after the 42nd amendment of the constitution placed the education on concurrent list and education became more effective. For the working class, the Central Board for Workers' Education was set up by the Government of India in 1957 following the recommendation of an international group of experts.

workers to educate those workers who could not attend or were compelled to leave school early. The significance of adult education in our country was highlighted on the ground that without adult education and adult literacy, it was not possible to have the range and speed of economic and social development. It was also necessary to tone up the economic and social development in terms of value and welfare (Rao, 1966). Development and spread of such programmes of education among the tea garden workers population became more relevant in view of the fact that the adult masses of this community were totally deprived of formal schooling ever since the inception of the tea industry in Assam.

In addition, the labour department of the central and the state government shoulder the responsibility of labour welfare in Assam. The department has been armed with a number of labour legislations passed by the Indian parliament and the state assembly. These acts and regulations cover a wide range of labour welfare measures including education. Further, it may be mentioned that under five year plans the government of Assam had undertaken the establishment of community centres for plantation labour in concentrated tea areas with a view to ameliorating the condition of labour and training up in cultural, social economic educational and similar other activities (Assam Online portal). The enactment of Plantation Labour Act in 1951 compelled employers to make arrangement for proper educational facilities for the workers and their children. In accordance with this act, free education upto the lower primary standard is provided by the management on the most of the tea estates of Assam.

The government of Assam through the Assam Tea Employees Welfare Board, (1959) had been providing vocational training to the members of the tea workers community in selected streams like tailoring, knitting etc. Further, they have been conducting various training programmes for the females of the community and sponsoring the willing female candidates from the community to undergo professional training in nursing courses at the Gauhati Medical College, Gauhati and Assam Medical College, Dibrugarh. The Directorate of Welfare of Tea Garden and Ex-tea Garden Tribes, Assam constituted by the Government of Assam in (1983) had been implementing some socio-economic development schemes in the field of education for the members of the community. Some of the existing schemes are post-matric scholarship, grant for cultural activities including educational tour, grant to non-official organizations, grant for purchase of text books and uniform and grants for construction of hostel for boys/girls.

Despite these measures, the labour community of tea garden in Assam has not been able to reach the desired results even in the elementary level. The study conducted by labour Bureau, Ministry of Labour and Employment, Government of India, New Delhi (1980) showed the pathetic condition of educational scenario in tea plantation area even after the Plantation Labour Act (PLA) was introduced. The study showed that there were only 66.1 percent tea gardens that provide educational facility to their workers in the country as whole by the managements in 1980. Remaining 33.9 percent of tea gardens had no schools. The percentage of gardens providing schools was the highest (about 75.2 percent) in Assam and Tripura, followed by West Bengal (61.4 percent) and south India (58.1 percent). The management provides only primary schools in all these tea gardens. Schools beyond primary level were not existent in these gardens. According to PLA, the garden management should provide school education to their workers without charging any fees. The study found that, no fee was charged in any of these schools. But the picture of supplying certain articles such as books, uniform, etc. to the school going children were in vague. Only about 27.3 percent of tea estates were supplying such articles to children in entire southern region of the country whereas about 15.1 percent were in west Bengal. Assam where country's half percent of the tea is produced has been receiving only 6.3 percent of such articles. Another study conducted by the labour Bureau on Socio-economic conditions of women workers in plantations found that about 40.4 percent tea gardens were maintaining schools.[3]

Toppo (1999) also showed the poor quality of education system in tea plantation areas in Assam and West Bengal. In 845 tea gardens under study, there were total 12, 3,998 children out of whom only 34,400 (27.7%) children were school going children. Remaining 89,598 (72.3%) were working in the gardens itself. The number of school was also very poor. There were only 666 (78.8%) tea estate schools in 845 sample tea gardens. Moreover, the performances of students were also very poor in tea plantation area.

According to Fernandes et. al. (2003), many children of tea plantation labourers either never entered school or have dropped out in Nagaon district. While Jorhat district has the highest literacy in the state is the lowest among the plantation labourers. The 920 families studied have 5,193 family members out of whom 39.7 percent are illiterate. The total female illiteracy was 45.5 percent which is much higher than male illiteracy (22.2

[3] Socio-economic conditions of women workers in plantations' labour Bureau, Ministry of Labour and Employment, Government of India, New Delhi (1980), p.69

percent). At the same time the number of persons with education beyond middle school is very low. Out of total population in these tea gardens only 7.6 percent male and 3.7 percent of female have completed high school or higher secondary school. About 2.3 percent males and 0.5 percent are graduates. There is also a male post-graduate and two women who have completed nursing course. Thus, only 9.9 percent males and 4.3 percent females have had the opportunity to go beyond middle school. Moreover, none of these persons got any support from the plantation management. All the graduates and almost all those who have completed high or higher secondary school are the resident of nearby areas of Christian churches schools. Study by Phukan (1984) also indicated that mostly Christians among the plantation labourers are conscious of the need for their children's education and get encouragement from the church leaders. A study by Goswami (1992) looked into the educational infrastructure in the tea gardens of the Brahmaputra Valley has also shown that the development of spread of educational facilities for the working class population of the tea industry has been far below the average national standard. According to him the development in the educational sphere was the least prominent among the workers in tea gardens.

Thus, in general, workers in tea garden areas have less literacy rate compared to other areas, both in Assam and other regions of the country.

2.3 Education of Tea Plantation Workers: The Pre-independence Period[4]

Until the early part of the present century, negligible facilities were provided to the schools of tea plantations in Assam. The colonial planters paid no attention to the spread of education among the workers in the formative period of the industry. Schools for children of tea plantation workers were practically non-existent during the very early period of tea industry development in Assam. Instead of creating educational facilities, colonial planters focused more on the development of roads, bridges, etc. which in the subsequent period greatly facilitated the rapid expansion of the industry. Surprisingly the high officials of the British government also encouraged such continued negligence of the planters towards the workers' education (Bose, 1954). However, it has also been recorded that during the formative period of the industry, following the instructions of the government, the planters' community initiated the process of education for their workers and in the process they took

[4] This section is mainly drawn from Bose (1954), Muthumana (1990), Borpujari (1963) and Goswami (1992).

the help of the Christian Missionaries (Muthumana, 1990). Nevertheless, it was observed that during that period, the British Government considered the question of providing western type of education for the general population of the province (Awasthi, 1975).

The colonial attitude of the British planters towards education of their workers naturally gave birth to a wholly illiterate mass of workers. The mass illiteracy of the workers coupled with the gross inadequacy of the educational facilities blocked the entire course of educational development of the community till the present time. The efforts of the Government for educational development were found to have failed to stimulate the age long stagnancy in this regard.

The greatest advantage of the planters in keeping their workers illiteracy was that the works in the plantations required neither any skilled knowledge nor any access to formal education. Moreover, the planters apprehended that the process of formal education would make the workers conscious about their legal rights regarding minimum wages and other statutory benefits which would eventually reduce the return of their investments. Further, the employment mobility which was a function of increasing formal education could have compelled the planters to go for increasing importation of their recruits as a result of spread of formal education. Apprehension regarding a strong trade union movement also appeared to have debarred the planters from pursuing an integrated policy for workers' education.

It is, however, gathered that during the later part of the 19th century and the beginning of the 20th century, there were some lower primary schools in and around the plantation areas for the children of the tea workers community. Most of those schools were established by various voluntary organizations under the guidance of Mahatma Gandhi apparently to unite the workers, through education, against the British Government as a part of freedom movement (Awasthi, 1975). These organizations also encouraged higher education among the workers by providing hostel facilities and scholarships. However, despite the voluntary efforts of the outside agencies the spread of educational facilities remained very much limited. It was mainly due to the non-co-operative attitude of the planters' community. During the year of 1917 to 1918, not even two percent of a total of two hundred thousand children of school going age of the workers community attended any kind of primary school (Guha, 1988).

The first favourable gesture of the British Government towards development of education in the tea plantations of Assam came in 1906 when the Government of India deputed Captain W.M. Kennedy for examining the possibility of initiating the process of education for the plantation workers including the establishment of lower primary schools in the plantation areas. In this report, the captain Kennedy revealed a pathetic condition of education in the plantations as well as the indifferent attitude of the plantation managers and the workers towards that end. The report also suggested the establishment of following three categories of schools in the tea plantation areas of Assam: (i) government lower primary schools, (ii) government aided garden schools and (iii) private unaided primary schools.

Based on the report, several lower primary schools were established in different gardens, but the attempt was not fruitful due to the lack of encouragement from both the planters and the guardians (Report of the Assam Labour Enquiry Committee, 1921-22). Owing to such state of affairs the Government also put hesitation in proceeding further with the scheme and as a result there were no visible activities from the government for the next twenty years. During this period, the entire education system in the gardens depended upon the mercy of the pessimistic managers, the congress volunteers and the Christian missionaries.

After nearly two decades of susceptible condition of the educational facilities in the plantations, the government of Assam visualized its interest in the subject in 1930 when the then Director of Public Instruction (DPI) of Assam initiated correspondence with the Indian Tea Association for reformation the whole system of education. The move was intended to have a permanent settlement to the whole question of education in the state's tea plantations. However, due to the tussle between the government and the Indian Tea Association the move of the DPI did not give in any concrete result. As such, although there had been periodic attempts to provide educational amenities to the workers, these were nullified by the absence of a concrete and comprehensive policy until the attainment of independence by our country in 1947.

2.4 Education of Tea Plantation Workers: The Post-independence Period[5]

Since independence, although necessary policy measures had been undertaken by the Government for qualitative as well as quantitative improvement and universalisation of elementary education in the country, comprehensive policy decisions for the education of the tea garden workers took concrete shape only in 1956 when the Government of Assam formulated the Assam Plantations Labour Rules, 1956, under the provisions of the Plantation Labour Act, 1951 (Nomani, 2008). Government of Assam felt the importance of education among the plantation workers as the plantations are located at the remote places, the establishment of schools became very important in tea garden areas. Moreover, since most of the children live with their parents in the garden implies that their education must be provided in the garden itself, if at all they ought to be educated. Therefore, to impart education to that section of population, Government of Assam decided to include education as one of the social welfare measures in Assam Plantations Labour Rules, 1956. According to Assam Plantation Labour Act (Section 14), "If the children between the ages of six and twelve of workers employed in any plantation exceed twenty five in number, the state Government may make rules requiring every employer to provide educational facilities for the children in such a manner and of such standard as may be prescribed".

The responsibility for the growth of proper academic atmosphere in the plantations was entrusted to the planters alone. The planters also showed interest in the expansion of elementary education among their workers. It is evident from the fact that as early as in 1942, there were about 467 Lower Primary (LP) schools in the gardens out of a total of 547 tea gardens of the state maintained entirely by the concerned companies (Griffith, 1967). Nevertheless, during the same period a diplomatic tussle took place between the planters and the Government of Assam regarding the universalisation of the elementary education for the children of the tea plantation workers as well as for the responsibility of the same. It was only prolonged correspondence of the subject that the Government of Assam decided in 1964 to undertake the full responsibility in this regard. Initially, the state Government took up the garden LP schools in at least two districts having heavy concentration of workers. But in the socio-economic setting of plantations the problem of building up of the proper educational infrastructure found to be functionally related with the abolition of child labour. Therefore, the concept of universal and compulsory education appeared to be less

[5] This section draws mainly on Griffith (1967), Shukla (1991) and Directorate of Elementary Education (Tea Garden Cell) Assam, 1986.

suitable to the tea garden worker's community (Myron, 1991). Alternately, the Government or the planters had to make provisions for benefiting compensation on the economic front. Nevertheless, the entire episode demanded serious introspection on the part of the concerned authority and the policy makers.

The desirability of employer's undertaking the whole responsibility for educating his future as well as current working force could never be underestimated. Although the Labour investigation Committee favoured the increasing participation of the planters in the improvement of the education for the workers' children, it could not decide on the desirability of imposing the entire responsibility upon the planters as a matter of policy. With the passage of time, the Government of Assam, however, decided its own course and as a matter of general education policy, took up all the primary schools initially in the districts of Sibsagar and Cachar. Despite, it being a clear cut demarcation of responsibility between the state and the employers had been lacking in putting the whole system of compulsory elementary education in the plantation in a mess. Regarding education beyond the elementary level, accepting provisions for hostel facilities and a few scholarships, there appeared to be a total absence of any clear cut policy exclusively for the members of the community. The number of such students particularly from the resident workers was very few due to mainly to the defective infrastructural facilities at the elementary level (Goswami, 1963). Nevertheless the Tea Board had been rendering considerable financial assistance for the students going for higher education and the quantum of aid had been found to be increasing progressively in the last few years. However, lack of proper knowledge about these facilities in the labour lines deprived many prospective students from the benefits of these schemes.

Many educational programmes were also launched by the Government of India through the Central Board for Workers' Education among the tea garden workers of Assam. It could be stated that though the educational background of the tea garden workers was rarely of the required standard, by suitable adjustment of the curriculum and training methods, it could be made possible to extent the benefit of the workers education scheme to the tea plantations (Phukan, 1976).

The indifferent attitude of the parents towards educating their children shows the obstacle of such policy. Therefore, to eliminate this obstacle adult education programme (1956) was launched among the workers. Adult education which primarily aimed at

serving those who could not attend or were compelled to leave schools early is still in elementary stage in India (Rao, 1966).[6] Development of adult education programme among the tea garden worker population became more relevant in view of the fact that the adult masses of this community were totally deprived of formal schooling ever since the inception of the tea industry in Assam. As a result, many adult education centres were opened and some teachers were also appointed to teach them in different centres. But there seems to be very low level of enrolment in these education centers particularly when the enrolment of the females was considered. It appeared that the lack of proper motivational attitude on the part of the concerned agencies had been the basic factor for such low level of enrolment on these centres.

In addition to Plantation Labour Act 1951, the Government introduced vocational education to culminate the twin problem of educational and financial backwardness.[7] Therefore, the Government of Assam through the Assam Tea Employees Welfare Board was engaged in providing vocational training to the members of the tea workers community in selected streams like tailoring, knitting and so on. Since 1985, the Board had been imparting vocational training in fifteen community centres spread all over the state. The centre generally provided training by qualified and experienced teachers to about 700 trainees annually. The same agency also conducted various training programmes for the females of the community at the Mezenga Female Labour Welfare Training centre situated at Mezenga in upper Assam. They taught about the health, hygiene and first Aid, family welfare, care for children including crèche attendance etc. and vocational training like cutting and tailoring, weaving, embroidery. The same Board also sponsored the willing female candidates from the community to undergo professional training in nursing courses at the Gauhati Medical College, Gauhati and Assam Medical Collage, Dibrugarh. However the implementation of the scheme had been far from satisfactory as the candidates having required qualifications for the courses were not available in the community. This showed

[6]The significance of adult education in our country was highlighted on the ground that without adult education and adult literacy, it was not possible to have the range and speed of economic and social development. It was also necessary to tone up the economic and social development in terms of value and welfare.

[7]The main aim of the introducing the vocational education among the tea plantation workers was to eliminate the duel problems faced by the tea plantation workers in the state. This could be accomplished in two ways, (a) by opening separate vocational training centre in centrally located places and (b) by introducing parallel vocational faculty in the already existing educational system in the garden areas to ensure the guardians of employment prospects for all after the completion of education.

the lack of proper harmony and cooperation among various agencies responsible for running the educational programmes for the tea workers. Further, the Directorate of Welfare of Tea Gardens and Ex-tea Garden Tribes, Assam constituted by the Government of Assam in 1984 had been implementing several schemes in the field of education for the members of the community[8]. Some of the schemes are given below:

(a) Post-Matric Scholarship scheme was granted with the objective to provide financial assistance to the students belonging to Tea & Ex-Tea Garden Tribes to enable them to pursue post matriculation level studies. This is a Central sector scheme.

(b) Grant for cultural activities including educational tour: Under this scheme financial assistance is provided to the cultural organizations of tea tribes' community for development and preservation of their cultural heritage, which includes purchase of musical instrument, holding of cultural function and exchange of cultural troops.

(c) To provide financial assistance to the poor tea tribe's students for purchase of text books and school uniforms, a scheme for grant for purchase of text books and uniform was introduced.

(d) A new scheme of grants for construction of hostel for boys/girls was proposed in suitable place where students belonging to tea garden tribes may reside to pursue their studies. 50 percent is funded by central government.

But due to lack of autonomy and proper co-ordination with other related Government agencies, this directorate had not been able to function properly. For furthering the spread of higher education among the members of the tea community, the Government of Assam through the concerned agencies, had been providing hostel accommodation in several places all over the state (Goswami, 1992).

Further, the Government of Assam offered book grants in cash to each student studying in VII onwards up to the post graduate level. Moreover, the students undergoing professional courses like MBBS, BE etc. were entitled to draw financial assistance. Owing to the top-heavy nature of the concerned government agencies and the lack of proper co-ordination with their target groups, the schemes had not been able to motivate the workers to the desired level. Apart from this, Government of Assam provided for the educational excursion for the college students.

[8] Directorate of Welfare of Tea gardens and Ex-tea Garden Tribes.

Table 2.1: Sub-division-wise Lower Primary Schools in Assam

Sub-divisions	No. of Tea Gardens	No. of L.P. Schools
Jorhat	110	110
Golaghat	38	38
Uudalguri	20	20
Mangaldoi	1	1
North Lakhimpur	12	13
Tezpur	**56**	**52**
Biswanath Chariali	30	30
Dhubri	2	3
Guwahati	2	2
Nalbari	3	3
Dibrugarh	97	97
Tinsukia	100	100
Kokrajhar	2	2
Gossaigaon	1	1
Goalpara	1	1
Sibsagar	24	42
Charaideo	39	47
Nagaon	29	29
Morigaon	1	1
Assam Total	**568**	**592**

Source: Directorate of Elementary Education (Tea garden Cell) Assam, 1987

Despite such provisions to the tea plantation labour community, the educational facilities are not in desired level. The sub-division-wise distribution of primary schools in the tea gardens of Assam during post independence period is given in Table 2.1. There were a total of 592 schools in 568 tea estates. This means that, almost in all tea gardens lower primary schools were established. But when we see the sub-division-wise distribution of school, the picture shows different story. Some gardens had more than one school whereas in some gardens there was not even a single LP school.

Teachers are the most important and most desirable infrastructure of a school. Teacher facilities were inadequate in the garden schools. According to data given in Table 2.2, more than 63.4 percent of LP schools were run by single teachers.

Table 2.2: Details of Teachers in the Tea Garden L.P. School (1984-85)

Districts	Total No. of Schools	No. of Single Teacher Schools	Percentage
Darrang	110	73	66.4
Dibrugarh	150	90	60.0
Goalpara	8	4	50.0
Kamrup	6	4	66.7
Lakhimpur	90	60	66.7
Nagaon	23	23	100.0
Sibsagar	234	140	59.8
Total	**621**	**394**	**63.4**

Source: Directorate of Elementary Education (Tea Garden Cell)

The enrolment of students in the tea garden LP schools is given in Table 2.3. The data show that in 1963, the total number of students in the tea garden LP schools was 31129 which increased to 33096 in 1973 and further increased to 46830 in 1980. The enrolment of students in the garden schools in selected districts showed increasing over the years (Table 2.3). It shows that in the first decade under study (1963-1973), the increase in the number of students was only 1967. In the subsequent decade (1973-1983), the increase in the number was 13934 which appeared to be an improvement over the previous decade.

Table 2.3: Enrolment of Students in the Tea Garden LP School in Assam

Districts	1963	1973	1983
Darrang	5071	5183	8718
Dibrugarh	NA	8003	15989
Goalpara	550	600	631
Kamrup	116	160	328
Lakhimpur	12253	4750	778
Nagaon	1222	1150	1361
Sibsagar	11917	13250	19025
Total	**31129**	**33096**	**46830**

Source: Directorate of Elementary Education (Tea Garden Cell), 1986

Table 2.4 shows condition of school buildings of major tea plantation districts of Assam. Out of total 621 schools, about 118 (19.2 %) schools are thatched roof and 489 (78.7%) schools were C.I. sheet roof in schools of tea garden areas of Assam. This shows

the lack of sincerity on the part of the planter community in the providing well built houses for the LP schools in their gardens.

Table 2.4: LP School Buildings in Tea Plantation Districts of Assam (1986)

Districts	No. of Schools	Thached Roof	C.I Sheet Roof
Darrang	110	20	80
Dibrugarh	150	15	135
Goalpara	8	3	5
Kamrup	6	3	3
Lakhimpur	90	15	75
Nagaon	23	2	21
Sibsagar	234	60	170
Total	621	118(19.3%)	489 (78.7%)

Souce: Same as on Table 2.3

From the above discussion, it is clear that the planters as well as the concerned government had been providing educational facilities to tea garden workers and their children though it is not sufficient. The inadequate provisions in the present system of education made the already existing facilities counterproductive as they failed to attract the prospective students. The cost of attending schools was also very high in their socio-economic settings. Lack of required member of teaching staff made supervision at individual level more difficult.

2.5 Development of Education among Tea Plantation Workers: After 1990s[9]

With the introduction of globalization policy to economy, tea industry is passing through a crisis. The market has been facing stiff competition from the other tea growing countries of the world like China, Sri Lanka, Kenya, Indonesia etc. The political economy of globalization based on consumers' and producers' surplus put forwards that at pre-globalization, domestic firm enjoys higher price in domestic market which results in reduction of consumers' surplus. However, globalization of the economy brings domestic price to be shared by the firms in rest of the world too which results increase in the quantity consumption along with reduction of price. This globalization impact on the domestic firms may be translated into downsizing workers in the firms, system of

[9] This section draws mainly from Sharma and Das (2008, 2009), Fernandes et. al. (2003), Asopa (2004) and reports of DISE-2009-10 and VES-2009-10.

production, technology, at last reducing welfare measures offered by the firm on its workers. As a result, the condition of tea gardens as well as workers has been deteriorating. Management of some industry is not able to renew the bushes and others have shut down their gardens due to losses as a result many workers have lost their jobs (Sharma and Das, 2009). To reduce the burden of loss faced by the process of globalization, the garden authority, therefore, has started the casualisation[10] of workers. In response to the new economy, the managements follow the policy of employing more casual staff in the place of a big number of permanent staff. As a result, in most of the gardens the number of temporary labourers became higher than the permanent workers. Since the temporary labourers do not get social welfare benefits though they too contribute to the plantation as well as the state economy, they are deprived of some of their basic rights (Fernandes et. al., 2003).

Besides, some trade union members were recruited as contractors secretly by planters to hire casual labour. This contractors-management nexus has made the workers severely exploited today although they were under the organized exploitation system till 1991. Thus, they were partly exploited by trade unions, partly exploited by the management and again partly exploited by the Government agencies (Sharma, 2008). Therefore, the state of agony is increasing day by day among the plantation workers community. In the name of human resource development, among the workers the planters are pursuing some stray training programmes half heartedly for the sake of making their manpower resources capable over night to compete the global tea producers under the forces of global competition so that they can easily connect the tea industry with the global market (Sharma and Das, 2009).

Thus, to relive the industry from the point of view of cost effectiveness (Asopa, 2004) of production, the Government has introduced Panchayati Raj institutions. The main intension of introducing the Panchayati Raj Institutions in the industry was to share the cost of production of the industry by providing certain welfare incentives to the workers like health facility, education facility to the children of the workers up to primary level,

[10] The main intension of casualisation of workers in tea plantation was to reduce the expenditures which are spent on social welfare benefits of the permanent workers. As per the PLA, 1951 all permanent workers in the tea industry are entitled to receive various social welfare benefits like health care, free education, etc. On the other hand, the temporary or casual workers are not eligible to claims such benefits. Therefore, to reduce expenditure on such benefit and to increase the profit the management of the industry started casualisation of the workers.

transport and communication connections and creating jobs under the various self employment schemes like National Rural Employment Guarantee Act (NREGA) etc. But there were no separate policy measures for the upliftment of education of plantation workers.

It was in 2003, as per the Government notification, the Tea Garden Cell (TGC) was constituted with the officials of elementary education and secondary education. The Tea Garden Cell was established in the Sarva Siksha Abhiyan (SSA) with the officials of tea garden cell of above departments in 2003. These officials attended and provided their services till the end of 2004. With the introduction of centrally sponsored Sarva Siksha Abhiyan scheme, the Assam Government has been giving special interest for the upliftment of education among the tea plantation workers in the state. Since the inception, the SSA Mission identified some educationally backward areas covering all 825 registered tea gardens as the Special Focus Group areas in 2004.[11]

Since then many programmes have been implemented in these tea gardens. First, the SSA mission had introduced ten-day Enrolment Drive Programme in tea garden areas every year with the help of tea garden volunteers to increase the enrolment in the schools in the age group of 6-14 years. Secondly, in 2004, the cabinet memorandum issued an agreement on tea garden issues. As per this agreement, all districts are to implement the various activities of SSA in tea garden areas. According to this agreement, the tea garden manager on behalf of tea garden management and deputy commissioner on behalf of SSA have to sign the agreement. Out of 825 registered tea gardens, only 477 tea gardens had signed on this agreement. The tea garden management groups were requested to take action on signing the agreement. Since the agreement was not signed, the task force in some tea gardens was not constituted. The chairman of the task force was the manager of that tea garden and other members were from the management groups and trade unions.

In addition, to evaluate the available infrastructural facilities in the schools of tea gardens, the SSA officials conducted a survey on school infrastructure in July 2004. The survey reports show that in all 519 tea garden managed schools, the government of Assam could not extend infrastructural facilities as the existing SSA guidelines cover only provincialised and Government schools for infrastructure facilities. Though the SSA could not provide physical facilities to the tea garden schools, they have been engaging in many

[11] The main objective of selecting these gardens was to provide special attention as well as implementation of educational development programme with greater intensity and focus in these areas.

educational developmental activities in plantation areas (Tea Board of India, www.teaboard.gov.in). Some of these activities are mentioned below:

(a) The first and foremost scheme was that a total of 700 tea garden youths were oriented centrally at Guwahati throughout side agency during 2003-04 on the development of leadership quality and these youths have been engaged with several SSA interventions time to time like enrolment drive, survey, Meena Campaign, etc.

(b) Every year during summer vacation, summer camps were organized in all schools in tea garden areas and tea garden volunteers were entrusted for organizing the camp. Orientation of children on scouts & guide, drills, reading ability development of children and enhancement of co-curricular skills of children were the main targets of the programme up to 2005-06. In this programme, "Bridge Materials" (textual materials in Sadri language), materials of Reading Guarantee Programme were utilized.

(c) Forty five of Community Centre Personnel (CCPs) of 18 Community Centres under Assam Tea Employees Welfare Board (ATEWB) were engaged in supervision & monitoring of SSA activities as well as mobilization of tea garden communities by visiting programmes, meetings, and target house visits.

(d) The All Assam Tea-tribe Students Association (AATSA) was assigned for conducting the Special Enrolment Drive Programme in tea and ex-tea garden areas.

(e) The Assam Chah Mazdoor Sangha (ACMS) was also entrusted with the mobilization activities in tea garden areas, viz., organization of community meetings in tea gardens. Memorandum of Understanding (MoU) was signed with ACMS and as per MoU, 21 branch level meetings and 300 tea garden level meetings were organized.

Further, the SSA by converging with other departments also introduced some other schemes for the all round development of tea garden workers in Assam (Assam Sarva Siksha Abhiyan). Some of them are mentioned below: (i) The Department of Field Publicity, GOI, was entrusted for mobilization campaign areas including tea gardens by sending their cultural team. The cultural team performed the play, songs and dance and other cultural activities on Universalisation of Elementary Education (UEE) themes. (ii) The Meena Campaign is being implemented in 1055 tea gardens, 1336 ex-tea gardens and

2180 char area schools and EGS centres by engaging tea garden volunteers and mothers' group. With the help of this initiative of SSA, various activities were conducted in garden areas during 2008-09. Meena Campaign is a continuous effort to promote education among girl children in tea & ex-tea garden areas for creating awareness among girl children and make them active. The "Meena Club" for girls of 10 to 18 years of age in tea garden areas has been established in 1055 divisions. (iii) For updating of the Tea Garden Education Register (TGER), the TGERs are implemented through the Tea Garden Education Committees (TGECs) and all data related to education of children in the tea garden areas would be up dated. (iv) With a view to implement SSA activities more effectively in the tea garden areas, the Tea Garden Cell (TGC) is reconstituted with Mission Director, SSA as its chairman. The TGC is a body to monitor and coordinate all educational issues relating to tea garden and ex-tea garden areas including activities of the different directorates under the Education Department. (v) The annual school infrastructure, maintenance & repairing and teachers grants for the year 2008-09 are being released to the tea garden managed schools. This scheme includes granting financial assistance for construction and repairing school buildings, toilets, drinking water facilities and fencing/ boundary wall, etc.

Despite many efforts, improvement of their socio-economic conditions in general and education level in particular seems to be far below the expectation. The district-wise information available regarding the schools in the tea garden areas according to the District Information System for Education (DISE) and Village Education Registrar (VER) is shown in Table 2.5 for 2009-10.

According to the data available, there are total 925 government/provincialised schools, 95 government recognized and 269 venture schools in tea garden areas in Assam. Further, there are total 449 schools which are managed by tea garden authorities and 376 schools are under the management of SSA in the tea areas of Assam. Thus, there are total 2114 schools in the tea garden areas in the state. The number varies from district to district depending on the intensity of tea gardens. In 2009-10, Cachar had the highest number to schools (314) followed by Jorhat (236), Sibsagar (219) and Sonitpur (216). Dibrugarh had the highest number of tea garden managed schools (142) followed by Tinsukia (122).

Table 2.5: District-wise No. of Schools in Tea Garden Areas in Assam (2009-10)

Districts	Govt/ Provincialised	Recognised	Venture	Under SSA	TG Managed School	Total Schools	% to Assam
Barpeta	0	0	0	0	1	1	0.0
Bongaigaon	2	0	0	0	0	2	0.1
Cachar	207	8	47	52	0	314	14.9
Darrang	3	0	4	35	26	68	3.2
Dhubri	1	2	5	6	2	16	0.8
Dibrugarh	11	11	15	35	142	214	10.1
Goalpara	0	0	0	0	1	1	0.1
Golaghat	99	15	25	22	1	162	7.7
Hailakandi	144	7	30	11	0	192	9.1
Jorhat	142	20	45	26	3	236	11.2
Kamrup	16	1	3	1	0	21	1.0
Karbi Anglong	2	0	0	1	4	7	0.3
Kokrajhar	88	6	2	33	2	131	7.2
Lakhimpur	5	1	3	4	11	24	1.1
Morigaon	4	3	3	5	0	15	0.7
Nagaon	11	6	6	6	31	60	2.8
Nalbari	0	0	0	2	5	7	0.3
Sibsagar	159	8	32	20	0	219	10.4
Sonitpur	21	4	19	74	98	216	10.2
Tinsukia	10	3	9	43	122	187	8.8
Assam Total	925	95	269	376	449	2114	100.0

Notes: EGS= Education Guarantee Scheme, DISE=District Information Scheme for Education, VER= Village Education Registration

Source: Data are Compiled from DISE, 2009-10 and VER,2009-10

The data of District Information System for Education (DISE) and Village Education Registrar (VER) also show poor infrastructural facility of the schools in tea garden areas in Assam. Therefore, many believed that the poor school infrastructure in the schools stands as one of the most important reasons for children not attending to schools. The data in Table 2.6 show us that there is shortage of schools in the tea garden areas.

Table 2.6: District-wise no. of Tea Garden Schools and Teachers in Assam

Districts	No.of Gardens	No. of Schools	School-garden Ratio	No. of Teachers	Teacher-school Ratio
Cachar	13	23	1.8	29	1.3
Darrang	17	17	1.0	22	1.3
Dibrugarh	19	25	1.3	36	1.4
Golaghat	24	25	1.0	30	1.2
Jorhat	19	33	1.7	53	1.6
Nagaon	18	18	1.0	22	1.2
Sibsagar	20	37	1.9	42	1.1
Sonitpur	21	21	1.0	32	1.5
Tinsukia	19	26	1.4	37	1.4
Total	170	225	1.3	303	1.4

Source: Data are Compiled from DISE 2009-10 and VER, 2009-10

Table 2.7: Qualifications of School Teachers in Tea Plantation Schools of Assam

	No. of	Educational Qualifications				Trained	
Districts	Teachers	Non-Matric	Matric Pass	H.S. Pass	Graduate	Basic	B.Ed.
Cachar	29	5	11	11	2	3	0
Darrang	22	10	6	5	1	4	0
Dibrugarh	36	15	16	5	0	2	0
Golaghat	30	10	16	4	0	0	0
Jorhat	53	13	22	9	9	3	0
Nagaon	22	14	3	5	0	3	0
Sibsagar	42	14	17	10	1	4	1
Sonitpur	32	15	7	10	0	2	0
Tinsukia	37	17	13	7	0	1	0
Total	303	113	111	66	13	22	1
% to Total		37.3	36.6	21.8	4.3	7.3	0.3

Source: Data are Compiled from DISE 2009-10 and VER 2009-10

The ratio of tea garden to the number of school shows that, in some gardens like in Darrang, Nagaon and Sonitpur districts, there is only one school which is not enough for a huge number of workers' children. Further, the school-teacher ratio also shows that in many schools seem to have single teachers. It is difficult for a single teacher to teach and manage large students of five classes (Class I to Class V)[12]. The problem becomes more

[12] Recently, Class V has also been added to the lower primary school in Assam.

severe if the school is under-staffed of non-teaching employees and without proper physical facilities like class rooms.

Tea garden schools in Assam suffer from not only lack of schools and teachers, but also lower qualification of teachers. Table 2.7 shows the quality of teaching staff in the garden schools of some selected tea growing districts of Assam. As many as 113 teachers (37%) are non-matriculates (not passing 10^{th} standard) out of total 303 teachers in the selected schools. About 36.6 percent of total teachers are just 10^{th} standard pass (matriculates). Only few teachers (21.8%) have been recorded to have passed higher secondary level of education and only 4.3 percent teachers are graduate teachers in the selected tea garden schools. While only 22 teachers had basic training, only one teacher was having the B.Ed. degree.

Table 2.8: District-wise Out-of-School Children in Tea Gardens of Assam

Districts	Out-of-School Children (6-14 age)
Barpeta	5
Bongaigaon	2
Cachar	605
Darrang	1043
Dhubri	55
Dibrugarh	3381
Goalpara	15
Golaghat	24
Hailakandi	14
Jorhat	61
Kamrup	93
Karbi Anglong	150
Kokrajhar	157
Lakhimpur	271
Morigaon	45
Nagaon	378
Nalbari	66
Sibsagar	1470
Sonitpur	2032
Tinsukia	754
Total	10621

Source: Same as in Table 2.7

Added to those problems, there have been children who are out-of-schools in each district (Table 2.8). Out of 2,46,843 children in the tea garden areas in the 6-14 age group, about 42.9 percent were out-of-schools during 2009-10 in Assam, compared to 33.7 percent in overall Assam and 25.4 percent in all India (DISE, 2009-10). Dibrugarh district with 3381 students witnessed the highest number of out-of-school children in tea garden areas followed by Sonitpur (2032), Sibsagar (1470) and Darrang (1043) districts.

2.6 Factors Affecting the Educational Development among Tea Plantation Workers

Theoretically, the workers in tea plantation areas of Assam have received many provisions for the development of education from Government (centre and state) and from the concerned garden authorities. The Plantation Labour Acts (1951) have also clearly mentioned the responsibility of providing education to the children of tea plantation workers. Apart from the PLA 1951, many other schemes were also introduced for the upliftment of education in general and tea gardens labourers in particular in different time periods. The Central Board of Workers Education also had given special emphasis on the education development among the plantation workers including tea plantation workers in India. Further, many programmes such as scholarships for the school going children, free uniform, imbursement of tuition fees, vocational training programmes, adult education for the illiterate working children etc. have been introduced to develop the level of education among the tea plantation workers in Assam. Despite such provisions, the scenarios of education among the tea plantation labourers in Assam have not reached the desired level. These poor conditions of education among the tea plantation workers are due to the fact that, we have on the one hand the profit making management and inactive trade unions and on the other the powerless workers. One cannot say that the present crisis in the tea industry is the sole reason for not providing educational infrastructure. There are some other factors too on the side of the management. The management's unwillingness seems to be the first. One can say that they are solely guided by the profit motive. Besides, the community has internalized a psyche of dependence and hopelessness in them which prevent them in searching alternatives. On the other hand the Trade Unions are not active. That adds to the dependence of the plantation labourers to the planters. As a result of this dependency, the workers are not able to demand their rights in a more systematic and

organised way. Some of the factors affecting the educational development among tea plantation workers are described below:

2.6.1 Indifferent Behaviour of Garden Authority

Providing education to the labourers of the tea gardens is an undeniable responsibility for the garden authorities. The Plantation Labour Act, 1951 has made education a responsibility of the planters. Accordingly, schools were opened and buildings, teachers and minimum required furniture for the teachers and students were provided to fulfil the provisions under legislation. But qualified teachers and teaching aids required for instructional purposes were never provided with. This problem arose immediately after the PLA was passed in 1952. During this period, the tea industry went through a crisis and the employers felt that they would not be able to bear the cost of implementing the Plantation Labour Act (Bhowmik, 1992). However, when the industry had an unprecedented boom in production and prices, the Government decided that it was ready to enforce the Act but the situation has not changed. But there is also lack of encouragement of education from many garden authorities. They have always been indifferent towards the educational development of the labourers. This indifference behaviour of many garden authorities in providing the educational schemes is one of the main factors behind the poor educational development among the plantation workers. Intellectual upliftment of the labourers is of no importance to many planters. The planters seem to be interested in culturing and marketing of tea.

On the one hand, many planters refuse to accept the responsibility of social costs on the basis of the present crisis in the tea industry and on the other the labourers are almost fully dependent on the plantation system for their sustenance. As Griffith (1967) said several decades ago, they depended on the manager for the simplest amenities and even for the necessities of life but the penal contract put them effectively under his control. Thus, it is clear that the present crisis is not the only reason of this discrepancy. That has been the case throughout the long history of the tea industry when the cost of production was low and Indian planters were able to compete successfully against tea manufactures in other parts of the world, notably China. That has been the case from the dawn of the twentieth century when tea was discovered in Assam. We cannot forget that the condition of the

labourers then and during the following 150 years was no better though all through these years they have made an enormous contribution to the economy of Assam.

2.6.2 Inactive and Un-favourable Trade Unions

Labour organization is essential for both the benefit of the labourers themselves and that of the society. Though tea industry flourished during the British regime, well known labour organization could not be formed due to apathetic attitude of the tea planters. The trade unions flourished among the plantation workers practically after independence. Since then many trade unions were formed among the tea plantation workers. Some of these trade unions are Assam Chah Mazdoor Sangh, Akhil Bhartiya Chah Mazdoor Sangh, Assam Tea Labourers' Association, Cachar Chah Shramik Union, Assam Chah Karmachari Sangh, etc. At present, these unions are also having branches at different places. These unions protect the interest of the tea workers besides extending other welfare facilities to the tea workers and their families. Therefore, the role of the strong trade union is very important for the workers under the unorganized sector. No doubt, trade unions have been protecting the workers of tea plantation in Assam since its formation. They have been struggling to improve the socio-economic condition of labourers by demanding higher wages, better infrastructure etc. but the trade unions too have not so far done anything tangible for the improvement of the schools system in tea gardens. The demand of the unions to the authorities is generally centred round increasing of monetary benefits and other working and living conditions. Improvement and expansion of educational facilities so far has not received due attention of the trade unions

2.6.3 Indifferent Behaviour of State Authority

The indifferent attitude of the state authority towards the educational development of the labourers is another factor which affects the educational backwardness among the tea plantation workers in the state. The responsibility of education of the labourers was always left to the planters by the state authority. The taking over of the schools of Sibsagar and Cachar districts by the government in 1968 has not made much change in the situation (Dutta, 1983). Instead many teachers even complained that after the Government takeover, the situation has further deteriorated. In addition, though the planters were indifferent

towards the educational development of the labourers, they had legal obligations to provide minimum requirement of educational facilities like schools buildings, furniture, etc. inside the garden. But after taking over by the Government, such facilities had become gradually reduced. There was lack of maintenance on school buildings and many schools became ill furnished due to lack of proper attention by the concerned authorities (Dutta, 1983). The planters as their legal obligations took some steps to educate the workers in some extent. But there was no effort made by officials to improve the situation and check large scale wastages in the gardens. The state authority should be responsible to check physical facilities provided by garden authorities, to recommend teachers for appointment, to formulate curricula, to approve text books and other teaching materials, to inspect schools from time to time and to do such other duties as may be found beneficial for education of children of the tea labour in particular and other in general.

2.6.4 Indifferent Attitude of Working Community

Another most important reason behind the poor educational development among the tea plantation workers in Assam is the indifferent attitude of the worker community towards education. The tea garden labourers are generally indifferent to the education of their children. Owing to their illiteracy, poverty and a psychology of hard earned subsistence they cannot appreciate the value of education. Therefore, the parents practically do not take any interest in the educational matters of their children. They hardly maintain any contact with the teachers and the garden authorities in matters relating to education. The poverty ridden parents always considered their children as economic assets. Sending a child to school upsets the whole economic consideration of the family. Education of the children is considered to be a liability rather than a responsibility. Therefore, there is a high seasonal variation in the attendance of the students in the schools (Dutta, 1983). During the plucking season, the children are withdrawn from the schools and either engaged as child labour in the gardens or in household works so as to enable more adult members to work in the garden. As a result, the majority of the children are withdrawn from schools resulting wastages and stagnation in education of children.

2.7 Summary

The chapter 2 discussed the overview of the education of tea plantation workers in Assam. The analysis was based on the secondary data and information. Education development of tea plantation workers was neglected during the pre-independence period both by the garden authorities and government. After independence, many Acts and rules were passed by both the central and state governments for the educational development as well as overall welfare of the garden workers. One notable was the Plantation Labour Act of 1951. But, inspite of several provisions, still tea garden workers are backward educationally and economically compared to many workers in other sectors. Secondary data show us that educational facilities for the members of the tea garden resident workers community or the whole demographic group consisting of the casual workers as well as the ex-tea garden workers are below the actual needs, both qualitatively and quantitatively. This is partly due to the apathy on the part of the guardians who are mostly illiterate and the rampant poverty which prevent the guardians from dispensing with the income of their children. It was also due to the indifferent attitude of the concerned agencies entrusted with the task.

Findings of this chapter are based on the secondary data and information. For in-dept study on the issues, analysis using the primary survey data is important. This approach is adopted in this study. Hence, we proceed to describe the field survey description and data collection in the next chapter.

Chapter 3
The Study Area and Field Survey Description

3.1 Introduction

This chapter describes the study area selection, field survey description and primary data collection. Primary data were collected in Udalguri district of Assam. The present chapter is organized in the following sections: Section 3.2 deals with the description of Udalguri district where primary data were collected. It describes briefly the socio-economic conditions, demographic characteristics and the background information of the district. It is felt necessary understand the socio-economic settings of the district where sample tea estates are located and where workers are living. Descriptions of sample tea gardens are given in section 3.3. Section 3.4 describes the selection of respondents, followed by data collection and field survey descriptions in section 3.5. The last section is on the description of treatment of primary data.

3.2 Selection of the Sample District: Udalguri[1]

Out of 27 districts in Assam, present study is confined to four sample tea gardens of Udalguri district. Four sample gardens, two big and two small, are selected for the primary surveys. The selection of the district of Udalguri is intended to make an intensive study, comparing workers of big and small tea gardens. It is a district where many big tea gardens are located since many years. Moreover, it is district where small tea growers have been currently increasing at a faster rate compared to many other districts of the state. In olden days, only big tea gardens were available. But particularly since 1980s, many small tea gardens, either on individual or on co-operative basis, started coming up. Many persons have converted paddy and other crop lands to tea. Thus, Udalguri is now a well-known tea growing district in Assam.

Out of the total 51605 tea estates in Assam, the district of Udalguri has total 21 established or big tea gardens which are managed by international companies as well as

[1] Drawn from the report of the Udalguri District Administrative Office 2010 (www.udalguri.gov.in), Revenue Department, Govt. of Assam (www.revenueassam.nic.in) and Directorate of Information and Public Relations, Govt. of Assam.

national companies and individual farmers. Moreover, Udalguri district has more than 2000 small tea gardens (registered and unregistered) which are managed by co-operative groups, non-cooperatives and individual farmers. There are a total of 1095 small tea gardens registered with district Commerce and Industry in the district (District Commerce and Industry Office, 2010).

Udalguri is a newly formed district of Assam.[2] The present Udalguri district was one of the sub-divisions of Darrang district before the signing of the Bodo Accord. The district is situated in the central part of the Mighty River Brahmaputra. Udalguri district of Assam lies between 26° 46' and 26° 77' north latitudes and 92° 08' and 95° 15' east longitude at an altitude of about 345' above the mean sea level[3]. It is bounded by Bhutan and West Kameng district of Arunachal Pradesh in the north, Sonitpur district in the east, Darrang district in the south and Baksa district in the west. The southern parts of the district are situated on the plains of the Brahmaputra Valley Zone. Major tributaries of the river Brahmaputra, viz., Pachnoi, Dhansiri, Jiya Dhansiri, Mora Dhansiri, Noa, Kulsi, Dipila and Bornoi, which originate from the foothills of the Himalayan Range flow through the district and they mainly contribute towards the sustenance of the agrarian economy of the district. Agro-climatically, the district falls under the north bank plain zone. Therefore, the district has a sub-tropical humid climate with semi-dry hot summer and cold winter. The highest temperature is experienced during the period of south west monsoon along with abundant rains. The district receives temperature which varies between maximum 34.50^0C and minimum 13.50^0 C. During summer (May to early September), heavy rainfall occurs due to the south west monsoon for which the district experiences heavy flood in most of the years. The average annual rainfall of the district is 2000 mm[4].

Besides two towns, there are 802 villages in the district which include 21 major tea estates. At present, the district has two sub-divisions-Udalguri and Bhergaon. Udalguri town is the headquarters of the district. These two sub-divisions are further divided into nine revenue circles. These revenue circles are: Udalguri, Mazbat, Harisinga, Kalaigaon, Khoirabari,

[2]With the formation of Bodoland Territorial Autonomous District (BTAD) in 2005 four major districts, Udalguri, Baksa, Chirang and Kokrajhar were also formed. Udalguri became one of the four districts under BTAD and Udalguri town became the headquarters of the district.
[3] www.assam.gov.in (accessed in December, 2012).
[4] www.udalguri.gov.in (accessed in December, 2012).

Dalgaon, Patherighat, Mangaldai and Dhekiajuli. Moreover, there are eleven block development offices in the district which are located in different parts of the district.

According to the district administrative data, 2010, the total geographical area of the Udalguri district is 1985.68 sq km. with a total population of 8, 32,769 persons (Census, 2011). Out of total population, 50.9 percent (4, 23,617 persons) are males and 49.1 percent (4, 09,152 persons) are females. The sex ratio of the district is 966 females per 1000 males. The population density of the district is 497 per. sq km. which is much higher than the density of state as a whole (District Census, 2011). In 2001 the population density in Assam was only 340 per sq km. This means the district is a much densely populated. Nearly 70 percent of the district population resides in the rural areas while remaining 30 percent have settled in urban localities. The SCs and STs Population in the district account for about 28 percent of the total population. Among the STs Population in the district, the majority belongs to the Boro Kachari group. The sample district experiences a diverse culture and religion. There are Hindu, Christian and Muslim population living together in the district. The main compositions of people are Assamese, Boro Kachari, Santhal, Marwari, Bengali, Nepali, Garo, Rabha, and other tribes.

As far the level of literacy is concerned, the position of the district is not at all remarkable as the percentage of literate population is only 66.6 percent (District Census, 2011). Moreover, the educational institutions in the district are very less and poor. At present, there are only two colleges in the district, i.e., Udalguri and Tangla College. There are total 13 secondary schools and 37 high schools in the sample district. There are 843 elementary schools in the district including schools in tea gardens. Besides government schools, many private (English medium, Bodo medium, Assamese medium, etc.) schools also exist in the sample district.

Out of the total population of the district, 3, 82,356 persons are workers. Within the workers, about 1, 45,868 persons are cultivators and 9, 0897 persons are small and marginal farmers. Among male workers, 85 per cent were cultivators, 15 per cent were marginal workers. Thus, about 52 per cent working population was engaged in Agriculture (i.e. cultivators and agricultural labourers) in the district (District Census, 2001).

The total agricultural and built up land area in the district is about 1, 07,174 hectares including areas under tea plantation. Forest area covers about 20 percent of total geographical area. Grass and grazing land occupied about 17,967 hectares out of total geographical area and rest land of about 68173 hectares of land is not available for cultivation. Udalguri district, like other parts of Assam, produces a variety of crops, fibre crops, oilseeds, pulses, sugarcane, fruits, vegetables, turmeric, ginger, onion, etc. Among all the food crops, paddy, wheat, and maize are the most important crops in the sample region. The subsidiary crops of the region are mangoes, coconuts, betel nut and betel leaves, banana, pineapple, etc. Tea is one of the most important perennial commercial crops of the district. Agriculture in this district, like any other district of state, depends mainly on rain water[5].

Udalguri district is industrially very backward. There are no major large scale industries except tea plantation industry. The transport and communication systems are also very poor. At present, there is a railway line facing east-west direction, passes through the heart of the district having three stations at Udalguri, Rowta and Mazbat. The national highway no. 52 also runs through this district, touching some small towns like Kharupetea, Dalgaon, Rowta, and Orang. There is also a pucca road which connects the district with the national highway at Rowta in the east. Moreover, Udalguri is connected with Gauhati and Tezpur by this national highway. Gauhati is only 140 km distance from the district headquarter which goes via Darrang and Kamrup districts. Moreover, the distance of Tezpur town is only 100 km far from the district head quarter. There is also one inter village road via Tangla which goes up to Tamulpur of Baksa district.

Another important infrastructure facility that is lacking in most of the villages, especially in the rural area is electricity. Only 258 of the total 802 villages of the district are fully or partially electrified and rests have to still live in darkness. Health facility, the most important indicator of human development in particular and economic development in general in the district is scant in the villages. There are only three primary health centres and three children health care centres. There are 43 sub-primary health centres in Udalguri, where Orang has 42 and Khoirabari has 28 sub centres.

[5] www.udalguri.gov.in (accessed in December, 2012).

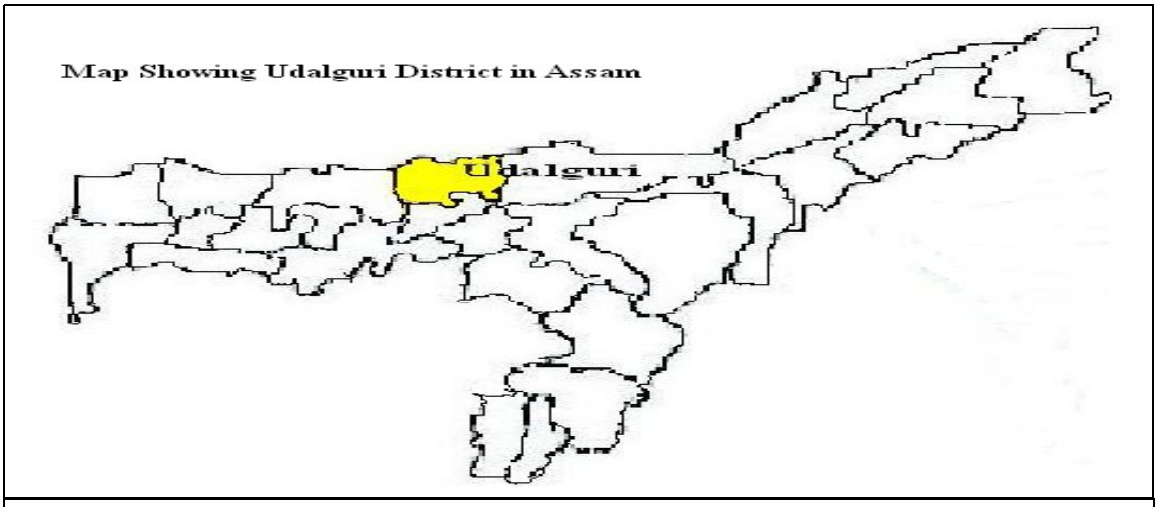
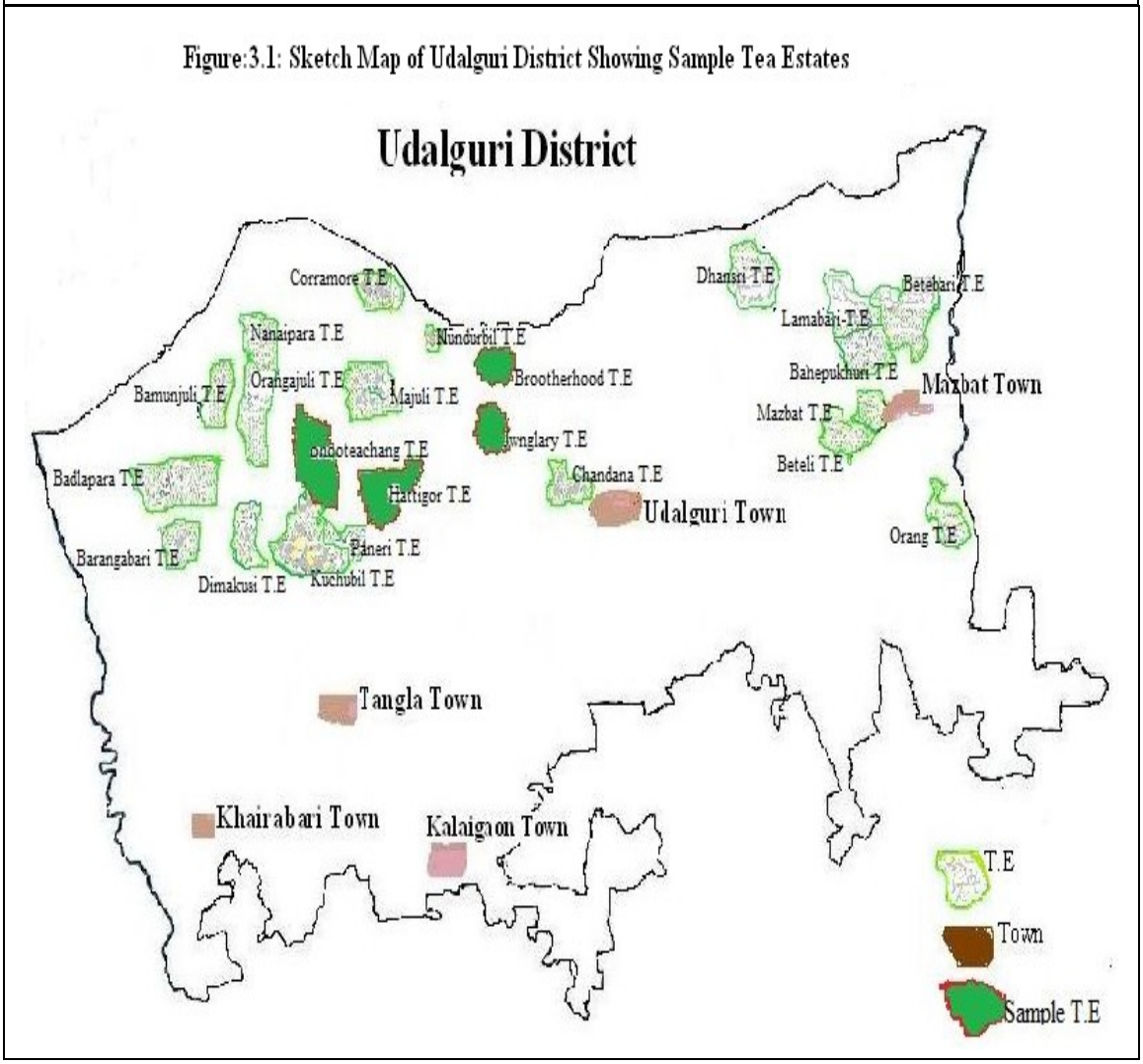


Figure:3.1: Sketch Map of Udalguri District Showing Sample Tea Estates



3.3 Selection and Description of the Sample Gardens

To select the sample tea gardens for the present study, first we made a list of all the tea gardens in Udalguri district. Only the main division of the gardens is included in the list. There are a total of 21 big tea estates in the district. These tea gardens are listed in Table 3.1. Out of 21 tea estates, we have selected only two big gardens, namely, Bhooteachang tea estate and Hattigor tea estate, as sample gardens purposively. Besides these, we have selected two small tea growers, namely, Brotherhood tea growing firm and Jwnglary tea firm, for the study.

Table 3.1: Big Tea Gardens in Udalguri District of Assam

Sl	Names	Company	Tea Area (in Ha)
1	Attareckhat TE	McLeod Russel India Ltd	493.05
2	Bahipookri	Dhansiri Tea & Industries Ltd	545.08
3	Bateli	Bateli Tea Co. Ltd	416.85
4	Bettybari	Dhansiri Tea & Industries Ltd	441.99
5	Bhergaon	Mr. S.K Barooah	144.06
6	Bhooteachang	McLeod Russel India Ltd	502.19
7	Borengajuli	McLeod Russel India Ltd	589.66
8	Budlapara	Apeejay Tea Ltd	672.85
9	Chandana	Winsome Tea Plantation Pvt.Ltd	131.84
10	Corramore	McLeod Russel India Ltd	431.28
11	Demakusi	McLeod Russel India Ltd	413.89
12	Dhansiri	Dhansiri Tea & Industries Ltd	485.32
13	Hattigor	Amalagated Plantation Pvt Ltd	1001.87
14	Lamabari	Amalagated Plantation Pvt Ltd	390.98
15	Mazbath	Mazbath Tea Estates Ltd	345.19
16	Majuli	Amalagated Plantation Pvt Ltd	465.55
17	Nanaipara	Goodricke Group Ltd	646.43
18	Orang	Dhansiri Tea & Industries Ltd	383.81
19	Orangajuli	Goodricke Group Ltd	646.43
20	Paneri	McLeod Russel India Ltd	369.06
21	Kolony	Kolony Tea Estate Pvt.Ltd	375.74

Source: Tea Board of India, Licensing Department, 08th September 2010

A brief description of each tea estate is given below.

3.3.1 Bhooteachang Tea Estate

Bhooteachang is an old tea estate located in Bhergaon sub-division of Udalguri district in Assam. It is about 27 km away from Udalguri town, towards its western side. It was established in 1897 and is owned by the McLeod Russel India Ltd. It has a total area of 623.04 hectares with total annual production of 1190495 kgs in 2009-10. The yield per hectare is about 2100.20 kg as per the estimate given by the garden authority.

There are about 2184 total workers in this garden. Out of total workers, 171 are factory workers, 45 managerial and remaining 1945 are field workers. The Bhooteachang tea estate has its own factory for tea leaf processing. Total of 171 male workers are engaged in factory, out of which 70 workers are temporary and rest are permanent. Moreover, the estate has also total 1945 field workers who are engaged in the field level works. Out of 1945 field workers, 945 workers are permanent and rest are temporary workers. Maximum workers in the field level are women. Out of total field workers, about 1327 are female workers and only 618 persons are male field workers.

There are 598 households in total and the estate authority has allotted the same number of quarters to the labourers. All these quarters are semi pucca with tin roofs. These households are distributed in four different labour lines. These lines are pucca line (39), old line (166), number 13 line (313) and new line (80). Most of the labourers belong to Tanti, Munda, Kurmi, Nayak, Kharia, Guwala, Baraik and Bhumji castes and other tribes. Both Christian and Hindu religions are common among the labour community.

The estate authority has given some facilities to the labourers' right which range from the fire wood to picture show. There are two primary schools for the school going children, one crèche house to look after the kids when parents are out for the work. Moreover, there are two recreational clubs (one for workers and one for staff), one playground, picture shows once in a year during puja time and daily marketing facility. There is also one hospital with one doctor, two nurses and two compounders. The garden authority bears all the medical expenditures by providing free medicine and checkups. During emergency, they also provide vehicles for the transportation. There is also free supply of water for drinking and other domestic uses through pipe free of cost.

3.3.2 Hattigor Tea Estate

The Hattigor tea estate is one of the largest estates in terms of area under tea cultivation in the district. This garden is located near Bhergaon sub-division in Udalguri district. It is about 25 km away from Udalguri town, towards its western side. The total area of the Hattigor tea estate is 1001.87 hectares including labour quarters, staff quarters, schools, clubs, hospital, managers' quarters, playground, recreation hall, crèche house etc. The total annual production of tea in the estate is about 1849357 kgs with about 1926 kg per hectare yield.

Like Bhooteachang, Hattigor tea estate also has its own manufacturing factory for tea processing. About 361 workers are engaged in the factory work out of which 182 are permanent and 179 are casual/temporary workers. There are about 2287 field workers, out which 1338 are permanent and the rest are temporary. Moreover, there are 50 office staff and 6 permanent management workers including the manager. Therefore, there are 2704 workers including managers and office staff members. Out of total labourers, there are 671 permanent male workers and 849 female workers engaged in the factory and field works. The composition of temporary workers in factory and field are 234 male workers and 894 females. The employer of the estate maintains both the salary and wage system for the labourers but wages are same for both the permanent and temporary field and factory workers. Each of the male and female workers got Rs. 71.50 per day in 2011.

Most of the labourers reside in the quarters allotted by the estate authority. There are 680 quarters which are semi pucca with tin roofs. Among the labour community, the Hindu and Christian religions are common but there are some workers who worship their indigenous Gods and Goddesses. In the estate, generally labourers belong to Munda, Karmakar, Teli, Guwala, Bhumij, Porja, Oriya, Kheria, Nag, Baraik, Orang, Mahli, Gore, Soara castes and tribes.

The estate authority has given facilities to the labourers like primary school, health services and sports facilities. There are two primary schools, one dispensary and one play ground. For recreation, there is a labour club. Further, the planter organizes free movie screenings in the garden during puja season. The planters also distribute free drinking water trough tape during working hours. Moreover, permanent labour families get firewood

compensation and ration of rice and wheat. There is also provision of rehabilitation of retired labourers. Generally sons and the daughters of the retired persons get job opportunity in the estate in preference to others and the dependents can live with them.

3.3.3 Brotherhood Tea Growing Firm

Brotherhood tea growing firm is a small co-operative tea garden which was formed by a group of unemployed youth in 1993. This tea garden is located near Borigaon post office under the Bhergaon sub-division of Udalguri district. According to the secretary of the garden, the total area under tea cultivation is 78.41 hectare in 2010 and the total annual production of green leaf for the year of 2010 was 73,96,545 kgs.

The firm sells green leaves to other firms as they are not having their own manufacturing factory for green tea leaf processing. The price of green tea leaves is not fixed. It keeps on changing according to the demand in the market. During the peak season, the price of green leaves sometimes goes down to Rs 10 to 12 per kg.

A total of 250 working persons are there in this garden, out of which, 244 persons are field workers and 6 persons are working at the managerial positions. Besides, out of 244 workers, 160 are female and 84 are male workers. As this is very young and small tea garden, they do not provide permanent jobs to workers. Therefore, all workers are engaged on temporary or casual basis. As we have said earlier that small tea gardens have no compulsion in providing social welfare measures to their temporary workers. Therefore, they do not provide social welfare measures to their workers. But the workers in these gardens are eligible to claim the available schemes provided by government. The wage rate of this garden is Rs. 70 per day both for male and female workers (2011). The working hour of the garden is from morning 7 am till 4 pm. The workers in this garden come from different villages surrounding the tea garden.

3.3.4 Jwnglary Tea Farm

The Jwnglary Tea Farm is located near Udalguri town about 24 km away towards the north. It is a very small tea farm covering a total area of about 37 hectares. It is a partnership tea farm which was established in 1995 by 12 educated unemployed Bodo youths of the region. The

proprietors of the farm are native Bodo men. The total annual production is 689798 kgs of green leaves. The yield of this farm is about 1865 kg per hectare. This tea farm also sells green leaves to other farms as they do not posses manufacturing factory for tea leaf processing.

Around 160 workers are engaged in this tea garden as field workers, out of which about 70 percent workers are women workers as the field work requires more women workers than male workers. The wage rate of this garden is around Rs. 70 per day both for male and female workers. The working hour of the garden is from morning 7 am to 4 pm. As it is a small tea garden, the workers do not get any facilities like free medical check-up, free water supply, free housing facility, ration and free schooling for their children. Workers have to come to the garden to work with their own transportation cost from nearby villages. Although workers do not get social welfare benefits from the garden, they are eligible to claim different schemes that are provided by state and central governments.

3.4 Selection of the Respondents: Sample Households

The essential characteristic of the tea plantation labourers is that they consist of a large body of unskilled labour employed at low wages. However, this does not mean that there is no skilled worker in plantation areas. There is no standard categorization of workers in tea gardens. They are generally classified as (a) labourers, (b) staff and (c) artisans. The labourers include all manual workers employed in various processes of the field and factory. The labourers are engaged in various types of works in the field and factory such as cleaning, spraying insecticides, plucking leaves, pruning, hoeing, manuring, planting and weeding etc. Store clerk, office clerk, welfare officers, staff nurses, teachers are included in the staff. Further, peon, chowkider, sardars, malis, etc. comes under the sub-staff while drivers, fitters, carpenters, electricians etc. are included in 'artisans' category. The staff and artisans are generally paid on monthly basis while field workers are paid on daily basis.

Again, according to the nature of employment, tea plantation labourers can be classified under the following three broad categories:

(i) **Permanent resident workers**: a labourer is considered to be permanent if he or she resides in the garden itself and is enrolled as a worker of that garden who has

completed the probation period of six months in the same or any other occupation in the industrial establishment.

(ii) **Outside labourers**: outside labourers are commonly known as *basti* labourers whose names are entered on the garden roll of workers and reside outside the gardens.

(iii) **Temporary labourers**: a temporary labourer is one who is engaged for a limited period and is terminated from service after the expiry of the limited period.

From these different groups of workers, to collect primary data, 60 labour households from each three gardens, i.e., Bhooteachang, Brotherhood and Jwnglary and 61 labour households from Hattigor tea garden were selected for field survey. The number of sample size for the present study is given in table 3.3. Apart from households, we also selected head masters of garden schools and respective garden authority to collect relevant information of gardens.

Table 3.2: Selection of Sample Households (HH)

Name of tea gardens	No. of sample HH	Total No. of HH	% of sample to total HH
Bhooteachang	60	598	10.03
Hattigor	61	680	8.97
Brotherhood	60	210	28.57
Jwnglari	60	150	40.00
Total	**241**	**1638**	**87.57**

3.5 Data Collection and Field Survey Description

Methodologically, the study is an attempt to combine the survey research technique with the observation method. Intensive data were collected with the help of interview schedule, observation, informal discussions and from official documents. The primary sources of data were derived from an interview schedule which was administered to the respondents. The field work programme for this study has been organized in two major phases:

(i) Pilot study: In order to have an overall idea of the tea estates in the concerned district, a pilot survey was made during the period of June-July 2010. After tentative identification of the tea estates of the region through secondary information based on maps and pre-field visits, we

obtained permission to do field surveys in these gardens. Accordingly, we have collected data related to area, production, productivity, school information such as students' enrolment, performance and school infrastructural facilities etc.

(ii) Field Surveys: The main field survey was conducted during October-November 2011. For this purpose, following three types of questionnaires were prepared:

(a) **Interview schedule for the household respondents:** With this schedule, data on different aspects of tea garden worker household respondents were collected. This was prepared keeping in view the stated objectives of the study. This was applied to the household head and family members.

(b) **Interview schedule for the tea garden managers:** One interview schedule was prepared for the garden authority for collecting necessary data on garden information. With this schedule, we collected necessary data on different aspects of the selected gardens such as acreage, number of workers employed, population of the garden, production, wages etc.

(c) **Interview schedule for the head masters:** This was prepared to collect information of school infrastructure like number of students, number of teachers and other related information. This was applied to the school head masters of in tea gardens.

Apart from the above prepared questionnaires, we also collected some data through the personal observations during the field works. The questionnaires were restricted type and the subject had to be answered from among several choices. To avoid certain limitations in the questionnaires, an alternative (any other) was provided in most of the questions for unanticipated responses (see Appendix for the format of the questionnaire). The persons interviewed were the heads of families and working members in the gardens irrespective of sex. Brief descriptions have been given below on the headings of data covered in the household questionnaire:

(a) Questionnaires for the Head of the Households of Sample (Appendix- A.3.1)

General and demographic information on the household**:** General information such as religion, caste/tribe and community, housing characteristics, employment history (present and past) of each and every sample household were collected from the head or responsible member of the household who could give information. Demographic information on household members like age, gender, educational status, occupations and marital status were also collected from the head of the households for the present study.

Information on land holdings and crops: Information on land holdings and crops grown were collected from the sample household through questionnaire. Data on approximate current quantity of land holding (in bigha) and land quality (fertile/sandy/rocky), land lease status, irrigation status, terms of lease, etc. were collected from the households. Further, the head of the family was also asked about the distribution of land in different cultivations such agricultural land and non-agricultural land. In addition, data were also collected on names of the crops grown, area under different crops, output of crops grown, yield per hectare and approximate cost of cultivation of different crops.

Information on asset holdings: Data on assets of each household were collected on two categories, fixed asset and livestock. In fixed asset, data on luxury goods such as fan, TV, radio, mobile phone, bicycle, two wheeler, four wheeler, refrigerator, etc, were collected. In addition, the data on livestock were also collected. The head of the household were also asked to give details of quantity, year of purchase/construction, value of purchase and approximate present value of above mentioned assets.

Information on education of sample household: Data on educational particulars of each and every sample household were also collected. Some of these items were level of their education, children's education, types of schools (government/private), literate and illiterate family members, number of school dropout, reasons for dropouts etc. Further, data were collected on the benefits of educational schemes (such as adult education, mid day meal scheme, compulsory primary education, mass literacy programme, etc.) provided by the

central and state governments for the upliftment of educational level in the sample tea gardens. In addition to educational development programmes, data on benefits of other income enhancement programmes like weaving, netting, tailoring, poultry, etc. were also collected from the sample households.

Information on income and expenditure of sample household: Data on different income sources such as wages, salary, agricultural activities, rearing livestock, small business and other sources of sample households were collected through questionnaire. In addition, the information of composition of annual consumption expenditure on food and non food items were also collected. The expenditure incurred on children's education, on health, on social activities, alcohol and other expenditures were also collected from sample households.

Information on saving and investment: Data on saving and investment were also collected through questionnaire from the household. Saving account in insurance, SBI and other banks including period of saving were collected. Further, information of investment on various schemes such as investment on children's education, other income generation schemes (self help group, co-operative organizations, etc.), non-farm sector (rearing cattle, fowl, etc.) were also collected. The data on savings were cross checked with their account books but sample households were not able to give exact data on investment. Therefore, approximate guess amount of investment on different schemes was recorded.

Information on credit/borrowings: Data were collected on total loans taken/money borrowed by households from various sources. For each loan, data were also collected on the purpose, the principal amount, the rate of interest, nature of repayment, the amount repaid and outstanding amount.

(b) Questionnaires for the Head Master of Garden Schools (Appendix- A.3.2)

To collect school information, one separate questionnaire for each school head master was prepared. With this questionnaire, data were collected on the information such as students,

classes, school curriculum, infrastructure, type of information of teaching staffs, the nearest town, distance of the town from school, type of school (girl's, boy's, co-education school) etc.

Information on Student: Information related to school children were collected from the school head master. Student's information such as total number of enrolment, sex-wise, caste-wise, total children drop-outs, sex-wise drop-out, caste-wise drop-out, etc. were collected. Further, the reasons for wastage and stagnation of school going children among the sample workers were also recorded.

Information on school infrastructure**:** The information related to school infrastructure facilities in the tea garden schools were collected. Infrastructure information such as type of school building, management of school, total approximate area of the school, total number of class rooms, drinking water facilities, black board, urinals, student's rest room, play ground, library, furniture (for both students and teachers), etc. were collected.

Information on school curriculum: The information of school curriculum like languages or medium of instruction, subjects taught, school hours, rewards and punishment, school discipline, examination procedure, suitability of syllabus, etc. were collected from school head master.

Information of teaching staff**:** The information of teaching staff in schools of the sample tea gardens was also collected. Staff information such as total number of teaching staff in the school, caste-wise distribution of teaching staff, and nature of position (full time or part time) were collected. The number of teachers according to their qualifications, sex and stage at which they are teaching were also collected from school head master.

(c) Questionnaires for the Garden Owner (Appendix- A.3.3)

General information of tea garden: A set of questionnaire was prepared for garden authority to collect some necessary data related to the sample gardens. Data on location of the tea estate**,** name of the tea estate, name of the district, sub-division, distance from the sub-division, date

of establishment, nature of ownership, etc. were collected from respective garden authority. In addition, details of area, production and productivity of CTC, Orthodox and green tea were collected from garden authority. The labour particulars such as labour in managerial, factory workers, field workers, permanent labour, casual labour, male-female labour, child labour, etc. were also collected through questionnaire from the garden authority.

School information**:** To cross check the information given by the sample workers and school head master, this questionnaire was used to collect school information. School information such as number of schools (primary, middle and high schools), number of students and number of teachers were collected. In addition, the garden authority was asked about the management of schools, provision of scholarships and other facilities provided by state, central and local governments.

Health care: Information related to health care in the sample gardens were also collected from the respective garden authority. Health related information such as provision of free health care facilities for the workers in the garden and how do they provide to them, etc. were collected.

3.6 Summary

This chapter described the selection of study area and field survey works. Four tea gardens, two big and two small, in Udalguri district of Assam were selected for primary data collection. The worker household is the sample observation unit. The total sample size includes 241 labour households, 60 labour households from each of Bhooteachang, Brotherhood and Jwnglary and 61 labour households from Hattigor tea garden. The chapter also described the brief profile of each tea garden. While the questionnaire schedule on labour households was the main, two more sets of questionnaires were prepared for primary data collection – one on the tea garden authority from the manager and the other from the garden school head master.

The next chapter proceeds to discuss the general profile of sample villages and farmers in a more detailed way on the basis of primary field survey data.

Chapter 4
General Profile of Sample Households in Selected Tea Gardens

4.1 Introduction

This chapter describes the general profile of sample gardens and worker households. More specifically, descriptions are on the demographic characteristics, occupational structure, infrastructural facilities, income and expenditure of sample households. This chapter has been divided into ten sub-sections. Section 4.2 deals with the demographic characteristics of the sample worker households. In this section, distributions of households, distribution of population, age structure, sex composition, literacy, language and religion have been discussed briefly. In section 4.3 and 4.4, brief descriptions of the settlement pattern and social organisations of sample workers are discussed. The section 4.5 deals with the occupational structures of sample households while in section 4.6, a brief description of the existing wages and salary in the sample workers have been made. Section 4.7 discusses the available household property of sample households. In section 4.8, the income and expenditure pattern of sample households are given. Further, the availability of loans and recreation and entertainment facility among the sample households are also discussed briefly in section 4.9 and 4.10 respectively. The available infrastructural facilities like housing, sanitation, road transport, health care, drinking water and schools etc. of the sample workers are discussed in section 4.11. The last section is the chapter summary.

4.2. Demographic Characteristics

To understand the social structure of a population, it is essential to study the population structure comprising distribution of households, age structure, their settlement pattern, size of the family, sex and age composition, their language, religion and literacy. Therefore, these items are discussed in this section.

4.2.1 Distribution of Households and Population

The present study has selected four tea estates, viz., Bhooteachang Tea Estate, Hattigor Tea Estate, Brotherhood Tea Growing Farm and Jwnglary Tea Farm. Population in these

selected gardens are not equally distributed. The higher the area under cultivation, the higher will be the labour requirement and then there will be higher labour households in the garden. Therefore, sometimes the area and number of households are positively correlated.

Table 4.1 shows the estate wise distribution of labour households in the sample gardens. In our sample, Hattigor tea estate has the highest area (989 ha) under tea cultivation, and at the same time the highest labour families (680) are residing in this garden compared to other sample gardens. On the other hand, Jwnglary tea garden, with only 78 hectares of area under tea cultivation, has the lowest labour families (150).

Table 4.1: Garden-wise Distribution of Sample Households and Population

Name of the Tea Estates	Area (Ha)	Total HH	Sample HH	Sex-wise Sample Population			
				Male	Female	Sex Ratio	Total
Bhooteachang	623	598	60	149	136	913	285
Hattigor	989	680	61	163	141	865	304
Big gardens	**1612**	**1278**	**121**	**312**	**277**	**1778**	**589**
Brotherhood	37	210	60	145	113	779	258
Jwnglary	78	150	60	127	101	795	228
Small gardens	**115**	**360**	**120**	**272**	**214**	**1574**	**486**
Total	1728	1918	241	584	491	841	1075

Source: Author's Calculation from Field Survey Data, 2011

Accordingly, the number of total population varies across sample gardens. Hattigor estate has the highest sample labour population (304) followed by Bhooteachang tea estate (285). Other two small tea gardens (Brotherhood and Jwnglary tea farms) have lower population, i.e., 258 and 228 respectively (Table 4.1).

Gender-wise, the number of male persons was more than the number of females in all four gardens. Out of 1075 sample persons, about 54.4 percent of the population are males whereas only 46.6 percent are females. Here, the sex composition of a population is expressed in terms of sex ratio. The sex ratio is calculated in terms of number of females per thousand males. The average sex ratio of total sample garden is 841 which is lower than 958 in Assam and 940 of all India as per the 2011 census.

4.2.2 Size of the Family

The members of a household constitute a family. In a nucleus family, generally parents and their dependents live together. But there are also some joint families in which married sons and daughters with their spouses and children reside with their parents. The tea garden employer provides housing only to the permanent workers. So permanent labourers of the family may get separate quarters. It is a common phenomenon among the resident labour families that one household is centred at least round a permanent labour. In this connection, it may be noted that each of the labourers of the estate gets a nominal wage of Rs. 70 per day. Therefore, it is not possible for only one earning member to support the large family size until and unless other members also work in the garden for earning. Perhaps for this reason, small family size consisting of less than four members is lesser in number.

Table 4.2: Size of the Family in Sample Gardens

Names of the Gardens	No. of HH under different family size				
	1 to 3	4 to 6	7 to 10	above 10	Total
Bhooteachang	6	49	5	0	60
Hattigor	8	40	12	1	61
Big gardens	**14**	**89**	**17**	**1**	**121**
Brotherhood	17	41	2	0	60
Jwnglary	28	29	3	0	60
Small gardens	**45**	**70**	**5**	**0**	**120**
Total	59(24.5)	159(66.0)	22(9.1)	1(0.4)	241

Source: Author's Calculation from Field Survey Data, 2011

Note: Figures in brackets are percentages of total HH

In the sample gardens, on average, only 25 percent families have 1 to 3 family members (Table 4.2). Bhooteachang and Hattigor tea estates have less number of families with less than four members. In the combined sample, small size (less than 4 members) and very big (more than 10 members) families are less compared to medium size families (above 4 and less than 10 members). Higher number of households is having small family size in small tea gardens than in big tea gardens.

4.2.3 Age Composition

Generally, the population can be categorised into three broad age groups – young, adult and old. We have classified the sample population into four broad age groups - 0-6, 7-15, 15-59 and 60 & above, as shown in Table 4.3. In the combined sample, on an average,

about 9 percent of the population are below 6 years of age and about 18 percent are between 7-15 years of age. Persons of these two age groups are generally considered to be economically unproductive and most expensive as they have to be provided with food, clothing, education, etc. They are more or less dependent upon the people of the next higher age groups. Most of them are of school going age. Similarly, most people of age group between 60 and above are dependents. They must be provided with food, clothing and sufficient health care. Their proportion is very small (3.3%) in the sample garden.

Table 4.3: Age-wise Distribution of Sample Population

Names of Gardens	% of persons in different age groups			
	0-6 yrs	7-15 yrs	16-59 yrs	60 & above
Bhooteachang	8.1	17.9	69.8	4.2
Hattigor	8.9	18.4	70.4	2.3
Big gardens	**8.5**	**18.2**	**70.1**	**3.3**
Brotherhood	10.1	13.6	74.4	1.9
Jwnglary	9.2	22.4	63.2	5.3
Small gardens	**9.6**	**18.0**	**68.8**	**3.6**
Total	9.0	18.0	69.7	3.3

Source: Author's Calculation from Field Survey Data, 2011

The adult age group consists of the people falling in the age group of 16 to 59 years. It may be divided further into 15 to 30 (young adults) and 30-60 years (old adults). Generally, the people of the adult age group are economically the most productive. They bear the burden of people belonging to the other age groups. On an average, about 70 percent of the population of the sample gardens are under this age group (Table 4.3). This implies that many persons are capable of working and earning in the sample areas. Persons in different age groups vary across sample gardens. Brotherhood tea garden has the highest percentage of population (74.4 percent) in the adult age group followed by Hattigor tea estate (70.4 percent). Bhooteachang and Jwnglary tea gardens have lower percentages of population 69.8 and 63.2 percent respectively under this age group.

4.2.4 Literacy

The literacy rate among the tea plantation worker is very low (Table 4.4). The majority of labour population (60.3%) in the sample are still illiterates. Out of total 1075 persons in the sample gardens, only 427 are literate which means only 39.7% of population are able to

read and write. This overall literacy rate of the combined sample gardens was much lower compared to 72.2 percent in Assam, 76.3 percent for west Bengal, 80.1 percent Tamil Nadu and 73.0 percent in all India as per the 2011 census.

Out of the total literate people in the sample, 45% are males and 33.4% are females. Thus, the literacy rate among the females is remarkably lower as compared to that of males. This female literacy rate of the combined sample gardens was much lower compared to 63.0 percent in Assam, 70.5 percent for west Bengal, 73.4 percent for Tamil Nadu and 64.6 percent in all India as per the 2011 census. Not only that of female, the male literacy rate of the combined sample gardens was also lower compared to 77.8 percent in Assam, 81.7 percent for west Bengal, 86.8 percent Tamil Nadu and 80.9 percent in all India as per the 2011 census. Among the four gardens, Bhooteachang (44.2) and Hattigor (42.4), both big gardens, have higher literacy rates as compared to small gardens.

Table 4.4: Educational Status of Sample Households

Names of the Estates	No. of Literate Persons			Literacy Rate (%)		
	Male	Female	Total	Male	Female	Total
Bhooteachang	76	50	126	51.0	36.8	44.2
Hattigor	79	50	129	48.5	35.5	42.4
Big gardens	**155**	**100**	**255**	**49.8**	**36.2**	**43.3**
Brotherhood	60	42	102	41.4	37.2	39.5
Jwnglary	48	22	70	37.8	21.8	30.7
Small gardens	**108**	**64**	**172**	**39.6**	**29.5**	**35.1**
Total	263	164	427	45.0	33.4	39.7

Source: Author's Calculation from Field Survey Data, 2011

4.2.5 Religion

The people of the tea labour community follow mainly two religions –Hinduism and Christianity (Table 4.6). Among Hinduism, most of the people of the labour community are followers of sakti or worshipers of the reproductive power manifested in the female. The goddess Durga and Kali are the manifestations of Sakti. Some of the people of the labour community are followers of Saivism. Saivism is the counterpart of the Saktism and is concerned with the worship of the procreative energy manifested in the males. In the combined sample, Hinduism is professed by about 78.4% of the total population and remaining 21.5% are believers of Christianity. Bhooteachang garden has the highest Hindu population (90%) among the sample gardens followed by Jwnglary tea farm (83.3 percent) and Hattigor estate (75.4%). Brotherhood tea firm has the highest believers in Christianity.

Table 4.5: Religion-wise Distribution of Sample Households

Names of the Estates	Hindu		Christian	
	Total	Percentage	Total	Percentage
Bhooteachang	54	90.0	6	1.0
Hattigor	46	75.4	15	24.5
Big Gardens	**100**	**82.6**	**21**	**17.4**
Brotherhood	39	65.0	21	35.0
Jwnglary	50	83.3	10	16.6
Small Gardens	**89**	**74.2**	**31**	**25.8**
Total	189	78.4	52	21.5

Source: Author's Calculation from Field Survey Data, 2011

4.2.6 Castes and Tribes

There are more than 56 castes and 72 tribes in Assam tea plantation areas (Awasthi, 1975). But all these castes and tribes are not spreading uniformly and not found in all the tea estates. Some castes and tribes are most common and some are rarely found. Generally labourers in sample tea gardens belong to Munda, Karmakar, Teli, Guwala, Bhumij, Porja, Oriya, Kheria, Nag, Baraik, Oraon, Mahli, Gore, Soara, etc. Though they belong to different communities, they call themselves as "Adivasi Community" (Kumar, 2006). Table 4.6 shows the community-wise distribution of sample households. Adivasis are the main labour force in these gardens. Adivasi community comprises 71 percent in the sample gardens. Other than adivasi, there are also some communities like Bodo, Nepali, Assamese, Santali, etc. About 11.6% belong to the Bodo community.

Table 4.6: Community-wise Distribution of Sample Households (%)

Tea Estates	Adivasi	Assamese	Bodo	Others
Bhooteachang	90.0	0.0	0.0	10.0
Hattigor	100.0	0.0	0.0	0.0
Big Gardens	**95.0**	**0.0**	**0.0**	5.0
Brotherhood	50.0	3.3	31.7	15.0
Jwnglary	43.3	25.0	15	16.7
Small Gardens	**46.7**	**14.2**	**23.3**	15.8
Total	**71.0**	**7.1**	**11.6**	10.8

Source: Author's Calculation from Field Survey Data, 2011

Note: 'Others' Includes communities like Bihari, Nepali, Santali, etc.

Table 4.7 gives the caste-wise distribution of sample population. Maximum sample workers are from the OBC category, i.e., about 78.4 percent in the combined sample. Only

13.6 percent persons are STs and 1.2 percent is under SCs category. Majority of the households in Bhooteachang and Hattigor tea estates are under the OBC category. But workers in small tea gardens are of mixed categories.

Table 4.7: Caste-wise Distribution of Sample Households

Names of the Estates	Castes (in Percentage)		
	OBCs	SCs/STs	Others
Bhooteachang	96.7	3.3	0
Hattigor	95.1	4.9	0
Big Gardens	**95.9**	**4.1**	**0**
Brotherhood	58.3	41.7	0
Jwnglary	58.3	15.0	26.7
Small Gardens	**58.3**	**28.3**	**13.3**
Total	**77.2**	**16.2**	**6.6**

Source: Author's Calculation from Field Survey Data, 2011

As small tea grower does not have permanent labour and is established recently, they have very few migrated labour force. Almost all the workers in these gardens are local people. Though they are local workers, they belong from the different castes and tribes. As we have seen in the previous Table that maximum workers in these gardens are Bodo, Nepali, Santali and local Assamese people. Only 58 percent sample households are under OBC category in small tea gardens and remaining 32 percent households belong to STs, SCs and general category.

4.2.7 Rites and Rituals

It is not easy to distinguish the rites and rituals or sacraments from the festive of the tea plantation labour communities. Most of their festivals are drawn from the religious faiths and beliefs. The festivals are intermingled with the religious functions in such a way that one can hardly trace the line of distinction between them. Although the various tribes and castes have their own rites and rituals, yet they observe certain common and popular festivals irrespective of castes and tribes in the sample gardens. Some of these festivals are Karam Puja, Tusu Puja, Gram Puja, Tulsi Puja, Diwali, Holi, Durga Puja, Dasahara, Kali Puja, Sarhul Festival, Viswakarma, etc.

4.2.8 Language

As mentioned earlier, the tea labour community of Assam is an admixture of different castes and tribes. Similarly, linguistic diversity was prevalent among them from the very

beginning of the tea plantation in Assam. Each tribe/caste had its own original language. The language of one tribe was not easy to be understood by other, nor was it easy for either the clerks or the managers to communicate with labourers in their respective language. Therefore, it was imperative to develop a common language for all. The processing need of the labourers to communicate their ideas with the management personnel, among themselves and with the people from outside the plantation led the labour community to evolving a lingua franca which is called 'Sadani' of garden bat. It is an admixture of Hindustani, Bengali and Assamese. Through this dialect, the tea labourers communicate their ideas with the management personnel, among themselves and with the people from outside the plantations. Besides this new language, the members of the major tribes and castes are still able to retain their respective languages, though in a corrupt form. Mundari, Santali, Oriya, Bhumij, Kharia, Oraon and Savara are the prevailing languages at present among the tea plantation labourers in the sample gardens. Temporary workers coming to work from communities like Bodo, Nepali, etc., they speak their languages. Over the period of time, many of the workers can now speak Assamese, the main state language of Assam.

4.3 Housing Facilities

It is worthwhile to mention that the tea plantations in Assam were developed by the British Colonialists. According to the colonial policy, tea plantation labourers were settled at different distinct lines separately according to their castes and creeds. The plantation labour falls into two classes- (a) settled or resident labour which lives within the estate and (b) non-resident labour which resides in an adjacent village and work temporarily or casually or at particular seasons for the estate. According to the plantation labour act 1951, it is the duty of every employer to provide and maintain housing accommodation as near as possible to the place of work for a worker and his family residing in a plantation area. Therefore, housing accommodation is given to the permanent resident labour only by the employer.

In our sample gardens, both Bhooteachang and Hattigor tea estates have facilities of housing and sanitation though it is not adequate. The garden authorities of these two gardens provide semi Pucca houses to all the permanent workers. About 54.1 percent houses in these gardens are Pucca with tin roof and 23.4 percent tin roofs with mud walls. About 20 percent houses in these sample gardens are thatched houses.

Table 4.8: Different House Structures of Sample Households

Names of the Garden	Total Houses	Thached (%)	Tin roofs with Mud wall (%)	Pucca with Tin Roof (%)
Bhooteachang	96	21.9	16.7	61.5
Hattigor	122	23.0	28.7	48.4
Big Gardens	**218**	**20.0**	**23.4**	**54.1**
Brotherhood	158	55.1	36.1	8.9
Jwnglary	119	44.0	45.0	11.0
Small Gardens	**277**	**50.1**	**40.1**	**9.7**
Total	495	38	32.7	29.3

Source: Author's Calculation from Field Survey Data, 2011

But the situation in Brotherhood and Jwnglary tea gardens is different. Garden authorities do not provide housing facilities to workers. Workers in these gardens build their own houses in their own lands. The housing facilities of these workers are very poor as compared to the previous two gardens. Construction of good houses is not easy for these workers as per their wage rates. Therefore, almost all the workers in these gardens have thatched houses with mud walls. Only few workers are able to have tin roof with mud walls and Pucca or semi Pucca houses. Only 9.7 percent houses were Pucca houses with tin roof in these gardens. Maximum Pucca houses in these gardens belong to the workers who are in the managerial positions.

4.4 Occupational Structure

Within the tea estates, the main occupation of the tea labour population is the tea plantation activity in which they are engaged as wage earners. All the tea plantation workers residing within the tea estates may not be engaged in plantation works due to the inability of the estates to absorb all of them. But at least one member of the tea labour family must be engaged in the tea estates. Moreover, as the nature of workers in tea garden is more or less seasonal, the number of permanent labourers in the estates is less and this is more economical from the employers' point of view. Besides plantation activities, the labourers in the tea estates are also engaged in some subsidiary occupations, like agricultural activities, rearing livestock, shop keeping, small business, etc. So, the occupational structure of the tea labour population can be divided into two major heads: (i) main occupation and (ii) subsidiary occupation. Table 4.9 gives the information.

Table 4.9: Occupational Distribution of Sample Workers (%)

	Main occupations	Bhooteachang	Hattigor	Brotherhood	Jwnglary	Total
1	Manual labour	32.6	37.8	36.4	39.9	36.6
2	Salaried labour	9.1	5.9	5.0	3.1	6.0
	Total (1+2)	**41.8**	**43.8**	**41.5**	**43.0**	**42.5**
Subsidiary occupations						
3	Agri labour	2.1	2.6	4.3	5.3	3.4
4	Small business	1.1	2.3	1.6	0.4	1.4
	Total (3+4)	**3.2**	**4.9**	**5.8**	**5.7**	**4.8**
5	Students	50.2	45.1	47.7	43.4	46.7
6	Infants (0-4 yrs)	4.9	6.3	5.0	7.9	6.0
	Total (5+6)	**55.1**	**51.3**	**52.7**	**51.3**	**52.7**

Source: Athour's Calculation from Field Survey Data, 2011

4.4.1 Main Occupations

Working as a labour or a wage earner in the tea garden is the main source of income for a tea labour family. The labourers earn money employing themselves in the tea estates for their livelihood. The destiny of the plantation labourers is intimately associated with the tea estates. So they search for employment in the tea estate. Infact, the children of the tea labour families are born and brought up in such an environment that they find their association in tea plantation from their childhood which hardly needs formal training for doing works in tea plantation. In every household within the estate, at least one member of the family is engaged in the tea plantation either permanently or temporarily. A few educated members of sample households also earn their livelihood by engaging themselves in clerical stuff like office staff, store and packing clerk, etc. Moreover, it is found that some members of sample families are engaged as carpenter, electrician, teachers, engineers, driver, gateman, lineman, etc. for their livelihoods.

The workers vary from garden to garden. As already stated above, the number of workers engaged in tea plantation depends on the size of area under cultivation. Garden with the higher area under tea plantation employs more labour force. The percentage distributions of sample workers in different occupations are given in Table 4.10. The table showed that on an average only 42.5 percent of population in the combined sample are working population, which means that dependent population are higher than earning population in sample households. Hattigor, with 43.8 percent has the highest working population followed by Jwnglary tea farm (43 percent). Both Bhooteachang and Brotherhood tea estates have lower percentage of working population in tea plantation

work. The average worker per family of sample households is also given in Table 4.10. On the average, only about 2 persons are working in a family.

Table 4.10: Garden-wise Distribution of Sample Working Population

Names of the Estates	Workers engaged in tea estates			Average worker per family	% of working population to total population
	Male	Female	Total		
Bhooteachang	65	54	119	2.0	41.7
Hattigor	64	69	133	2.2	43.8
Big gardens	**129**	**123**	**252**	**2.1**	**42.8**
Brotherhood	53	54	107	1.8	41.5
Jwnglary	59	39	98	1.6	43.0
Small gardens	**112**	**93**	**205**	**1.7**	**42.3**
Total	**241**	**216**	**709**	**1.9**	**42.5**

Source: Author's Calculation from Field Survey, 2011

Table 4.11 shows the distribution of workers according to their working status or position. Bhooteachang and Hattigor tea estates have both permanent and temporary workers. Permanent workers (73%) in these two gardens are more than temporary workers. But in Brotherhood and Jwnglary tea gardens, temporary workers (66%) are more than permanent workers. There are very few workers who are engaged permanently in these two gardens. According to the field survey data, it is seen that about 55.6 percent workers are permanent workers and 44.9 are temporary workers on an average in the combined sample.

Table 4.11: Distribution of Sample Workers According to their Work Status

Gardens	Total Workers	Permanent Workers		Temporary Workers	
		No.	% of total workers	No.	% of total workers
Bhooteachang	119	94	79.0	25	21.0
Hattigor	133	90	67.7	45	33.8
Big Gardens	**252**	**184**	**73.0**	**70**	**27.0**
Brotherhood	107	62	57.9	45	42.1
Jwnglary	98	8	8.2	90	91.8
Small Gardens	**205**	**70**	**34.1**	**135**	**65.9**
Total	**457**	**254**	**55.6**	**205**	**44.9**

Source: Author's Calculation from the Field Survey, 2011

Table 4.12 shows the gender-wise distribution of sample workers. It is seen that male workers dominate in the sample gardens. Male workers (52.7%) are more than female workers on an average in the combined sample. In case of permanent worker category, male workers (57.3%) are more than female workers (53.7%). However, in case of

temporary workers, women workers (46.3%) are more than male workers (43.6%). Thus, larger male workers have more secure jobs than women workers in the combined sample.

Table 4.12: Gender-wise Distribution of Tea Plantation Workers

	Males			Females		
Gardens	Permanent	Temporary	Total	Permanent	Temporary	Total
Bhooteachang	51(78.5)	14(21.5)	65	43(79.6)	11(20.4)	54
Hattigor	46(71.9)	20(31.3)	64	44(63.8)	25(36.2)	69
Big Gardens	**97(75.2)**	**34(26.4)**	**129**	**87(70.7)**	**36(29.3)**	**123**
Brotherhood	33(62.3)	20(37.7)	53	29(53.7)	25(46.3)	54
Jwnglari	8(13.6)	51(86.4)	59	0(0)	39(100.0)	39
Small Gardens	**41(36.6)**	**71(63.4)**	**112**	**29(31.2)**	**64(68.8)**	**93**
Total	**138(57.3)**	**105(43.6)**	**241(52.7)**	**116(53.7)**	**100(46.3)**	**216(47.3)**

Source: Athour's Calculation from the Field Survey, 2011

Note: Figures in brackets are percentages to respective total

4.4.2 Subsidiary Occupations

The resident tea labourers are closely associated with tea plantation activities which provide them with the main occupation. Although they earn money for their livelihood basically from tea plantation works, they work in other subsidiary occupations also. Some of these subsidiary occupations are crop cultivation, rearing livestock and poultry, small business and trade, bamboo works etc. Many sample families do cultivation and livestock rearing along with the main occupation of working in tea gardens to support livelihood of their families. Generally, it is useful for large families, some working in tea gardens and others working in subsidiary occupations. Permanent workers residing inside the gardens have limited lands for cultivation in big tea gardens. But workers working in small tea gardens, who stay outside gardens, generally practice crop cultivation side by side tea plantation works. Tea labourers have very little interest in business and self employment. Of course, many of them do not have the opportunity to do the same due to the lack of capital and initial investment money.

The breakup of the working force into the main and subsidiary occupations in the sample tea estates was shown in Table 4.9. Very few workers (about 4.8%) are engaged in subsidiary activities in the combined sample. Within subsidiary occupation, agricultural activities and small business are important. About 3.4 percent workers are engaged in agricultural activities, and 1.4 percent workers are engaged in other non-farm activities.

The sample labour families also like to rear livestock in addition to their main occupation. By rearing livestock, they are able to earn some amount of money to raise the family income. Number of households rearing different livestock among the sample families is shown in Table 4.13. About 65.6 percent of labour families rear poultry and about 52.7 percent families have cows. About 47.7 percent of families rear sheep/ goats.

Table 4.13: Number of Households Rearing Livestocks in Sample Gardens

	No. of Households Rearing Different Livestocks (%)					
Gardens	Bullocks	Cows	Buffaloes	Poultry	Sheep/Goat	Pigs
Bhooteachang	3.3	56.7	0.0	96.7	33.3	1.7
Hattigor	16.4	36.1	1.6	80.3	45.9	0.0
Big Gardens	**9.9**	**46.2**	**0.8**	**88.4**	**39.7**	**0.8**
Brotherhood	46.7	78.3	0.0	53.3	80.0	26.7
Jwnglary	8.3	40.0	0.0	31.7	31.7	6.7
Small Gardens	**17.5**	**59.2**	**0.0**	**42.5**	**60.0**	**16.7**
Total	18.7	52.7	0.0	65.6	47.7	8.7

Sources: Field Survey Data, 2011

Thus, it is clear that almost every family likes to adopt any kind of subsidiary occupation to assist and strengthen their respective family income and pecuniary condition. As there exists little opportunities within the estates for the pursuit of business and other occupations, majority of workers take recourse to cultivation and rearing of livestock as main subsidiary occupations.

4.4.3 The Labour Supply of the Family

Each of the resident labour families of the sample households supplies at least one worker (mainly husband or male head of the family) to the labour force. Usually, the second earner is the wife although occasionally it may be child or an adult who is living with the family. For the labour families, the income of a family increases when wife and the children enter the labour force. So, the wife and the children tend to seek employment within the garden in order to boost family's income. As tea plantation work requires huge number of unskilled labour to work in the peak season, they employ large number of women and children workers. Further, the main reasons for employing more children and female workers in the garden are due to the fact that the nature of job (like plucking green leaf) in the plantation is the most suitable for women and children and the employers prefer them

as they are cheap labour. Therefore, it is seen that in most of families, almost all the members of the family are engaged in the garden works.

4.5 Wage and Salary Structure

In the sample tea gardens, both the daily and monthly payment methods are prevailing. The payment of the daily rate is made on weekly basis. Within the daily rate workers, two types of works were observed – (i) time rate system and (ii)) piece rate system. The vast majority of the labour forces in the sample tea estates are employed on the piece rate system in the plucking season and on the time rate system for the rest of the year.

Table 4.14: Daily Wage Rate on Time Rate System

Names of the Gardens	Daily Wage Rate (Rs.)	
	Permanent	Temporary
Bhooteachang	71.5	71.5
Hattigor	71.5	71.5
Brotherhood	70.0	70.0
Jwnglary	70.0	70.0

Source: Field Survey, 2011

Under the time rate system, the labourers are required to complete the task allotted to them within a stipulated period. In the slack season, when some of the field workers are engaged in miscellaneous works which cannot easily be measured on piece rate basis, they are paid on the time rate basis. In such cases, they are given basic wages for 5 to 6 hours' work. The task devoted by the labourers is considered irrespective of time in case of piece work.

The task rates differ from garden to garden slightly and work to work depending on the nature of the terrain, spread of bushes, method of working, etc. On the time rate system, an adult labourer, both male and female gets Rs.71.50 as the daily minimum wage in big gardens. But the workers in small gardens get only Rs 70 per day as daily minimum wage. Thus, the daily wage of a labourer is not uniform (Table 4.14). Moreover, different tea associations of Assam had introduced separate pay scales for the monthly rated sub-staff employed in various tea estates. Therefore, the Board divided the pay scales into different grades based on experience, qualification and other condition of eligibility. Along with the wages, the permanent workers are eligible to claim some benefits such as bonus, ration food stuffs, firewood, free medical facilities, free education till primary level, etc.

4.6 Household Properties

The household property can be divided basically into two major groups - (i) movable and (ii) immovable. The land and buildings (houses) belong to immovable group and others are movable properties. According to PLA, 1951 rule, the tea planters of both Bhooteachang and Hattigor tea estates provide housing facilities to the permanent workers (discussed earlier). The planters also provide some piece of land surrounding their houses along with the housing facilities in the garden. Beside this land, some workers also possess their own land purchased by themselves with their income. The land holding pattern of sample workers is given in the Table 4.15. About 40.2 percent families are landless labour households in the sample. About 52.7 percent households are marginal land holders (holding land below 1 hectare) and only 7.1 percent sample households are small land holders (between 1 to 3 ha) in the combined sample. Not a single household is available holding land equal to and above 4 hectares.

Table 4.15: Land-holding Patterns of Sample Households (ownership)

	Percentage of Total Households				Total HH
Farm Size	Bhooteachang	Hattigor	Brotherhood	Jwnglary	(%)
Landless	43.3	57.4	16.7	43.0	40.2
Marginal (below 1 ha)	50.0	29.5	80.0	51.7	52.7
Small (1 - 3 ha)	6.7	13.1	3.3	5.0	7.1
Medium (4 - 5 ha)	…	…	…	…	…
Large (above 5 ha)	…	…	…	…	…

Note: 'Landless' referred here is those workers who are residing in the garden's land and not having their own land for other cultivation and housing

Source: Author's Calculation from Field Survey data, 2011,

Besides immovable properties, tea plantation labourers have different kinds of movable properties from which a general idea of their living conditions can be drawn (Table 4.16). The labour families possess generally bicycle, radio, TV, Mobile, Fans, two wheeler, tape recorder, watch, furniture, utensils, etc. Almost every sample household has a bicycle, which is low cost and affordable for many families. The main reason of keeping bicycle are- (i) walking from one area to another end in tea garden is very difficult as tea plantation area covers a huge area. (ii) the working hour in the plantation starts from morning 7 am till evening 4 pm and especially for women workers, it is very difficult to manage time. As they have to cook food in the morning and dinner for night, reaching home early is very important. Therefore, every worker keeps a cycle as their main

transportation in the garden as there is no other means for transportation. (iii) In addition to this, the transport facility from the garden area to the local markets, towns, hospital, offices are not good. Thought there are some transport facilities in the garden area, sometimes during emergency, these are also not available. Therefore, every worker family keeps bicycle to use in their daily life. Many worker households (about 47%) in the sample tea estates have Television connections. Overall, about 83.3 percent sample households use mobile phones. More sample famers in big gardens have access to electricity as they are using electric fans and televisions.

Table 4.16: Some Movable Assets of Sample Households

	Names of the Gardens				
Assets	Bhooteachang	Hattigor	Brotherhood	Jwnglary	Total
Grain storage	10(16.7)	13(21.3)	7(11.7)	4(6.7)	34(14.1)
Television	46(76.7)	45(73.8)	15(25.0)	6(10.0)	112(46.5)
Radio	3(5.0)	14(23.0)	18(30.0)	16(26.7)	51(21.2)
Cycles	57(95.0)	59(96.7)	58(96.7)	58(96.7)	232(96.3)
2-wheeler	12(20.0)	15(24.6)	8(13.3)	6(10.0)	41(17.0)
Mobile phone	55(91.7)	55(90.2)	51(85.0)	41(68.3)	202(83.3)
Fans	34(56.7)	41(67.2)	3(5.0)	1(1.7)	79(32.8)
Dugwell	…	…	13(21.7)	15(25.0)	28(11.6)

Note: Figures in brackets are percentages of total households
Source: Field Survey Data, 2011

4.7 Income and Expenditure Pattern of Sample Households

The sources of income and expenditure pattern for sample households are discussed briefly in this section.

4.7.1 Sources of Income and its Distribution

The main source of income of the sample households is the wage income which they earn from the plantation works. Therefore, the amount of total income of a labour family depends on the number of earning members engaged in tea plantations work.

In the sample gardens, manual work in the tea garden areas is the main source of income for 67.6 percent households (Table 4.17). There are also households (22.4%) who earn their major income from engaging them in official works within the gardens and outside the gardens. Some of such office works include different types work such as sardar, clerk,

driver, office staff etc. Agricultural works and small business are generally subsidiary occupations for many sample households. The source of income for 6.2 percent sample households is from agricultural activities. In addition to these works, garden labourers also adopt shop keeping inside and outside the gardens. About 3.7 percent families are engaged in small business such as selling vegetables, meat, fish, etc. in daily and weekly markets and earn their income.

Table 4.17: Main Sources of Income of Sample Households

Sources	No. of HH	Percentage of Total HH
Manual workers	163	67.6
Official works	54	22.4
Agricultural workers	15	6.2
Small business	9	3.7
Total	241	100.0

Source: Author's Calculation from Field Survey data, 2011

The sample households are classified into different income groups according to their annual per capita incomes. We have classified the sample households into low income, middle income and high income groups (Table 4.18). It is found that maximum number of sample households (71%) is under middle income group in the combined sample in our classification. The annual average per capita income of this group of households is Rs.49310 annually. On the other hand, on an average, about 20 percent sample households are under high income group with Rs. 101121 average per capita income annually. There are only 9.1 percent sample households that falls under the low income group. The average annual per capita income of this group of households is Rs.24593.

Data in Table 4.18 show the inequality in income distribution among the sample households. The average income of low income group is only Rs. 24593 annually which is very low as compared to middle and high income household groups. The per capita income of middle income households is almost double of that of the low income household groups. Similarly, the per capita income of high income households is almost double of that of the middle income household groups.

Table 4.18: Income Distribution of Sample Households Across Income Groups

	Big Gardens		Small Gardens		Overall	
Income Level	% of HH	Average annual PCI	% of HH	Average annual PCI	% of HH	Average annual PCI
Below 30,000	5.0	24200	13.3	24740	9.1	24593
Low Income	**5.0**	**24200**	**13.3**	**24740**	**9.1**	**24593**
30,000-50,000	32.2	43812	55.8	42040	44.0	42692
50,000-70,000	33.1	59259	20.8	61453	27.0	60103
Middle Income	**65.3**	**51633**	**76.7**	**47315**	**71.0**	**49310**
70,000-90,000	9.1	79155	6.7	77245	7.9	78351
90,000 & above	20.7	110837	4.2	132848	12.4	114505
High Income	**29.8**	**101156**	**10.0**	**101017**	**20.0**	**101121**

Source: Author's Calculation from Field Survey Data, 2011

Further, the inequity of income distribution is found higher among households of big tea gardens as reflected in the higher gini coefficient than in small tea gardens. The gini coefficient of total sample households was higher than both small and big gardens. This means that the income inequity among the sample households are more when we combine both small and big tea gardens than when households are taken garden wise.

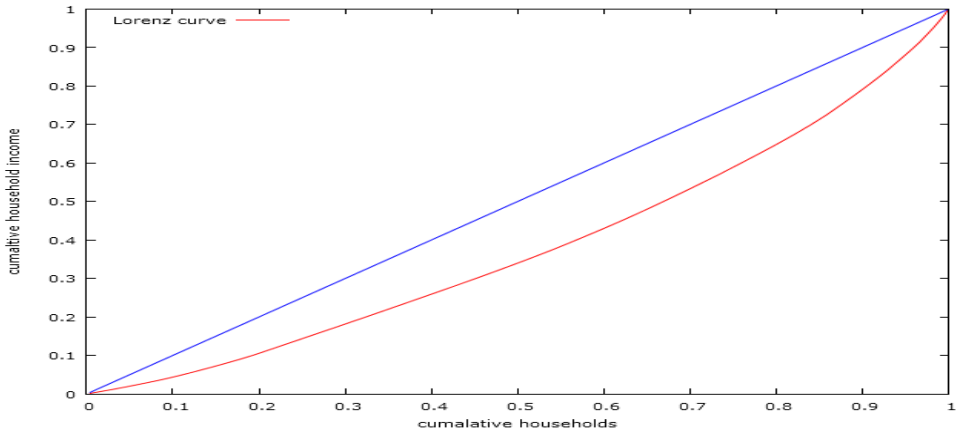
Table 4.19: Gini-Coefficients of Income Distribution in Sample Gardens

Names of Gardens	Gini-Coefficient
Bhooteachang	0.253062
Hattigor	0.201384
Big Gardens	**0.229765**
Brotherhood	0.206903
Jwnglary	0.222177
Small Gardens	**0.216994**
Total Sample	**0.237879**

Source: Author's Calculations from Field Survey Data, 2011

The Lorenz curve for income distribution of sample households in the sample gardens have been depicted in Figure 4.1.

Figure 4.1: Lorenz Curve for Income distribution of total Sample HH



4.7.2 Expenditure Pattern

The expenditure pattern of the tea plantation labourers cannot be computed without a reference to the concessions that are offered to them in addition to wages. The main concessions given to workers include supply of foodstuff at concessional rate like rice and wheat, free housing, free medical facilities including hospitalisation and maternity benefits, free primary education, free supply of fuel etc. Besides, they enjoy other benefits like free tea powder at monthly rate, recreational facilities, sport facilities and playground for outdoor games, etc.

In the present study, the entire expenditure amount spent by the worker household is divided into three main heads. These are total expenditure on (a) food items, (b) non-food items and (c) others. The non-food stuffs include education, health, clothing, electricity, transportation, alcohol, etc. On the other hand, recreational expenditure, religious functions and festivals, saving and small investments made by workers are included in other expenditure. On an average, about 45 percent income of the households is spent on food stuff itself in the combined sample (Table 4.20).

The spending on food stuffs in big tea gardens (Bhooteachang and Hattigor) are less as compared to small tea gardens (Brotherhood and Jwnglary). This is due to the fact that, workers in both Bhooteachang and Hattigor gardens get food stuff at ration rate from the garden authority. Therefore, the spending on food stuffs is less in these gardens. However, workers in Brotherhood and Jwnglary tea estates spend about 59% and 62% respectively of their income on food stuff alone. Sample workers spent only 29.2 percent of their income on non-food stuff including education. Moreover, workers made other

expenditures on recreational activities, religious functions and festivals. On an average, about 25.4 percent of their income are either spent on these festivals or saved by workers for future unexpected expenditure.

Table 4 20: Expenditure Patterns of Sample Households

Gardens	Average Exp on food items per HH	Average Exp. on Non-food items per HH (%)	Others per HH (%)
Bhooteachang	34.5	36.3	29.2
Hattigor	33.8	25.7	40.5
Big gardens	**34.2**	**31.0**	**34.9**
Brotherhood	58.8	29.4	11.9
Jwnglary	62.1	23.7	14.2
Small gardens	**60.5**	**26.6**	**13.1**
Total	45.4	29.2	25.4

Note: 'Others' expenditure includes Saving in LIC and other financial institutions and investment on children's education and other forms of investment, etc.
Source: Field Survey, 2011

4.7.3 Savings and Investment

The term ‘saving’ or ‘investment’ is not that much familiar among tea plantation workers in the sample as compared to industrial workers in cities. A few sample families save their income in different forms. Generally in tea estates, the scheme of saving in provident funds is available for permanent regular job holders. In this scheme, workers can have saving account when the labourers are in active service. Saving in formal financial institutions like banks, Life Insurance Companies, and other financial institutions are very rare among the sample workers. Few sample working families save in those formal financial institutions (Table 4.21).

About 35.7 percent sample households have savings in LIC and 18.3 percent in SBI. Few sample permanent workers (3.3 percent) who are monthly salary earners like office staff, sardars, drivers, carpenters, water supplier, etc. have savings in banks. It is also found that, workers of Bhooteachang tea estate has the highest saving account in LIC with 66.7 percent followed by Hattigor tea estate (57.3 percent). Besides, the sample workers of these gardens also save in SBI and other banks. On the other hand, few (9.2 percent) households of Brotherhood and Jwnglary tea gardens have savings in LIC. Workers of big tea gardens are saving more (62%) in LIC than those small gardens (9.2%). However, more number of workers of small gardens has savings than those of big gardens.

Sample households also do invest their incomes in various activities like in their children's education, non-farm sector, and some income generated activities. The distribution of their investment in various activities is given in Table 4.21. On an average, about 72.2 percent households invest their income in children's education though the absolute amount is very small. Besides it, many sample households also invest in non-farm sector and other income generated activities. On an average, about 71.8 percent sample households invest their income on non-farm sectors and 29.9 percent on other income generated activities. However, the amounts are small.

Table 4.21: Saving and Investment Patterns of Sample Households

	No. of HH with Savings (%)			No. of HH with Investment (%)			
Gardens	LIC	SBI	Other Banks	Education	Income generated schemes	Non-farm sector	Others
Bhooteachang	66.7	11.7	10.0	83.3	33.3	81.7	16.7
Hattigor	57.3	9.8	3.3	83.6	31.1	86.9	13.1
Big Gardens	**62.0**	**10.7**	**6.6**	**83.5**	**32.2**	**84.3**	**14.9**
Brotherhood	5.0	30.0	0.0	71.7	25.0	56.7	10.0
Jwnglary	13.3	21.7	0.0	50.0	30.0	61.7	11.7
Small Gardens	**9.2**	**25.8**	**0.0**	**60.8**	**27.5**	**59.2**	**10.8**
Total	35.7	18.3	3.3	72.2	29.9	71.8	12.9

Source: Field Survey Data, 2011

4.8 Loans

Indebtedness is a common malady among the tea labourers. A vast majority of labourers were in debt before they came to the tea estates of Assam (Bose, 1954). Generally, the tea plantation labourers borrow loans from non-financial institutions like friends, relatives, village mahajan, and traders etc. who charge different rates of interest. This might be due to the fact that, a vast majority of the labour population are not aware of taking loans from the financial institutions or formal institutions are not available and not easily accessible. Therefore, informal source of credit dominate credit market. In the sample area, about 49.4 percent of worker families in the combined sample gardens have records of borrowing (Table 4.22). This percentage share is higher in small garden areas than in big gardens. Friends/relatives, village rich, village committee, traders are the main informal credit sources in the sample areas. Out of the total borrowers, 42 percent worker households borrowed from friends and relatives, and about 24 percent from village rich. Only about 32 percent borrowers were from banks. Hattigor and Bhooteachang tea estates showed the

higher borrowing from friends/relatives than other small garden workers. Borrowing from formal institutions is lower in both Bhooteachang and Hattigor estates compared to those in small gardens. Traders have very small role in lending to workers in sample gardens.

Table 4.22: Borrowings of Sample Houeseholds and Sources of Borrowing

Names of the Estates	HH no. with loan	%	No. of HH Borrowings from Different Sources			
			Banks	Friends/Relatives	Village Rich	Traders
Bhooteachang	25	21.0	6	14	5	0
Hattigor	21	17.6	4	13	4	1
Big Gardens	**46**	**38.2**	**10**	**27**	**9**	1
Brotherhood	32	26.9	7	11	12	2
Jwnglary	41	34.4	21	12	7	1
Small Gardens	**73**	**61.3**	**28**	**23**	**19**	**3**
Total	119	49.4	38(31.9)	50(42.01)	28(23.5)	4(3.3)

Sources: Author's Calculation from Field Survey Data, 2011

Different types of informal loans are prevailing in the sample gardens. Some of these loans are cash loan, land mortgage, borrowing cash by promising to return paddy during the harvesting season, etc. Those loans are very exploitative in nature as the money lender or village rich charges higher rates of interest. The mode of repayment, interest rates vary from loan to loan. The system of payment also often leads the workers to debt. From time to time, when his earning permits, deductions are made with a view to reduce debts.

Table 4.23: Purpose of Borrowing Loans

Gardens	No. HH with borrowing	Purposes of Borrowing			
		Health Exp	Marriage	Buying lands	Education
Bhooteachang	25	3(12.0)	7(28.0)	4(16)	11(44.0)
Hattigor	21	4(19.0)	3(14.3)	5(23.8)	9(42.9)
Big Gardens	**46**	**7(15.2)**	**10(21.7)**	**9(19.6)**	**20(43.5)**
Brotherhood	32	13(40.6)	5(15.6)	7(21.9)	7(21.9)
Jwnglary	41	16(39.0)	6(14.6)	11(26.8)	8(19.5)
Small Gardens	**73**	**29(39.7)**	**11(15.1)**	**18(24.7)**	**15(20.5)**
Total	119	36(30.3)	21(17.6)	27(22.7)	35(29.4)

Note: Figures in brackets are percentages of total HH borrowing
Source: Field Survey, 2011

The main reasons for heavy indebtedness on the part of the labourers are lower rates of wages and hence poverty, higher price index and increased cost of living,

alcoholism, unplanned expenditure, extravagant expenditure on festive occasions. Workers get only Rs 71.50 per day in big gardens which are very low. They find difficult to survive where the prices of food and non food stuffs are very high. Moreover, they also spend money on alcoholism and occasions. Maximum occasional expenditure is generally advanced by the money lenders at a higher rate interest which is generally realised from the borrowers at the time of giving bonus.

Moreover, workers have to spend on unplanned expenditures like health problem and marriages. About 30.3 percent workers in the combined sample borrowed for health problems followed by marriage purposes (17.6 percent). The health expenditures in the established tea estates are less as compared to small tea gardens because the workers in big tea gardens get free medical check up and medicines from the garden authorities. Only 15.2 percent workers borrowed money for their health purposes in big gardens. As workers in small tea garden do not have facility of free medicine and check up, they spend more money on health expenditure. Workers in tea gardens are more prone to many diseases as they are exposed to rain and sun every day.

As workers get very less wages, saving from their wages to purchase land is not easy for them. Therefore, some workers borrowed to purchase land for further cultivation. This share was more among workers in small tea areas. Moreover, workers in sample gardens also borrowed money for their children's education. Educated workers or workers, who were aware of the value of education, borrowed money for their children's higher education. As they are poor, educating their children beyond primary level is difficult. About 29.4 percent worker families in the combined sample borrowed for their children's education. This borrowing was more in big tea garden areas (43.5 percent).

4.9 Recreation and Entertainment

Among the sample labourers, scope for recreations is very limited, though the estate authorities provide some sort of facilities like playground and club. The labour families can hardly afford money out of their meagre income for recreational purpose. Moreover, the nature of works and work load in plantation is such that the higher forms of recreation are not possible. Workers in general do not show much interest in games and sports except football and volley ball. Football becomes popular among the young boys in sample gardens. The women are also not much interested in games and sports. But they have taken active part particularly in traditional dancing on the occasion of festivals. The younger

generation is very much interested in film, circus, and drama. In Bhooteachang and Hattigor tea estates, the authorities provide facilities for showing cinema during the festival seasons. Some of the estate authorities also contribute towards festivals, such as Durga puja, kali puja, etc. and arranged cinema shows at their own expenses.

4.10 Infrastructural Facilities

Infrastructural facilities in our study include road and transport facility, electricity, garden schools, health care and drinking water.

4.10.1 Road Transport Facility

Road transport facilities are not good in any of these sample gardens. Bhooteachang is an old tea estate located in Bhergaon sub-division of Udalguri district in Assam. Though the garden is located near to the sub-division office, yet the transport facility to this garden is not good. The road to the sample garden from sub-division is Pucca but due to poor maintenance, Pucca roads are damaged. At present, more than half of these roads are sand-stone gravelled only. The road connectivity to Hattigor garden is better than the Bhooteachang tea estate. They have well Pucca road connected to the local towns like Bengabari and Tangla. There are roads from the Udalguri town to Brotherhood and Jwnglary tea gardens. The road which is connected to the sub-division to these gardens is sand-stone gravelled road. Though there are also half Pucca roads, yet there are no proper bridges to cross the rivers. During rainy season, with excess rainfall, the existing roads become worse in all sample gardens.

4.10.2 Electricity

The garden authority of Bhooteachang and Hattigor tea estates provides electricity connection to all the workers. Therefore, almost all the workers in these two gardens are availing electricity facility. Though the supply of electricity is not free of cost yet almost all sample households are availing electricity connection in both big tea gardens. But the workers of Brotherhood and Jwnglary gardens are having limited connectivity of electricity. About 90 percent workers are not connected to electricity facility. Only 10 percent of workers who are working as an office staff or higher rank are having the facility to connect electricity. Some villages where these workers reside are having electricity line

but not able to afford the connection. There are some sample households who are willing to connect the electricity but not able to connect due to unavailability of electricity line.

4.10.3 Drinking Water

Free supply of drinking and domestic use water is provided by gardens authority in free of cost in Bhooteachang and Hattigor through water pipe. But the workers in small gardens do not have such facility. Some workers in these gardens, who are not able to dig well, use the water flow from river/streams/springs, etc. for drinking and domestic uses. A few workers are able to avail of proper drinking water. Digging well in up-hill area is very difficult and very costly. Therefore, poor workers who are not able to avail such water facility opt for available flowing water. Some workers collect water from neighbour's well and common well provided by the National Rural Health Mission. Out of the total households, only 13 households in brotherhood and 15 in Jwnglary garden have the dug well facilities (Table 4.24).

Table 4.24: Dugwell facility in Sample Households

Gardens	Total HH	No.of well
Brotherhood Tea Growing Farm	60	13
Jwnglary Tea Farm	60	15

Source: Field Survey Data, 2011

4.10.4 Primary Schools

As per the rule of PLA, 1951, the garden authority of Bhooteachang and Hattigor tea estate provide education to children to tea plantation workers free of cost till the primary level. For further education, the children of workers have to go schools which are located outside gardens. Though there is no school beyond primary level inside the garden, yet some venture schools are located near the gardens. The garden authorities provide vehicle facility to school going children to go school which are located far outside gardens. Bhooteachang tea estate has total two primary schools inside the garden which are provided by the garden authority. Moreover, there are two schools which are provided by Assam Sarva Siksha Abhiyan (ASSA). One of these schools serves to teach the dropped out children in the gardens. Hattigor tea estate also has total five schools, where two are provided by the garden and three are run by ASSA. Moreover, there are many venture and private schools nearby these gardens. But both in Brotherhood and Jwnglary tea estates

such school facility for their children is not available inside the garden. Workers in these gardens send their children with their own expenses to those schools which are located nearby their villages. There are few government and private schools nearby these gardens. Once they finish their primary level, they find difficult to go far high schools. In this entire area, there is only one government high school (Borigaon High School).

4.10.5 Health Care

Both Bhooteachang and Hattigor tea estates have one primary health care centre each in their gardens. The garden authority provides free medical check-up and free medicines to workers and their children. Moreover, if the workers suffer from a dangerous disease, the garden authority provides financial assistance to the workers. During emergency, the garden hospitals also make arrangement of vehicle to send the patient in better hospital to nearby town. But the Brotherhood and Jwnglary tea estates have no such medical facility in their gardens.

4.11 Summary

The main purpose of this chapter was to describe the general profile of sample households and gardens. The main points described here were on demographic characteristics, occupational structure, infrastructural facilities, land related issues, income, saving, etc. In addition to demographic analysis, we have also analysed the occupational distribution of sample households in this chapter. The analysis on occupational distribution showed that maximum workers' households are mainly dependent on tea plantation works. Yet workers also engaged themselves in other subsidiary occupations like rearing livestock, small business, agriculture work but the main source of their income comes from the tea plantation works. Further, it showed that the infrastructural facilities like road connectivity, electricity, drinking water supply, health care, sanitation, financial institutions, etc. are very poor in the sample tea gardens.

With this background, we proceed to examine the availability and accessibility of education by sample workers in the next chapter.

Chapter 5

Education: Availability and Accessibility in Sample Gardens

5.1 Introduction

The primary objective of this chapter is to examine the extent of provision, utilisation and benefits of different levels of educational facilities among the sample tea plantation workers in Udalguri district of Assam. The entire chapter has been divided into five sub-sections. In section 5.2, the availability of educational facilities among the sample workers are described briefly. The differences in accessing the available educational facilities among sample workers are discussed briefly with the help of primary data in section 5.3. Factors behind the high wastage and stagnation of school children are examined in section 5.4. The social, economic and institutional factors behind the poor development of educational facilities among the sample workers are examined in section 5.5.

Few studies have pointed out that the educational facilities provided by the tea garden authorities in Assam for the children of plantation workers are far below the actual needs, both quantitatively and qualitatively. Some studies include Dutta (1983) on the education and employment of the tea garden labourers of Assam with special reference to Sibsagar district, Sharma and Das (2008, 2009) on the plantation workers in North –East India, Sengupta (2009) on tea labourers of North East India and Singh et. al. (2006) on the socio-economic and political problems of tea garden workers. Some of these studies pointed out that, tea plantation schools which were established by the garden authorities are limited to the primary level only. Therefore, students beyond primary level face many problems in accessing their higher education. Since many tea gardens are located in very far flung remote areas of the state, the workers are isolated from the transport and communication facilities. This further makes accessing educational facility beyond the primary level more difficult.

Therefore, in this chapter, an attempt has been made to analyse the availability and utilization of educational facilities among the tea garden workers by using the primary survey data collected from four sample tea gardens of Udalguri district. The primary data were collected during September–November 2011 through structured questionnaires.

Further, the analysis is also made through author's observations during the field surveys. Wherever possible, to check the statistical significance of study variables, the chi–square (χ^2) test is run on the observed data tables. A chi-square test is a parametric statistical test commonly used for testing independence of attributes and goodness of fit. Testing independence determines whether two or more observations across two populations are dependent on each other. Testing for goodness of fit determines if an observed frequency distribution matches a theoretical frequency distribution. In both cases, the formula to calculate the chi-square statistic is given by $\chi^2 = [\Sigma(O_i - E_i)^2/E_i]$ where O_i is the equals the observed frequency and E_i is the expected frequency of ith observation. The calculated value of a chi-square test, along with the degrees of freedom, is compared with the previously calculated table of chi-square distributions to determine the statistical significance of the test.

5.2 Availability of Schools in Sample Tea Estates

As stated in chapter 2, providing education to the labourers and their children was neglected for a long time in the tea plantation areas (Goswami 1992). It was only after the independence, the government of India had formulated an Act in 1951 which is popularly known as 'The Plantation Labour Act, 1951' (PLA, 1951). In this Act, the Government made it the responsibility on the part of the planters to provide with the educational facilities to the labourers. As a result of this Act, in many gardens schools were established.

Since the introduction of the PLA, 1951 and 'The Assam Plantations Labour Rules, 1956', both Bhooteachang and Hattigor tea estates also established Lower Primary (LP) schools in their gardens along with other tea estates in Assam. Both estates established two primary schools in each garden. On the other hand, small tea growers have no compulsion of providing free education to the workers. Therefore, there are no garden schools inside these small gardens. Further, almost all workers in these small gardens are temporary workers. Workers are employed from different parts of the local area. Children of these workers avail their education of their respective native places. Therefore, the establishment of schools is not a compulsion within the small tea gardens.

The available schools in the sample gardens are shown in Table 5.1. There are total four schools in the Bhooteachang tea estate of which two are garden schools (provided by garden authority) and two are SSA schools (established by Assam Sarva Siksha Abhiyan). Moreover, there are 3 private and government schools outside but near the garden areas. Therefore, there are total 7 primary schools inside and outside the Bhooteachang tea garden. On the other hand, Hattigor tea estate has total 5 primary schools within the tea estate of which two are garden schools and 3 are SSA schools. In addition, it has also 4 private and government schools near the tea estate. Therefore, there are total 8 schools inside and nearby Hattigor tea estate.

There are some private as well as government primary schools near small tea gardens of our sample. There are total 3 schools near Brotherhood tea gardens of which one is government primary school and 2 are private schools. Further, there are total 4 schools in nearby Jwnglary tea garden of which 2 are government schools and 2 are private schools.

Table 5.1: Number of Primary Schools in the Sample Tea Gardens

Gardens	Garden Schools	SSA Schools	Other Schools	Total
Bhooteachang	2	2	3	7
Hattigor	2	2	4	8
Big gardens	**4**	**4**	**7**	**15**
Brotherhood	…	…	3	3
Jwnglary	…	…	4	4
Small gardens	**…**	**…**	**7**	**7**

Source: Field Survey, 2011

Though schools in the sample are limited to primary stage only, yet number of schools has been increasing (Table 5.2). The total number of schools in the sample gardens and surrounding was only 6 during 1980s which increased to 22 during 2010s. A total of 16 extra schools had been established since 1980 which means almost 70 percent increase of schools during the last three decades. Such an increase has been partly due to the private agencies and NGOs who have decided to establish schools near garden areas to meet the required demand of schools. Further, the state government also has taken initiative to establish more primary schools to meet increasing demand of the schools in the state.

Therefore, the number of primary and upper primary schools in surrounding sample gardens has been increasing.

Big tea gardens, being well established gardens, have more primary schools compared to small gardens in our sample (Table 5.2). Hattigor tea estate has the highest number of schools followed by Bhooteachang tea estate among the sample gardens. Though the number of primary schools in Brotherhood and Jwnglary tea gardens is very less, yet the number has been continuously increasing over the years.

Though the number of schools upto the primary level has been increasing for the children of the tea labourers in the sample gardens, the available information shows that the quality of education has not improved. There still exists shortage of basic physical amenities in garden schools. Therefore, some families who are little better off and who can afford, they send their children to private schools. But many labourers are not able to afford to send their children to private schools and therefore many workers still prefer sending their children to garden schools which are provided free of cost by the garden authorities. Thus, many children of workers are not able to avail the better environment of education outside the gardens.

Along with the number of schools, the availability of educational facilities can also be measured by the availability of physical facilities of the schools and the availability of teachers. Therefore, an attempt has been made to examine the physical facilities and availability of teachers in the garden school in this section.

Table 5.2: Number of primary schools inside and nearby sample garden areas

Gardens	1981	1991	2001	2010
Bhooteachang	2	5	7	7
Hattigor	2	6	7	8
Big gardens	**4**	**11**	**14**	**15**
Brotherhood	1	2	2	3
Jwnglary	1	3	4	4
Small gardens	**2**	**5**	**6**	**7**
Total	6	16	20	22

Source: Field Survey, 2011

5.2.1 Availability of Physical Facilities (Infrastructural Facilities)

To create an atmosphere congenial for efficient education, the school requires many amenities like class rooms, toilet, desk, bench, chair, table, library, black boards etc.

According to the plantation labour Act 1951, the garden authority is supposed to take up all the responsibility of providing all kinds of amenities to the school. But it was observed that there were shortages of required physical facilities in the sample schools. Adequate care has not been taken on the educational development in the gardens by the authorities.

As regards to the accommodation facilities in the schools, almost all the four schools in the sample have only four class rooms in each school which is not sufficient for large number of students. Further, on the question of additional requirement of rooms, the head masters of Bhooteachang tea state replied that they do not require any more additional rooms. On the other hand, the head master of Hattigor tea estate reported the need of additional rooms as there are students in all classes from class I to class IV. Owing to the shortage of class rooms, sometimes, students have to sit outside the classroom (under the tree shades) for some classes. Though classrooms are there in the garden schools, the school buildings suffer from good maintenance. The buildings are congested and are not properly partitioned though there is sufficient land for expansion. As all the school rooms are not well partitioned, it becomes unmanageable for the teachers to give proper attention to all the students.

Moreover, there is no separate rest room for teachers. Therefore, teachers of these schools have to come directly to teach them and go back just after their classes. All the garden schools reported to have playground facilities but there seems to have shortage of games and sports materials. According to Plantation Labour Act 1951, the sports and games materials were also supposed to be supplied by the garden authorities in the garden schools. But due to the ignorance of labour community on these facilities, they are deprived of getting such facilities. Moreover, as there has been no demand placed by garden community to the authority, the schools continue to run without recreation facilities.

The facility for drinking water was not found available in all the sample schools. The students of these schools go to the nearby houses or to the wells located outside the school compound to drink water. As regards to urinals and toilets for the students, all the schools have toilet and urinal facilities but are not in good condition for use. These are very dirty and unhygienic. Therefore, students are seen going outside the school for urination. The number of furniture is not sufficient and the schools are not properly supplied with furnitures by the garden authority. Furniture for the teachers is also not

adequate. Teaching aids other than the black boards are lacking in all the schools. Library facility is there in all the sample schools but there are no sufficient available books. And more interestingly, none of the students uses the library in the sample garden schools.

5.2.2 Availability and Quality of Teachers

The role of teachers in the extension of education in a community is very important. The success or failure of the school mostly depends on the quality of teachers recruited in that school. There are altogether about 23 teachers in schools of sample areas including the head masters of whom 60 percent are males and 40 percent are females. The educational qualification of majority of teachers (about 74 percent) is up to the matriculation level only. Graduate teachers constitute only about 26 percent of whom all of them are untrained. Out of total teachers in the sample area schools, only one or two teachers were found to have formal training.

Table 5.3: No. of Teachers in the Garden Schools

Qualifications	Bhooteachang	Hattigor	Brotherhood	Jwnglary	Total	Percentage
Matriculate	6	6	2	3	17	73.9
Graduate	…	2	2	2	6	26.1
Total	6	8	4	5	23	100

Note: Since no schools inside Brotherhood and Jwnglary gardens, no. of schools reported here are located nearby these gardens. Workers' children go to those schools.
Source: Field Survey, 2011

The tea garden areas generally do not attract properly qualified teachers due to their isolation from other urban areas and therefore, the tea garden schools suffer from the first requirement of a good school teacher. This is one the main reasons behind the low quality of teachers being recruited in these garden schools. Mostly educated people want settling down in urban areas compared to isolated areas like tea plantation gardens. Therefore, qualified teachers are not interested to join in garden schools. Moreover, the salary paid to the teachers is also very low as compared to other government schools. In addition to above mentioned reasons, most of the planters remain unconcerned about educational or cultural upliftment of labourers as they are primarily interested in the business of tea production and everything else was considered unproductive and therefore uneconomic

(Goswami, 1992). Therefore, enough qualified teachers are not recruited and the schools are under staffed.

The availability of educational facilities in the sample schools can be calculated by estimating students-teacher ratio of the sample schools. Table 5.4 shows that the students-teacher ratio in sample gardens is very high as compared to overall state's ratio. Assam state as a whole had 28:1 students-teacher ratio in 2009-10. But in the sample garden schools, this ratio was 37:1 during the time of field surveys in 2011. The ratio in the garden schools is even higher compared to SSA schools in both big gardens. The students-teacher ratio of tea garden schools is 51:1 whereas the SSA schools have 32:1 students-teacher ratio. This means that schools run by the SSA are better as compared to garden schools in terms of teachers.

Table 5.4: Students-Teacher Ratio in Sample Tea Garden Schools

Types of schools	Bhooteachang			Hattigor			Brotherhood			Jwnglary			Total		
	Student	Teacher	Ratio	Student	Teacher	Ratio	Student	Teacher	Ratio	Student	Teacher	Ratio	Student	Teacher	Ratio
Garden	173	3	58	182	4	46	…	…	…	…	…	…	355	7	51
SSA	137	4	34	171	6	29	124	4	31	184	5	37	616	19	32
Total	310	7	44	353	10	35	124	4	31	184	5	37	971	26	37

Source: Author's Calculation from Field Survey data, 2011

As stated above, schools beyond primary stage is not found inside the sample gardens. But there are some high schools and colleges which are located nearby towns of the garden areas. The distances of the nearest schools beyond primary level and colleges are given in Table 5.5. The nearest town from the gardens itself is more than 5 km. All the children who wish to continue their studies beyond primary level have to go to the schools which are far from the gardens. That is, all the higher educational institutes are located beyond 5 km from the gardens. Therefore, children who wish to continue their studies beyond primary level face many difficulties. First of all, they are from very poor families. Their parents work as a daily wage earners in plantations. Bearing transportation cost is big burden for them. Moreover, the qualities of transport available in these garden areas are very poor. There is no good road connectivity from gardens to nearby town where schools are located. Due to poor road connectivity, there are no good transport facilities in sample gardens. Only a few vehicles are available. Therefore, students are forced to go by cycles

though it is more than 5 km away from gardens. Many families even cannot afford to buy cycles for every child.

To obtain higher education beyond primary schools, students from sample gardens go to nearby towns such as panery, Harisinga, Bengbari, Borigoan, Tangla, and Udalguri. Moreover, there are only two full fledged colleges in the entire district, namely, Tangla and Udalguri Colleges. These colleges are very far from all the four sample gardens. The nearest college for Brotherhood and Jwnglari gardens is Udalguri College. Tangla College is the nearest college for Bhooteachang and Hattigor tea estates. All these colleges are located at the distance of about 8 to 18 kms from their gardens.

Table 5.5: Distances from the Local Towns (in km)

Gardens	Tangla	Udalguri	Panery	Harisinga	Bengbari
Bhooteachang	8	18	5	9	7
Hattigor	9	17	7	8	7
Brotherhood	16	13	12	8	10
Jwnglary	15	12	11	7	9

Souce: Field Survey, 2011

5.3 Accessibility of Education among Sample Workers

As stated in Chapter 4, only 39.7% of the working population of the combined sample gardens are literate. This is very low compared to the total literacy rate of Assam (73.18%) as whole and 66.6% of Udalguri district (Census, 2011). Low literacy may be due to the inequality of accessing power of education among them. Therefore, in this section, the problem of accessibility of education among the sample workers is discussed briefly. The accessibility of education among the sample workers is measured by two main indicators. These are the extent of participation of labour population on education and the social composition of the participants.

The participation of parents in educating their children is very low in tea garden areas. This is due to several interrelated socio-economic factors. But with the constant campaigns of government and non-governmental organisations to improve the education among the deprived section of the society, the participation rate of parents in educating their children has been increasing in the sample gardens. The participation rates of both literate and illiterate parents have been increasing over the time. This is evident from Table 5.6 that as many as 85.5 percent of sample households send their children to schools. This

figure much higher compared to those households (8.3 percent) who do not send their children to schools. About 6.2 percent households do not have children of school going age. Many sample garden families have televisions and several programmes in televisions have been effective in bringing awareness on importance of education. Interactions with persons outside the garden areas have also been useful to them.

Table 5.6: Participation of Sample Households in Educating their Children

Names of the Gardens	HH send their children	HH who does not send to schools	HH who does not have school going children
Bhooteachang	55	4	1
Hattigor	55	4	2
Big gardens	**110**	**8**	**3**
Brotherhood	45	8	7
Jwnglary	51	4	5
Small gardens	**96**	**12**	**12**
Total	206(85.5)	20(8.3)	15(6.2)

Source: Field Survey, 2011

To understand the extent of participation of labour force in education and educating their children, the present study classified the entire sample population according to their education level. Out of 1075 sample persons, 427 persons attended schools (Table 5.7). Among the educated sample population, about 61.5 percent are males and 38.4 percent are females. This shows that educated male population is more than educated female population.

Table 5.7: Sex-wise Classification of Educated Population

Names of the Gardens	Total No. of Educated Workers		
	Males	Females	Total
Bhooteachang	76	50	126
Hattigor	79	50	129
Big gardens	**155**	**100**	**255**
Brotherhood	60	42	102
Jwnglary	48	22	70
Small gardens	**108**	**64**	**172**
Total	**263(61.5)**	**164(38.4)**	**427**

Source: Field Survey, 2011

The sex-wise distribution of sample workers according to their level of education is given in Table 5.8. Sample garden areas are not only having low literacy rate but also a very low proportion (9.4%) of higher qualified persons (upto higher secondary level and above). The highest proportion (50%) of population studied only till primary level, and 22% upto class VII only. The number of higher educated persons in big gardens is higher than in small gardens. One of the important reasons for low motivation to obtain higher qualification is due to the fact that garden works do not require higher educational qualification. Thus, many workers think that spending money for higher qualification is some kind of wastage.

Table 5.8: Sex- and Class-wise Classification of Education of Sample Population

Names of the Gardens	Class 1 to IV			Class V to VII			Class VIII to X			Class XI and above		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Bhooteachang	22	23	45	21	15	36	17	7	24	16	5	21
Hattigor	37	33	70	11	10	21	21	6	27	10	1	11
Big gardens	**59**	**56**	**115**	**32**	**25**	**57**	**38**	**13**	**51**	**26**	**6**	**32**
Brotherhood	29	30	59	10	7	17	15	3	18	6	2	8
Jwnglary	27	14	41	15	5	20	6	3	9	…	…	…
Small gardens	**56**	**44**	**100**	**25**	**12**	**37**	**21**	**6**	**27**	**6**	**2**	**8**
Total	115	100	215(50.4)	57	37	94(22.0)	59	19	78(18.3)	32	8	40(9.4)

Notes: M is male, F denotes female an figures in brackets are percentages to total
Source: Field Survey, 2011

We further classified all children population of the sample into school-going and out-of-schools (see Table 5.9). While many sample children (349 out of 525) attend schools, still large number of children (33.5%) are not attending schools. This clearly indicates that a large number of parents are sending their children to schools.

Table 5.9: Classification of Sample Children in School going and out-of-school (no.)

Names of Gardens	Total Children	School Going Children			Out-of-School Children		
		Male	Female	Total	Male	Female	Total
Bhooteachang	147	65	38	103	19	25	44
Hattigor	163	65	41	106	22	35	57
Big gardens	**310**	**130**	**79**	**209**	**41**	**60**	**101**
Brotherhood	120	50	32	82	16	22	38
Jwnglary	95	42	16	58	18	19	37
Small gardens	**215**	**92**	**48**	**140**	**34**	**41**	**75**
Total	525	222(63.6)	127(36.3)	349(66.5)	75(42.6)	101(57.4)	176(33.5)

Note: Figures in brackets are percentages to the respective total and children include < 6 years
Source: Field Survey, 2011

Among the school going children, boys constitute the majority in all the sample gardens. About 63.6 percent of school going children are boys. However, the proportion of girls constitutes higher than the boys among out-of-school children in all sample gardens. This indicates that parents are giving less importance to education of girl children.

Thus, it is seen that education for girls in the sample gardens is yet to receive the same importance as that of the boys. A large majority of family heads of the sample gardens reported that they did not favour education of their girl children equally with the boy children. In case of girls, learning household works is considered to be more important than formal education.

The sex-wise and class-wise classification of school going children in the sample gardens are given in Table 5.10. Out of total school going children, majority (51.8 percent) of the children are studying in the primary level in the combined sample, followed by 21.5 percent studying at the upper primary level (class v to vii). Further, about 18 percent children are studying in the high school level but only 8.6 percent children are at the intermediate and college going children (above 10th standard). It is observed that at all levels of schooling, number of boys has been higher than number of girls in every garden.

Table 5.10: Sex- and Class-wise Classification of Education of School Going Children

Names of	Class 1 to IV			Class V to VII			Class VIII to X			Class XI and above		
Gardens	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Bhooteachang	19	17	36	19	12	31	15	5	20	12	4	16
Hattigor	32	28	60	8	8	16	18	4	22	7	1	8
Big gardens	**51**	**45**	**96**	**27**	**20**	**47**	**33**	**9**	**42**	**19**	**5**	**24**
Brotherhood	26	24	50	7	5	12	12	2	14	5	1	6
Jwnglary	24	11	35	13	3	16	5	2	7	…	…	…
Small gardens	**50**	**35**	**85**	**20**	**8**	**28**	**17**	**4**	**21**	**5**	**1**	**6**
Total	101	80	181(51.8)	47	28	75(21.5)	50	13	63(18)	24	6	30(8.6)

Source: Field Survey, 2011

Data in Table 5.10 also show two interesting trends. First, there has been continuously decreasing number of school going children as the level of school education goes up from the primary level (51.8%) to the college level (8.6%). That is, enrolment of children in the schools decreases as they reach higher classes. This shows that high incidence of wastage, drop-outs and stagnation among the children of the tea garden labourers[1]. Second, the

[1] Wastage in education refers to the drop-out of students from the course. By stagnation in education, it is meant the stay of students in a particular class for more than one year. In the words of the Hartog Committee

number of girl students has been decreasing at a faster rate than that of boy students as we move from the primary level to the college level. In the combined sample, the ratio of girls to boys was 0.792 at the primary school level, which declined to 0.596, 0.260 and 0.250 at the upper primary, high school and college level respectively.

5.4 Reasons for Wastage and Stagnation of School Students

Several socio-economic-political and educational factors contribute to the wastage and stagnation of education among school children. Rumberger and Thomas (2001) found that drop-out-of school is influenced by an array of proximal and distant factors related to both the individual student and to the family, school, and community settings in which the student lives. Coleman (1987) found that family background alone could explain most of the variation in educational outcomes. Haveman and Wolfe (1991) found that parents make choices about how much time and other resources to invest in their children based on their objectives, resources, and constraints which, in turn, affect their children's tastes for education and cognitive skills. The empirical study by Astone and McLanahan (1991) found that students whose parents monitor and regulate their activities, provide emotional support, encourage independent decision-making and are generally more involved in their schooling are less likely to drop out of school. School resources (like buildings, students-teacher ratio) and school structures (like private or public, religious or non-religious managements) have important influences on the student dropout rates (Hanushek 1997; Sander and Krautman 1995).

In the field surveys, for clear understanding of reasons behind wastage and stagnation, the same set of questions was asked to the parents, headmasters and the dropout school students (but now grown up) separately. Responses of drop-out children are given in Table 5.11. Almost all the drop-out children said that poor economic condition of their families is the main reason for their drop-out from the school. The daily wage earnings of their parents are very less which are not sufficient to feed their families. On average, a wage earner gets only about Rs.71 per day as wage income. About 60 percent drop-out children said that, they themselves did drop-out from schools to help their parents. In most cases, their parents did not force them to drop schools. It is known to them that earning of

(1929), "By wastage, we mean premature withdrawal of children from schools at any stage before completion of the primary courses". Similarly, "By stagnation, we mean the retention in a lower class of a child for a period of more than one year. Of course, stagnation always means wastage".

only one or two members is not sufficient to meet their daily need of many dependents of families. Many drop-out children (now grown up) further expressed that their parents are also interested to send them to schools but due to financial problem they are not able to send. Drop-out children also mentioned some other reasons like early marriage, child labour and distances of the schools etc.

On the other hand, about 36.9 percent school drop-out children said that, their parents are indifferent to their schooling. They further said that even though parents have ability to send their children to school, they are not interested to send their children to schools. This might be due to the ignorance and illiteracy of their parents. Many parents of the sample families do not know the long run benefit of educating their children. Therefore, instead of sending their children to schools they force them to work in garden to earn income to support their families.

Distances of the school beyond primary level is another major problem which is mentioned by school drop-out children. As many as 29.5% of the school drop-out children said that they left school due to far distances of schools from the garden area. Moreover, there is no good road and transportation facility in the garden area which makes school children more difficult to reach out to school in time. Basically, during rainy season with muddy road and flood water, it is very difficult to reach to school in time by cycling. Therefore, many children prefer dropping school and start working in garden itself.

During the peak season, gardens require more labour force. To meet their labour requirements during this season, the garden authorities employ more even the young school going children as temporary workers. After joining back to school from long break, many students find difficult to cope up with other students. This attitude of garden authority discourages some children to re-join to school after the peak season. So the ultimate result of the children is to drop-out from the school.

Early marriage is another problem of the tea garden community in sample study, especially for girls. This is also more or less related to the economic problem of the family. Many labour families arrange for marriage in their early age. As many as 16.2 percent drop-out children said that, early marriage is another major problem for girl child in the garden. The labour families think that once their young girls are married, they feel relieved from one parental burden.

When being questioned, the parents of the drop-out children also gave many reasons behind the high incidence of drop-out and stagnation of their children's education. Important responses are given in Table 5.12. Among many other reasons, poor economic condition is the main reason for children's drop-out from the schools. The respondents said that, they earn very less amount which is not sufficient for their family's consumption expenditure. Therefore, they are not able to afford children's education. Almost all the workers have expressed that their poor economic condition is the main reason for drop-out of their children from schools.

Table 5.11: Reasons behind the Wastage and Stagnations (for drop-out children)

Reasons	Bhooteachang	Hattigor	Brotherhood	Jwnglary	Total
Economic backwardness	60	60	60	60	240(99.6)
Parent's indifference to edu	22	31	17	19	89(36.9)
Distance of the school	9	11	29	22	71(29.5)
Child labour	15	13	11	9	48(19.9)
Early marriage	11	17	6	5	39(16.2)

Note: Figures are no. of drop-out children's responses and bracket figures are percentages
Source: Field Survey, 2011

Table 5.12: Reasons Behind the Wastage and Stagnations (responses of parents)

Reasons	Bhooteachang	Hattigor	Brotherhood	Jwnglary	Total
Economic backwardness	60	60	60	60	240(99.6)
Child labour	18	14	17	18	67(27.8)
Distance of the school	12	12	19	21	64(26.6)
Early marriage	15	11	6	9	41(17.0)
Parent's indefference to edu	5	8	11	7	31(12.9)

Note: Figures are parents' responses and bracket figures are percentages
Source: Field Survey, 2011

Further, workers articulated that, other than school fees, the expenditure of buying books, clothes, transportation are very high for them. Therefore, it becomes more difficult for the parents to adjust with a little earning to meet for their children's study expenditures. About 27.8 percent parents have said that prevailing child labour in the garden is another main reason for drop-out of school children. They said that, once children are engaged in the garden work they lost interest on education. Distances of the schools beyond primary level is also another reason for the drop-out of school children in the tea garden. The schools are very far from the gardens area as gardens are located in remote areas. The

quality of transportation and road connection are very poor. They have to travel either by cycling or walking. There are some vehicles which are run by private agencies but these are not affordable for the labour families. They are not able to afford such costly vehicles for their school going children. Further, there are also private school buses in the sample gardens but these are meant for only those children who are studying in private English medium schools. Generally, maximum number of these children is from higher grade job holders. Another problem cited by parents is the early marriage. Many children of tea garden labourers elope at early age for marriage without parent's permission. About 17 percent parents of drop-out children expressed that their children eloped for marriage purpose at early age. This results in drop-out from schools.

Further, the head masters of the garden schools also have explained many reasons behind the drop-out of school children in their respective tea gardens. From the official records of the schools, the extent of stagnation could not be separated from wastage. But as per the teachers' opinion stagnation is not as high as wastage. The main causes of stagnation, according to the teachers are, not having text books, lack of proper accommodation, language difficulty, parental indifference to education, irregular admission and irregular attendance. Attendance of the students varies at different seasons of the year. As mentioned earlier, this is due to the fact that when the cropping season in the plantation starts, the planters require a large number of additional labourers to work in the plantations. This season starts from the month of March-April which continues up to the month of September or October. During this period, children are engaged in the garden to work as child labourers for which they leave the schools and work in the gardens. In most cases, some parents withdraw their children from the schools and force them to look after their younger ones or to do their household works because all the adult members of the family irrespective of age and sex are employed on temporary basis during this season. After the cropping season is over, only a few of them come back to schools and the rest fall into the category of the wasted and prepare to live an illiterate life.

5.5 Factors behind the Poor Development of Children's Education in the Sample

The above section showed disparities in participation of parents in educating their children. It also found that many children are still out-of-school in the sample gardens. Therefore, in this section an attempt has been made to examine the main factors behind these disparities in participation of parents in educating their children and dropout of children in the sample. Education development in a given community depends on many factors. All the possible factors can be broadly classified into social, economic and institutional factors. Factors such as parent's education, parent's attitude towards education, parental satisfaction and expectations, educational atmosphere and alcoholism are some of the main social factors which affect the educational development in a society. Income or the economic condition of the family and the occupation of the family head are important economic factors which can affect the education of children. It is generally assumed that the parents of better occupations are prone to have more education and as a result their children receive more education. Thirdly, the possible institutional factors such as the role of state and garden authority in education development and role of student and labour organisations are some possible institutional factors which can influence the education development.

Kean and Pamela (2005) found that the socioeconomic factors were related indirectly to children's academic achievement through parents' beliefs and behaviours but that the process of these relations was different by racial groups. Parents' years of schooling also was found to be an important factor for children's education attainment. Haveman and Wolfe (1995) also found that parents' education level is a powerful predictor of children's educational attainment. They further found that parents' earning has positive effect on educational attainment of their children. A study by Rahman and Uddin (2009) in Pakistan found that factors like fathers' education, fathers' income, parents' attitude towards education, mothers' literacy etc. were some of the factors which affected the education of children. Scott (1998) examined the effect of family structure on high school graduation. He found that living in a step father family appears to have a persistent negative effect on high school graduation rates. Biblarz and Raftery (1999) examined the effect of alternative family structures on children's educational and occupational success.

The study found that higher rates of unemployment and lower-status occupational positions could account for the negative effect of single-mother families on children's attainment. Children from single-father families and stepfamilies have consistently had lower attainments than children from both two-biological-parent and single-mother families. Ermisch and Francesconi (2000) studied the association between parental employment and subsequent education of children. The study found that a higher full family income increases the educational attainment of children.

5.5.1 Social Factors

In this sub-section, possible social factors, directly or indirectly responsible for the poor educational development among the sample tea plantation community are discussed briefly. The main attempt is related to the children's education in the sample garden through field survey data.

(a) Parent's Education

Generally the labourers in the tea gardens are mostly illiterate. The overall literacy rate in the combined sample gardens is only 39.7 percent and within this, the literacy rate among male workers (45 percent) is higher than that of female workers (33.4 percent). Generally,

it is believed that literate parents are more likely to send their children to schools than the illiterate parents. To examine the impact of parent's education of school going children, all the children of the sample families are divided into school going and not going according to their parent's educational status. Children below 4 years are excluded from the computation. The educational status of the parents has also been grouped into four, viz., literate parents, illiterate parents, literate father and illiterate mother and illiterate father and literate mother. Data information is given in Table 5.13.

Data show that, out of 241 sample households, about 132 households constitute illiterate parents and only 32 households have literate parents. Further, 67 sample families have combination of literate father and illiterate mother and only few (10 families) sample families have the category of illiterate father and literate mother. The Table shows that the highest number (158 children) of school going children is from the illiterate parents. Further, out of 66 children of literate parents, about 89.4 percent children go to schools and only 10.6 percent children are out of schools. The case of only one literate whether mother or father is also calculated. There are 178 children belonging to the literate father and illiterate mother in the sample of which 64 percent children go to school and 36 percent children are out of school. Moreover, 81.8 percent children of illiterate father and literate mother go to school in the sample and only 18.2 percent of children are out of school. Thus, in all categories of parents' education, school going children are higher than out-of-schools.

Table 5.13: Education of Children in Relation to Education of Parents

Parent's education category	No. of HH	School Going Children	Drop-out Children	Total children
Literate parents	32	59(89.4)	7(10.6)	66
Illiterate parents	132	158(61.0)	101(39.0)	259
Literate father and illiterate mother	67	114(64.0)	64(36.0)	178
Illiterate father and literate mother	10	18(81.8)	4(18.2)	22
Total	**241**	**349(66.5)**	**176(33.5)**	**525**

Note: Figures are no. of children & households (HH), bracket figures are percentages to total

Source: Field Survey, 2011 $\chi^2 = 21.85$ d.f. = 3

The χ^2 value has been computed to study the association of education of children in relation to the education of the parents on data Table 5.13. The calculated value of χ^2 is

highly significant at 5% level of significance. It shows that parents' education has direct and positive impact on their children education. Therefore, on average, the parents who are literate and educated are more prone to sending their children to schools.

(b) Parents' Attitude towards Children's Education

The attitude of the parents towards education of their children is very important. To study this aspect, questions were put to the parents during field surveys about their attitudes towards their children's education. Table 5.14 shows that about 53.9 percent of the sample workers are in favour of children's education. Among these labourers 25.3 percent are illiterate labourers and 25.3 percent are workers who are having education beyond primary stage. It shows that both literate and illiterate workers are also interested in sending their children to school. Illiterate labourers also have willingness to send their children to schools. About 46.1 percent workers expressed their indifferent attitudes on education of their children in the sample. Illiterate parents recorded to be the highest (32.8 percent) among them. This might be partially due to illiteracy and ignorance of the workers on the value of education. The illiterate parents are not much aware of children's education hence, they are indifferent. Owing to their illiteracy and poverty, maximum workers always considered their children as economic assets. According to them, sending a child to school upsets the whole economic consideration of the family. For them education of the children is considered to be liability rather than a responsibility. Moreover, 12 percent educated workers also showed indifferent attitudes to the education of their children. Therefore, we found that the indifferent attitude of worker community to their children's education is affecting the entire education system of the sample gardens. This indifferent attitude towards children education is found among both the educated and uneducated parents.

Table 5.14: Attitudes of Parents towards Children's Education

Level of Education of Fathers	Attitude towards Education		
	Favourable	Indifferent	Total
Illiterate	61(25.3)	79(32.8)	140
Primary	8(3.3)	2(0.8)	10
Above primary	61(25.3)	30(12.4)	91
Total	130(53.9)	111(46.1)	241

Note: Figures are no. of parents, bracket figures are percentages to total households 241
Source: Field Survey, 2011

(c) Parental Satisfaction and Expectations

The heads of the sample families were asked whether they are satisfied with the studies of the children. The purpose of asking this question was to examine the awareness of satisfaction with children's education. About 53.2 percent workers replied that they are satisfied with their studies, 26.5 percent replied that they are not satisfied and remaining 21.1 percent sample workers replied that they are not aware of it.

Encouragement and aspirations of the children by parents play an important role in the continuation of education of children. To ascertain the nature of motivation and the level of their aspirations the heads of the labour families who are sending children to school and also the students beyond primary stage of the sample were asked about the educational plan and occupational aspirations. It was questioned to the family head as to how far they wanted to educate their children. In responses of this question about 30.8 percent family heads replied that they wanted to educate their children up to primary stage and 36.9 percent up to graduation and above. A sizeable (32.3 percent) number of family heads plan to educate their children up to lower secondary level (Table 5.15).

Same set of questions was also asked to students beyond primary level to know the children's own plan of education and the forces by which they are motivated towards it. The majority of the students plan to educate themselves up to graduation level in arts, science or commerce. Their aspiration to study in technical and professional courses is limited due to lack of awareness and financial constraints.

Table 5.15: Educational Expectation of Family Head from their Children' Education

Expected Level of Education of Children	Favourable parents' responses	Percentage
Primary School Level	40	30.8
Secondary Level	42	32.3
Graduate and Above	48	36.9
Total	**130**	**100**

Source: Field Survey, 2011

The plan on the level of children's education is determined by the level of parents' education. The parents who are literate and educated are generally more aware of the need of educating their children and hence they have higher aspirations to educate their children.

It is generally assumed that the literate and educated family heads have a higher plan of education of their children than their illiterate counterparts.

Table 5.16: Future Plan of Children's Edu in Relation to Level of Edu of the family Head

Levels of Edu of the Family Head	Plan of Children's Education (no. of responses)			
	Primary	Secondary	Higher	Total
Illiterate	22	21	18	61
Primary	4	3	1	8
Beyond Primary	14	18	29	61
Total	**40**	**42**	**48**	**130**

Source: Field Survey, 2011 χ^2 =7.987 d.f.= 4

To confirm this assumption, the χ^2 has been tested. For the convenience of the computation, the level of education of the head of the family has been grouped into three as (i) illiterate, (ii) educated up to primary stage and (iii) educated beyond primary stage. Children's plan of education has been divided as primary, secondary and higher education (Table 5.16). The calculated value of χ^2 is highly significant at 10% level of significance. This shows the significant association between the educational level of family head and plan of children's education. That is, the assumption is confirmed that higher the level of education of the family head, the higher is the plan of children's education.

(d) Negligence of Girl Children's Education

Education of girl children in the sample tea gardens is yet to receive the same importance as that of the boys within the overall low literacy among sample population. Many of sample workers are still indifferent on girl's education. Therefore, very few girls attended to schools in the sample. Of the total school going children, girls constitute only 39.54 percent.

The education levels of girl children are given in Table 5.17. Of the total school going girl children, higher proportion (about 51.4 percent) is at the primary stage, followed by 26.8 percent in the middle primary stage. Further, 15.9 percent school going girl children in the sample are studying at high school level. Only very few girls (5.8 percent) children are studying in higher secondary and above. Thus, data show that the number of school going girl children is decreasing in every increase in class level.

Table 5.17: Number of School Going Girl Children in the Sample

Tea Estates	Primary	Class V-VII	Class VIII-X	Class XI & above	Total
Bhooteachang	15	13	7	5	40
Hattigor	22	9	6	1	38
Big gardens	**37**	**22**	**13**	**6**	**78**
Brotherhood	21	9	4	2	36
Jwnglary	13	6	3	0	24
Small gardens	**34**	**15**	**7**	**2**	**60**
Total	71(51.4)	37(26.8)	22(15.9)	8(5.8)	138(100)

Source: Field Survey, 2011

Some of the important reasons for the low enrolment rate of female children in the schools in the sample are the lower attitudes of parents towards girl's education and more employment of women workers in plantation works by planters. During the survey interviews, many parents said that girls are meant to help in household works like cooking of food, fetching of water, collection of firewood, baby sitting etc. Further, they said that when all the elder members of the family go for work, girl children have to look into the household works and look after their young brother and sisters. Secondly, the tea industry employs mostly the women workers. Employment of large number of women workers including children in the industry is also a responsible factor for the negligence of girl's education among the tea labourers.

(e) Lack of Proper Atmosphere for Education

Educational backwardness in the sample areas has been a kind of circular phenomenon of low literacy. As stated earlier, the sample area has a very low literacy rate of 39.7 percent. Due to this mass illiteracy of the parents and a low rate of school development, the prevailing atmosphere is not at the desired level in educating their children. First, majority of parents themselves are indifferent to education of their children in general due to illiteracy and poverty. Secondly, the employment of both male and female adult members of the family also deprives the children of proper care. Owing to this uncongenial atmosphere at home and in the society, it becomes more difficult on the part of the children to make satisfactory progress in their studies. Moreover, the adult members of the family who are illiterate cannot give any guidance to the children in academic matters. Very few of them engage themselves in private tutors for their children. Moreover, the number of hours they study at home is very less.

(f) Suitability of School Courses

The suitability of school courses was also asked to the parents of school going children of the sample families. Responses are mixed. According to the field survey data, majority of family heads felt that the courses are not suitable for their children. The reason is that it is not relevant to the works they do. They showed the uncertainty of their children's education. They said that, if their children are not able to complete the courses, they will be not able to adjust with the garden works. They feel that work experience along with formal education will help their children better in making future carrier. But few family heads expressed the suitability of school courses to the garden schools. The reasons as cited by them are (i) children showed better behaviour, (ii) accepted by other people of higher stratum, (iii) they can manage their household works in a better way and (iv) education provided better avenues of employment. Though a good number of persons are not aware of the suitability of school courses to their children, yet large number of them expressed their satisfaction over the existing courses.

(g) Impact of Alcoholism

The extent of consumption of alcohol among the sample tea plantation labourers is very high. The habit of alcoholism is deep rooted among them. This is due to the fact that in the absence of proper mental and emotional outlet and seclusion from the active social life, they turn to escape the drudgery of existence by the flight to alcoholism. Alcoholism may not have negative effect on children's education directly yet it has its adverse effect on the economic and social life, and health and hygienic conditions of the labour families.

Table 5.18 shows the information on alcoholic families and their school going children. Out of 241 sample households, more than half of them (57.3 percent) consume alcohol. In those alcoholic families, there are altogether 281 children of school going age of whom 64.8 percent attend school and 35.2 percent are out of schools. On the other hand, about 42.7 percent sample households are non-alcoholic. In these non-alcoholic families, there are altogether 244 children of school going age of whom 68.4 percent attend to schools and 31.6 percent are out of schools. Thus, higher percentage (35.2%) of drop-out children is observed in alcoholic families than in non-alcoholic families. On the other hand, non-alcoholic families have higher proportion (68.4%) of school going children than

in alcoholic families. This shows that children of alcoholic families are more likely to be deprived of education than non-alcoholic families.

Table 5.18: Children's Education in relation to Alcoholism of Family Head

Family Types	Total HH	School Going	Drop-out	Total
Alcohol family	138(57.3)	182(64.8)	99(35.2)	281(53.5)
Non-alcoholic family	103(42.7)	167(68.4)	77(31.6)	244(46.4)
Total	**241 (100)**	**349 (66.4)**	**176 (33.5)**	**525**

Source: Field Survey, 2011

Note: Figures in brackets are percentage of total children

5.5.2 Economic Factors

In this sub-section, possible economic factors affecting children's education among the sample tea plantation workers are examined. Due to data constraints, only two factors, namely, income and occupation of the families are examined. These two factors are inter-related to each other. In general, better the occupation of the head of the family, the higher will be their earning capacity. Workers with better occupations are more prone to earning higher amount of income and as a result children will have better and more access to good education. Moreover, parents with higher income groups are more prone to educating their children with better and higher education.

(a) Economic Condition of the Family

The economic condition of a family is generally measured by the income level, i.e., higher the income, higher the economic condition and vice-versa.

Table 5.19 shows the classification of sample workers into three income groups. In our classification, the highest number of households (77.2%) is under the middle income group, earning between Rs. 30, 000 to 70,000 per year. The lowest number of households (10 percent) is the lower income group, earning below Rs. 30,000 per year. About 12.7 percent families are in the high income group.

Table 5.19 also shows that, higher income level and number of school going children are not positively related. That is, income is not the sole determining factor on giving education to children. Workers of all income groups send their children to schools. Moreover, families with higher income group have recorded less proportion (46.5%) of school going children as compared to middle (77.2%) and lower income (63.3%) groups.

Although drop-out is a common phenomenon in all income groups, interestingly the highest proportion of drop-out children (53.8%) is in the high income group families. This finding invalidates the general assumption that higher income families send more children to schools than low or lower income group families.

Table 5.19: Education of Children in Relation to total Annual Income of the Family

Annual Income Level (Rs.)	No. of HH	School Going Children	Drop-out Children	Total
Lower Income Group (upto 30,000)	24(10.0)	19(63.3)	11(36.6)	30
Milddle Income Group (30,000- 70,000)	186(77.2)	270(73.7)	96(26.2)	366
High Income Group (70,000 and above)	31(12.7)	60(46.5)	69(53.8)	129
Total	**241**	**349(66.4)**	**176(33.5)**	**525**

Source: Field Survey, 2011 χ^2=31.89 df =2

Note: Figures in brackets are perentage of total HH

By the chi-square test, we examine the assumption that higher the income of the family more is the number of children attending schools. The calculated chi-square value (31.89) is more than table value (5.99) with 2 degrees of freedom at 5 percent significance level. Hence, the result is statistically significant. That is, on average, parents' income level affects on children's education. In other words, the test shows that on average, the higher the income level of the family, more children are likely to get more and better education. But the simple correlation coefficient between the household income level and number of school going children is found to be 0.37 which is positive but low. Thus, although the association between these two variables in the sample area is statistically significant and positive, its correlation is not so strong.

This finding clearly shows that some families with higher income are also reluctant to send their children to schools. These families, instead of sending their children to school, send them to work and earn more money. Many parents have reported to be able to bear the expenses of educating their children but intentionally they are not sending their children to school.

(b) Occupation of the Family Head

The occupation of the head of the family may also be considered as an important economic factor which affects the education of the children. It is generally assumed that the children

with better occupation of heads of the families are more prone to receiving more and better education. Since parents of better occupations are more likely to receive higher income, they can afford to send children to better schools. To examine this aspect, we have classified all the sample workers according to their occupations. Information is given in Table 5.20.

There are many types of workers in the sample tea gardens. Some of them are labourers who work in factory and field, office bearers, managers (general manager, field managers, and factory managers), teachers, technician, sardars (linemen), drivers, gatemen and security guards, etc. In the combined sample, out of 299 students, fathers of highest number of school going children (47.5 percent) are labourers followed by 26.4 percent of office staff, 16.1 percent of sardars and drivers, 5 percent each engaged in agricultural labour works and small businessman.

In terms of occupations, officers are at the higher positions compared to other types of workers. The highest number of students studying at the secondary and college levels (about 22 students) is from officer families. While children of other occupations are almost decreasing in number while moving from the lower class to higher class, children from officer families are almost remaining the same in number. Of the office staff, 21 children are in primary stage, 16 are in middle primary stage and 20 are in high school. As many as 22 students are studying in colleges. This clearly shows that, heads of the families with better work positions are more likely to send their children in schools of higher levels. Further, children of this group of population have better and more access to education in the sample. Almost all the children of the office bearers send their children to private English medium schools.

Among labourer families, maximum children are studying in primary schools. The enrolment number of children's of labourer decreases as their class increases. The children of sardars and drivers also have received better and more education as compared to labourers. Further there are also some families whose mothers are engaged in garden works and fathers are working as agricultural workers. The school going children of agricultural fathers constitute about 5 percent. Very few labourers are engaged in business among the tea gardens workers. Out of total school going children, only 15 children belong to small businessmen's children. One sad thing is that in each occupation category in the combined sample, at least some children are found who are out-of-schools, the largest number being

in the labourer families. Even in the officer category, 13 children were out-of-schools for various reasons.

Table 5.20. Children's Education in relation to the Occupation of Family Head

			Educational status of Children					
Occupations	Total Labour	Total Children	Primary	Class V-VII	Class VIII-X	Secondary	School Going	Out-of-School
Labour	156	318	64	47	26	5	142(47.5)	176(77.9)
Office Staffs	33	92	21	16	20	22	79(26.4)	13(5.8)
Sardars & drivers	22	57	20	11	12	5	48(16.1)	9(4.0)
Agriculture	19	37	0	6	7	2	15(5.0)	22(9.7)
Business	11	21	6	5	3	1	15(5.0)	6(2.7)
Total	241	525	111	85	68	35	299(100)	226(100)

Note: Office staff includes office bearers, technicians, manager's cook,etc.

5.5.3 Institutional Factors

Institutional arrangements and policies can play an important role in the educational development of a society or country. Some of the institutional factors which are responsible for low and slow educational development in the sample garden areas include (a) lack of encouragement from the garden authorities, (b) indifferent attitude of the state authorities, (c) lack of strong workers' union and (d) indifferent attitude of worker community themselves.

Those points have already been discussed in section 2.6 of chapter 2 in the overall educational backwardness of tea garden areas in Assam. These problems are also found in the sample tea gardens. During our field surveys, to know the attitudes of planters on education for workers and their children, the managers of concerned gardens were asked whether they encourage the workers' children and if yes how do they encourage them. Managers of sample gardens replied that they do encourage education by giving rewards to the children and tell their parents to send their children to schools. On the other hand, the students and the parents replied that, there is lack of encouragement of education from the garden authorities. The garden authorities maintain an indifferent attitude to education of the labourers' children. In their opinions, planters seem to be interested in the culture and marketing of tea. Although schools are there, these are still limited to the primary level only. Schools still suffer from the shortage of required class rooms, qualified teachers,

basic amenities and infrastructure. This is partly due to the illiteracy of labour community and partly the negligence of the garden authority towards education.

The blame also goes to the state government authorities for low education development in the sample garden areas. The responsibility of education of the labourers was always left to the planters alone by the state authority. No proper effort has been taken by the concerned government on the improvement of their education. Further, they have not taken any step to establish schools specially schools beyond primary stage in the gardens though many schools have been established in other parts of the state.

To enquire about the state's involvement in the development of education in sample gardens, questions were asked to the head masters of garden schools. According to them, there has been no proper effort by the government officials to inspect garden schools and to check the large scale wastage in children education. Hardly, concerned government officials have visited to garden schools to inspect the facilities provided by the garden authorities to gardens schools. The government officials also have barely imposed the garden authorities to provide infrastructure in garden schools. Therefore, the garden authorities are escaping from providing such facilities though there is written legislation to provide such amenities. The provision of awarding scholarships and any other financial assistance to the children of the tea garden labourers is too limited. Liberal scholarships are not provided to them as in the case of other backward communities.

According to the offices of sample garden authorities, out of total 349 schools going children, only 5 students have received scholarships from the Tea Board of India, 14 students who belong to SC/ST received post-metric scholarship from the state government. Out of four sample gardens, only one garden said that they provide scholarship to school going children.

5.6 Summary

This chapter examined the availability and accessibility of education by children of tea garden workers using the field survey data of four sample gardens in Udalguri district of Assam.

Some of the main findings of this chapter are given below: (a) The state of education among the tea workers in the sample gardens is very poor both qualitatively and quantitatively. Still about 60% of sample population are illiterates. This might be partly

due to the negligence of garden authority and the concerned state departments, and partly due to the indifferent attitude of working community to education. (b) Available schools are limited to the primary level only in the sample gardens. Schools beyond primary level are not found in all the sample gardens. Children who wish to continue their studies beyond primary level have to go to outside schools which are located at nearby towns. These towns are far from the sample gardens and therefore, children who wish to go for further studies have to face many problems. Existing schools suffer from various problems like lack of qualified teachers, shortage of class rooms, etc. (c) The extent of wastage and stagnation among school children in sample gardens has been very high. School drop-out students were found almost in both families of literate and illiterate parents and in all occupations. However, drop-out number was higher among the illiterate parents than in literate families. (d) The power of accessibility of education among the sample workers is not equally distributed. The highest number of students studying at the college level (about 22 students) is from officer families. While children of other occupations are almost decreasing in number while moving from the lower class to higher class, children from officer families are almost remaining the same in number. Among labourer families, maximum children are studying in primary schools. One sad thing is that in each occupation category in the combined sample, at least some children are found who are out-of-schools, the largest number being in the labourer families. (e) On average, the parents' education level has been found to have direct and positive impact on their children's education. Therefore, the parents who are literate and educated are sending more children to schools and receiving better education compared to those of illiterate parents. (f) The extent of consumption of alcohol is found to be high among the tea labourers. Though alcoholism does not have any direct impact on the education of the school going children yet it has adverse effects on the economic, social condition and health aspects of the labourers. Thus, higher percentage (35.2%) of drop-out children was observed in alcoholic families than in non-alcoholic families. On the other hand, non-alcoholic families have higher proportion (68.4%) of school going children than in alcoholic families. This shows that children of alcoholic families are more likely to be deprived of education than non-alcoholic families. (g) Education of girl children is very much neglected among the tea garden labourers. It was observed that at all levels of schooling, number of girl students has been lower than number of boy students in every garden. Moreover, the number of

school going girls goes on falling at every higher class of education. This is due to the lack of proper appreciation of the value of girls' education. (h) The main source of income of majority of sample families is the wage income from garden works. The statistical testing shows that, on average, parents' income level affects children's education positively, i.e., the higher the income level of the family, more children are likely to get more and better education. But the simple correlation coefficient between the household income level and number of school going children is found to be very low. Some families with higher income were also reluctant to send their children to schools.

In the next chapter, we proceed to examine the influences of education on employment, earning, saving and investment.

Chapter 6

Influences of Education on Earning, Saving and Investment

6.1 Introduction

In the previous chapter, we have examined the extent of provision, utilisation and benefits of educational facilities among the sample tea plantation workers in Udalguri district of Assam. The study found that majority of sample population is still illiterate. Due to vast illiteracy, they are still underdeveloped socially, economically and politically. Therefore, in this chapter, an attempt is made to examine how this low literacy level is influencing the employment, earning, saving and investment behaviour of tea plantation workers in the sample. Thus, the primary objective of this chapter is to examine the influences of education on the employment, earning, saving and investment behaviour of sample workers.

Accordingly, the entire chapter has been divided into eight sections. The review of literature, both empirical and theoretical, is given in section 6.2. Occupation profile along with education of the sample workers is discussed briefly in section 6.3. Section 6.4 examines how the educational attainment of an individual worker affects their earning capacity. In section 6.5, impact of education on saving among sample workers is analysed. Section 6.6 examines the impact of education on investment. Section 6.7 is on the description of modeling econometrically the impact of education on earning, saving and investment. Section 6.8 gives discussion on the estimated results. Finally, the last section gives the summary of the chapter. In the analysis of primary data, the present study includes all the work forces, permanent, temporary and casual, between age group of 15 and above years.

6.2 Review of Literature: Theoretical and Empirical

A large number studies is available on the impact of education on various social and economic variables. The present section gives a brief review mainly with respect to education impact on employment position, earning capacity, saving and investment.

(a) Linkage of Education to Income and Employment

Theoretical Studies: There are many economic theories which link education impact to income and employment generation. Diverse theoretical frameworks ranging from Marxist to neo-classical recognised the importance of education and skills of individual workers. One such popular theory is the human capital development theory. The term 'human capital' includes broadly aspects like educational qualification, skills, intelligence, literacy, capacity etc. of labour or worker. Human capital development theory states that investment in the human capital can lead to greater economic outputs in the country. Sir William Petty (1662) and Adam Smith (1776) are regarded as the primary cultivators of human capital theory. Petty examined the value of labour and the role of the state in the economy. Adam Smith, in his series of books entitled, 'The Wealth of Nations', discussed his theory of human capital with the prosperity or wealth of a nation. Smith is of the view that the main cause of prosperity is increasing the division of labour by enhancing the efficiency and productivity of labour. Therefore, Smith is widely regarded as one of the first economists to make a connection between the skill or education of the worker and higher wage levels. One explanation was given by J. M. Keynes. According to Keynes (1936), method for increasing employment opportunities in the country is indicated through the increase in aggregate demand, excess capacity of plants, increasing technical knowledge and investment in infrastructure. Hence, it is believed that employment opportunities with better remuneration tend to increase with rising educational level and productive efficiency. Hence, there is the need of educational development in the country.

During 1960s, the human capital theory resurged primarily through the works of two American economists, viz., Theodore Schultz and Gary Becker. During this time, many economists began making tangible connections between education and its impact on the ability of humans to earn higher wages. Schulz (1958) in, his paper 'The Emerging Economic Scene and Its Relation to High School Education', first wrote about the connections between education and productivity, and identified people as the source of the economic growth when other economists were attributing national growth to improvements in technology. Schultz argued that traditional economics did not correctly calculate or consider the value of human knowledge and skills. Therefore, Schultz considers all human abilities to be either innate or acquired. Every person is born with a particular set of genes, which determines his innate ability. Attributes of acquired population quality, which are

valuable and can be augmented by appropriate investment, will be treated as human capital. Once the human capital is enhanced through education or other forms of investment, workers' earning/productivity tends to increase and hence the national output.

According to the human capital theory propounded by Becker (1964), the tangible forms of capital are not the only type of capital. Schooling, a computer training course, expenditures on medical care, and lectures on the virtues of punctuality and honesty are also capital assets. That is, because they raise earnings, improve health, or add to a person's good habits over much of his lifetime. Therefore, expenditures on education training, medical care, and so on are investments in human capital. They are called human capital because people cannot be separated from their knowledge, skills, health, or values in the way they can be separated from their financial and physical assets. Thus, investment in human capital increases the income and employment opportunities.

Mincer propounded the human capital earnings function model in 1974. According to his model, individual employment (earnings) can be a function of number of years in education or training and the number of years of experience the individual has. It means that the more of individual's educational qualification, the individual is more likely to get in better employment and earnings.

Empirical Studies: There are several empirical studies in the literature which proved that there is casual effect of education on income and employment. Studies of Cohn and Addison (1997) have confirmed that better educated individuals earn higher wages, experience less unemployment and wok in more prestigious occupations than their less educated counterparts. Becker (1964) had similarly concluded that there is correlation between schooling and earnings significantly. Study of Debeauvais (1974) found that the value added to the educated workers is double than that of the uneducated workers. Similarly, Bowen (1964) finds that the skilled workers generate relatively higher amount of income as compared to unskilled workers in different economic sectors. Further, according to Myrdral (1968) the demand for education increases because it gives a chance to increase the private income.

Studies of Blaug and Duncan, (1967), Duncan et al (1972), Featherman and Carter (1976) and Bowlby and Schriver (1970), have found that workers with higher level of education have very high chances of gaining better and higher paid jobs than their less educated counterparts. Their studies showed that education has direct and positive effect

on occupational mobility of labour force and labour force participation. According to them, the mental ability is a main source of variation in occupational achievement. An imbalance in the state of knowledge is the main determinant factor of job variation in the labour market. They further found that individuals who have completed the equivalent degrees and college graduate have more probability of gaining more prestigious and full time jobs than individuals with high school graduates. Therefore, their studies found that formal education increases the occupational mobility at sub-professional levels but reduces mobility among more educated groups by facilitating entry into professional, technical, and managerial occupations.

Studies like Blossfeld (1986), Carroll and Mayer (1986) and Hannan et. al. (1990) confirmed that there is strong effect of formal education on occupational achievement and their earnings. Their studies concluded that the effect of education on the upward mobility of occupation seems to increase when period and life course effects are taken into consideration. In addition, their analyses demonstrated that with certain exception, higher education yields the modest wage increases and increased occupational prestige. The study further showed that workers with more education are also more likely to improve the occupational category of their jobs. Therefore, in general the additional schooling benefits workers' occupational attainment though there are limitations to these benefits.

According to Harmon et.al. (2003), despite some of the subtleties in estimation of impact of education on earning, there is still unambiguously positive effect on the earnings of an individual from participation in education. Moreover, they found that the size of the effect seems large relative to the returns on other investment. High internal rate of return to education relative to those of other investment alternatives signal the relative profitability of investment in education. Card (2000) and Cameron and Taber (2004) estimated the returns to schooling and found that higher level of schooling is associated with higher rate of return. Buchinsky and Leslie (2000) also found that educational attainment led to upward moving of occupations, and hence higher wages. According to Psacharopoulos and Patrinos (2004), the overall returns to educational qualifications at each stage of the educational process remain sizeable and significant. Blundell et.al (2004) also found that, on an average, about 27 percent return for those completing some form of higher education as compared to lesser education. Further, according to Goldberg and Smith (2008), individuals accumulate human capital through investments in schooling and training to

earn more income as there is positive effect of education on earning. They further found that, higher schooling led to higher earnings of individual. Therefore, human capital represents the most valuable asset held by most individuals.

(b) Linkage of Education to Saving and Investment

In general, saving is determined mainly by two forces of the capacity to save and willingness to save. But the education level of workers is one of the important factors which also can affect the amount and rates of saving and investment in the economy. This is also related to the human capital development theory. Higher the level of education (mainly the financial literacy) of a worker, more the ideas on saving schemes leading to higher saving and investment. That is, education level changes the nature and sources of income and hence encourages saving behaviour of individual.

According to the standard macroeconomic theories, saving is linked with the demand for money. Keynes' theory of demand for money, i.e., speculative motive for money, is specially linked with saving. This theory states that speculative motive of the people (demand for money) relates to the desire to hold one's resources in liquid form in order to take advantage of market movements regarding the future changes in the rate of interest. When market rate of interest increases, demand for money decreases vice versa. The post-Keynesian economists like Friedman also states that demand for money is inversely proportional to market rate on interest which simply means that people do saving when there is high market rate of interest. Moreover, demand for money also positively relates to inflation rate in economy this means that people generally have strong preference on saving when low inflation prevails in the economy vice versa.

There are also lots of theoretical and empirical works relating the linkage of education level to saving and investment. Arrow (1962), in his seminal paper 'learning by doing' showed how the productivity of labour increases with experience which could be obtained through investment on research works. He proved that developed countries had special investment on research works which enabled them to gain new technologies which in turn led the economy to higher level of economic growth. During the mid-1980s, among several economists, Paul Romer (1986) and Robert Lucas (1988) put forward strong supporting theories of investment in human capital accumulation. Due to their theories, expenditures incurred on children education cannot be considered as expenditure. It is a

kind of present expenditure but it helps in developing knowledge for future earnings. Most of the parents feel the need of investment on their children's education and this investment is characterised by return which is to be reaped in future.

A study by Issahaku (2011) to estimate the determinants of financial saving and investment in one of the most deprived districts in Ghana shows that there is a positive and significant relationship between education of the head of the household and their saving. He concluded that people with higher level of education have the better understanding/awareness and appreciation of the benefits of saving and investment and have a propensity to save and invest more than their lower-educated counterparts. Further, Almar and Richard (1998) also found that education is anticipated to have a positive impact on saving mainly because of increased awareness that occurs with higher educational levels. The study by Collin (1991), which examined the saving behaviour of nine Asian developing countries, also identified education as one of the main determinants of saving and investment. According to his study, household head with higher level of education is associated with better occupation and higher income. Therefore, household's head with higher level of education has higher ability to save and invest. Sharma (1986) also examined the linkage between education, income and saving. According to him, the level of income is directly influenced by the level of education. The saving-income ratio has also been influenced by the level of education. According to his study, about 4 per cent of households headed by illiterates found it difficult to make both ends meet with their income and they live beyond their means. About 62 per cent of households headed by people with education upto primary education have saving-income ratio of 0.14. Further, households headed by degree level education get higher average income and save 32 percent of their income and household heads with professional qualification have the highest saving-income ratio at 0.53. Thus, it is found that the rising level of saving-income ratio is directly influenced by the rising level of education.

Studies by Unny (2012) and Kibet et.al (2009) examined the factors influencing saving behaviour of households. The study of Unny (2012) was based on primary data collected from one hundred households, selected from three villages in the three regions of Kerala. The study found that in spite of low per capita income, the propensity to save in the rural households is very high in Kerala. Level of income, income inequalities, value of assets and level of education of the head of the household positively influence savings

whereas the variables like the number of male children, number of non-earners and dependency ratio have negative influence on saving. Among the occupational groups, households engaged in non-farm sector have higher propensity to save. Kibet et.al. (2009) attempted to investigate the factors that influence the saving among households of teachers, entrepreneurs and farmers in rural parts of Nakuru district of Kenya. The sample composed of 359 households (consisting of teachers, entrepreneurs and farmers), data of which were selected through multistage sampling technique from seven rural administrative divisions of the district. The study adopted the least squares method to examine the factors that affect the saving among the sample members. The study found that household saving is determined by the type of occupation, household income, age and gender of household head, level of education, dependency ratio, service charge, transport costs and credit access. The saving responses to these variables are of mixed nature.

Aktas et.al. (2010) studied the structural determinants of household savings of Turkey. The estimated results verified that education has a positive but limited effect on saving rates when the influence of income is controlled. It was found that the education level of the household head and the average education level of the individuals in the household have similar effects on the saving rates. Even though these effects are smaller in comparison to other variables, they are surprisingly consistent across years, both in terms of magnitude and significance. A similar study by Ambrose (2012) also examined the determinants of rural household savings in Kisumu district of Kenya. The results showed that income is the most significant determinant of saving. Other significant determinants include dependency ratio, age and education. Therefore, the study suggested that the informal savings and credit groupings are to be strengthened through some forms of education and credit assistance, so that they can be able to undertake productive economic activities.

Solmon (1975) made an attempt to determine the relationship between education and savings behaviour. The results showed that both average and marginal propensities to save tend to rise with the schooling attainment of the family head, other things being equal. It is further found that the growth in savings resulting from higher educational attainment contributed to the growth of the income and wealth of the society. Thus, he was able to infer some additional private benefits of schooling in regard to an apparently greater efficiency in portfolio management, and possibly some social benefits as well.

6.3 Education and Occupational Distribution of Sample Workers

Tea industry requires a wide range of workers from field workers to managerial level for smooth functioning of the industry. Therefore, industry provides a wide range of job opportunities from tea leaf plucking to processing and field work to managerial level.

Along with the average annual income by occupation groups, the work-wise classification of sample workers is given in Table 6.1. Out of 512 sample workers, majority (75 percent of total workers) is in the category of manual workers. The remaining 25 percent are engaged as officers, clerks, artisans, small business, teachers, medical assistants and agricultural works. Manual works consist of green tea leaf plucking and other field works. Workers engaged in tea leaf plucking and other manual works, by virtue of their job nature, need not have high level of education. However, officers, drivers, nurses, trainers, electricians and managers need to have education starting from basic education to higher education level along with skills (here training) depending on the level of job. Hence, it is practically observed that tea puckers are mostly illiterate or having basic level education like primary or a little above. Trainers, teachers and nurses, doctors and managers are found to have higher level of education.

In the sample area, among the non-manual workers, number of workers in each category of work is very less. For example, 3.5 percent workers are engaged as clerical staff, 2.5 percent as officers, 2.3 percent as artisans, 2.5 percent as sardars and 2.2 percent as drivers. Further, very few sample workers are engaged in teaching and medical departments. Besides, there are also some workers who are not engaged in the tea garden works but they are engaging themselves in other activities which are classified under the agricultural workers (7.2 percent) and petty business men. About 2.9 percent sample workforces are engaged in petty businesses such as kirana shops, vegetable shops, tailoring, parlour, etc.

While the absolute number of workers in the category of medical assistants is the lowest (only 2) followed by teachers, their average annual income is the highest among all workers. Excluding agricultural workers, manual workers get the lowest average annual income (Rs. 22308 per year) among all workers.

Findings from many empirical studies have confirmed that with rising educational levels and skills, workers' productive efficiency of employment opportunities with better remuneration tends to increase. Our sample data also support this statement that workers

with higher level of education are engaged in better paid works than the less educated workers. Classification of sample workers according to their educational levels is given in Table 6.2. Out of sample workforce, 310 workers (60.5 percent) are illiterate in the combined sample and majority of them (282 illiterate workers) are engaged in the manual works. The main duties of these manual workers are working in the field as tea leaf plucking, cleaning bushes, spraying fertilizers and pesticides, watering, gardening, packing, cleaning the factory rooms or machines etc. Some manual workers have education upto high school.

Table 6.1: Distribution of Sample Workers and Average Annual Income (Rs./year)

Nature of Work	Total Workers	% of total workers	Average annual income
Agricultural Workers	37	7.2	18000
Manual Workers	384	75.0	22308
Sardars	13	2.5	32639
Clerks	18	3.5	35244
Drivers	11	2.2	39824
Small Business	15	2.9	42867
Artisans	12	2.3	49833
Office Staff	13	2.5	52675
Teachers	7	1.4	54943
Medical Assistants	2	0.4	84000
Total	512	**100**	25796

Source: Author's Calculation from Field Survey Data, 2011

On the higher education side, almost all workers with secondary and graduate education are engaged in better and higher paid jobs as compared to other sample workers. There are total 17 workers who have education till higher secondary and above. Among them, 5 workers are engaged as office staff, 3 persons as artisans, 4 persons as teacher and one person as medical assistant. Workers with high school degree are engaged in office staff, office clerk, sardars, drivers, artisans, teaching and medical assistants. Around 9 workers are engaged as artisans, 8 persons in office staff and 6 persons as petty businessmen. Further, 3 persons having high school degrees are also engaged in teaching job.

This occupational classification data table shows that higher education qualification is necessary to get a better paid job even in tea garden areas where majority of workers are illiterates. It is clear that education is very important factor which influences in attainment of better employment positions. Higher educated sample workers are engaged in better

occupations than workers with little or less education. All the workers with higher secondary and graduate education are engaged in better job positions such as office staff, teachers, artisans, medical assistants etc. rather than in manual works. Moreover, working conditions of these occupations in the gardens are generally far better than the manual working conditions. Thus, employment opportunities in general are higher to individuals with higher level of education compared persons with lower level of education.

Table: 6.2: Occupations of Sample Workers by their Level of Education

	Level of Education of the Sample Workers				
Nature of Work	Illiterate	Primary School	Middle School	High School	Secondary & above
Manual workers	282	20	58	24	…
Agricultural workers	23	4	7	3	…
Small business	3	…	3	6	3
Office staff	…	…	…	8	5
Clerks	…	3	9	6	…
Sardars	…	5	4	4	…
Drivers	2	2	5	1	1
Artisans	…	…	…	9	3
Medical assistants	…	…	…	1	1
Teachers	…	…	…	3	4
Total	**310(60.5)**	**34(6.6)**	**86(16.8)**	**65(12.7)**	**17(3.3)**

Source: Author's Calculation from Field Survey Data, 2011

6.4 Education Level and Earning of Sample Workers

Each level of education is believed to add to the productive skills, thus, enhancing income earning potential. It is now universally known and several empirical studies have confirmed that the earnings of individuals are positively related with their educational level attainment. Though education is not the only factor which affects the earning of an individual worker it is still one of the most important factors. There are many other factors which affect the extra earning capacity of individual such as the work based training, vocational training, social standing, etc. In any case, advantages in earning is of higher extent at higher level of education than at lower level of education, and the favourable differentials of earnings continue until the retirement age. Thus, besides education, the age also acts as a proxy variable for amount of work experiences acquired and learning by doing, although with diminishing effectiveness as time passes (Sen, 1966). The better

educated mostly start with higher earnings presumably because of larger investment in education and higher productive efficiency (Blaug, 1965).

Table 6.3 shows the average earning with different levels of education among the sample workers. It shows that workers with higher level of education have higher average earnings. The average earning of an illiterate worker in the sample is Rs. 22252 in a year. It is observed that an additional level of education increases the earning capacity of workers. A steep rise of earnings is visible among the workers with higher secondary onwards. The total average earning of workers with higher secondary level of education is Rs. 63177 annually and graduate level is Rs. 85545 annually. Thus, the average earning of a worker with graduate degree is higher by about 284% compared to an illiterate worker. There is about Rs. 22368 increment of average earning among the graduate level of education from the higher secondary level.

Table 6.3: Average Earning of Sample Workers by Education Level (Rs./year)

Level of Education	Average Earning	Earning Diffentials
Illiterate	22252	…
Primary School	23280	1028
Middle School	25272	1992
High School	33661	8389
Higher Secondary	63177	29516
Graduate and above	85545	22368

Notes: Standard deviation = 26207.6, mean of earning = 42197 and, coefficient of variation =62% and correlation coefficient = 0.72

Source: Author's Calculation from Field Survey Data, 2011

In order to find out correlation of coefficient between the levels of education and respective average earnings, the first variable is scaled in terms of the absolute year of level of education. The simple correlation coefficient between the levels of education and respective average earnings is 0.72 which is positive and very high. That is, both variables are highly and positively correlated. However, the coefficient of variation of average earnings has been very high (62%) which implies that income variation or fluctuation from one level to another level of education has been very high among the sample workers.

6.5 Education and Saving Behaviour of Sample Households

To examine the saving behaviour of sample households, entire sample households are distributed into two categories - (a) households with saving and (b) households without saving. About half of the total sample households have recorded to saving account and do have some forms of financial saving (Table 6.4).

Table 6.4: Distribution of Sample Households by Financial Saving

Gardens	HH with Saving	Percentage	HH without Saving	Percentage
Bhooteachang	40	66.7	20	33.3
Hattigor	41	67.2	20	31.8
Big gardens	**81**	**66.9**	**40**	**33.1**
Brotherhood	20	33.3	40	66.7
Jwnglary	19	31.7	41	68.3
Small gardens	**39**	**32.5**	**81**	**67.5**
Total	120	49.8	121	50.2

Source: Author's Calculation from Field Survey Data, 2011

Higher number of sample households (66.9%) in big tea gardens recorded to have saving habit compared to those in small gardens (32.5%). This may be due to the fact that many workers in big gardens are permanent and get regular monthly income, out of which workers can save some portion of their earnings. But in small gardens, majority of workers are temporary and do not get regular monthly income and hence cannot save regularly. For example, out of 60 sample households in Bhooteachang tea estate, 66.7 percent save their incomes. On the other hand, out of 60 sample households, only 33.3 percent in Brotherhood garden save their income.

Table 6.5: Different Forms of Saving among Sample Households

	Bhooteachang		Hattigor		Brotherhood		Jwnglary		Total	
Forms of Saving	HH	%	HH	%	HH	%	HH	%	HH	%
LIC	40	66.6	36	59.0	3	5	8	13.3	87	36.1
SBI	7	11.7	6	9.8	18	30	13	21.7	44	18.3
Other Banks	4	6.7	2	3.3	…	…	…	…	6	2.5
LIC+SBI	8	13.3	3	4.9	2	3.3	1	1.7	14	5.8
LIC+Other Banks	4	6.7	…	…	…	…	…	…	4	1.7

Source: Calculated by Author from Field Survey Data, 2011

Different forms of saving of sample households are shown in Table 6.5. Majority of sample households (about 36%) are saving in LIC followed by State Bank of India (18.3%) and other banks. There are about 2.5 percent sample households who save in other banks such as co-operative, UCO, Gramin bank and post office etc. There are also households who save in both LIC and SBI. Further, some households save their income in many forms such as LIC, Other bank and SBI etc.

Table 6.6: Educational Status of Sample Respondents and their Saving

Level of Education	Total HH	HH with Saving		Average Earning	Average Saving	Saving/Earning Ratio
		Total	Percentage			
Illiterate	140	46	32.9	32159	4509	0.14
Primary School	9	5	55.6	35154	4350	0.12
Middle School	48	31	64.6	41154	5480	0.13
High School	36	29	80.6	47154	8820	0.19
Class XI-XII	6	6	100	68652	18800	0.27
BA and Above	2	2	100	72390	28000	0.39

Note: Here data calculations pertain only to those households who do saving
Source: Calculated by Author from Field Survey Data, 2011

One of the important determinants of saving is the income. It is generally observed that higher level of education is associated with better occupation, higher income and hence higher saving. Therefore, it is obvious that more educated heads of households have more ability to save as compared to less educated households. Many empirical studies also have confirmed this observation. To examine the impact of education on saving behaviour of sample households, the level of education is classified under different categories. The relationship between education levels and saving of the households is given in Table 6.6. The survey data show that there is a positive relationship between saving and level of education of the heads of the households. Household head with no formal education and primary education have lower average savings. The average earning of illiterate heads of the households is Rs. 32159 and the average saving of these households is Rs.4509 in a year. On the other hand, the average earning of heads of the households with graduate and above educational qualification has very high earning of Rs.72390 and average saving of Rs. 28000 in a year. The calculated saving-earning ratio has been rising as we move up from the illiterate heads of households to graduate and above level of education (from 0.14 to 0.39). Thus, it is clear that higher level of education encourages/enables occupying

better jobs and earning higher income and as a result leading to more ability to save. The calculated correlation coefficient between the average earning and average saving of sample households is very high (0.96).

6.6 Education Level and Investment Behaviour of Sample Households

Households' disposable income comprises consumption expenditure, private investments and private savings. Here, expenditures on children's education and on income generating activities at home or locality are treated as private investments of sample households. Table 6.7 shows the number of sample households with and without investments. Majority of sample households (76.35 percent) have some amount of investment, i.e., households invest either in children's education or other income generating activities. The garden-wise distribution shows that the number of households investing is higher than non-investing in each garden. Moreover, on average, the percentage of households investing is slightly higher in big gardens than in small gardens. Individually, the highest number of sample household workers with investment is in the Brotherhood tea estate (83.3 percent) followed by Hattigor tea estate (78.7 percent) and Bhooteachang tea estate (75 percent). On the other hand, Jwnglary tea estate has the least number of households with investment among sample gardens.

Table 6.7: Distribution of Sample Households with Investment

Names of the	HH with Investment		HH without Investment	
Gardens	Total HH	%	Total HH	%
Bhooteachang	45	75.0	15	25.0
Hattigor	48	78.7	13	21.3
Big gardens	**93**	**76.9**	**28**	**23.1**
Brotherhood	50	83.3	10	16.7
Jwnglary	41	68.3	19	31.7
Small gardens	**91**	**75.8**	**29**	**24.2**
Total	184	76.4	57	23.7

Note: Expenditures on children's education and income generating activities are treated as investments here

Source: Author's Calculation from Field Survey Data, 2011

With many efforts of concerned authorities, the importance of education has been spreading among the working community of sample areas. The working community also

has realised the importance of education in their daily life as well as professional life. Therefore, investment in education of children has increased considerably. Table 6.8 indicates that about two-thirds (65.1 percent) of total sample households are investing on their children's education. On average, higher percentage of households in big gardens is investing in education than in small gardens. Among sample gardens, Hattigor tea estate has showed the highest percentage share of households investing in children education followed by Brotherhood and Bhooteachang.

Besides in children's education, many households (30.3 percent) also do invest in other income generated activities such as investing in livestock rearing, buying lands, etc. Rearing cows, bullocks, pigs, goat or sheep, poultry are very much common to the plantation workers because these are the main sources of subsidiary incomes for them[1]. But higher proportion of households is investing in education for children than in other income generating activities. In this case also, proportion of households in big gardens is higher than in small gardens, possibly due to more regular employment in big gardens.

Table 6.8: Forms of Investment among the Sample Households

	No. of households investing in		
Gardens	Education	other income generating activities	both education & other income generating activities
Bhooteachang	40(66.7)	21(35.0)	16(26.7)
Hattigor	44(72.1)	19(31.1)	14(23.0)
Big gardens	**84(69.4)**	**40(33.1)**	**30(24.8)**
Brotherhood	43(71.7)	15(25.0)	8(13.3)
Jwnglary	30(50.0)	18(30.0)	7(11.7)
Small gardens	**73(60.8)**	**33(27.5)**	**15(12.5)**
Total	157(65.1)	73(30.3)	45(18.7)

Note: Figures in brackets are percentages to total no. of households
Source: Author's Calculation from Field Survey Data, 2011

Further, there are some households, who invest simultaneously both in their children's education and other income generated activities also (Total 6.8). The number of households in this kind of investment is very less (18.7 percent) compared to other two kinds of investment found among sample households. The highest number of households

[1] The main reason behind the engaging themselves in other income generating activities is due to fact that working community in general in the tea garden areas receives less amount of wage or salary. Therefore, other income generating activities help them to increase family income further.

who did investments in both education and income generating activities are more in big tea estates than in small gardens.

Generally, the education level of the head of the household influences positively the investment behaviour of the household. That is, more educated the head of the household; it is more likely to have higher investment in education and other income generated activities, keeping other factors constant. In our survey data, it is observed that there is a positive relationship between investment and level of education of the head of the households (Table 6.9). Data show that the average investment in children's education and other income generating investment activities increases as the level of education goes up. Households with no formal education (i.e., illiterate) invest only Rs. 4646 per year and with primary education Rs. 4033 annually on an average. The average investment of sample households with higher secondary and above level is observed to be much higher than with no education and primary education. The same trend is observed in case of its components, i.e., investment in children's education and other subsidiary income generating activities of the sample workers. Thus, sample data show the positive relationship between education of the head of the household and investment amount. That is, more educated households invest more as compared to households with lower or no formal education. For workers with higher education, there is impressive difference in the amount of investment compared to workers with lower education or illiterates.

Table 6.9: Educational Status of Sample Respondents and their Investment (Rs./year)

Level of education	Average Investment in Education	Average Investment in Other Activities	Total Average Investment
Illiterate	4105	4382	4646
Primary School	3116	2750	4033
Middle School	5714	2473	6460
High School	6478	6604	7916
Class XI-XII	7333	12250	15500
BA and Above	9500	11600	21100

Source: Author's Calculation from Field Survey Data, 2011

In order check the statistical significance of investments on children's education and other subsidiary income generating activities, F-test was run on the sample data. The null hypothesis is set that there is no difference in average investment amount on education and other income generating activities across levels of education. The calculated value of F-

ratio is 10.27 which greater than table value (4.96) with degrees of freedom 1(in numerator) and 10 (in denominator) at 5 percent significance level. The result indicates that we have to reject the null hypothesis set. Therefore, it can be inferred that average investment amount on children's education and other income earning activities differ significantly across the levels of education.

6.7 Modelling the Influence of Education on Earning, Saving and Investment

In this section, we estimate econometrically the impact of education level on income (earning), saving and investment of sample workers. Each model was estimated for the total sample as well as for three income groups, i.e., low, middle and high income groups as per our classification. The basic objective is to examine econometrically, how the education variable influences the income, saving and investment of sample workers. All three models have been specified in the double log form because it is convenient to interpret in terms of percentage change. Moreover, the elasticity meanings can be obtained from the estimated slope coefficients.

The earning function: The earning function analysis uses the basic human capital earning function of Mincer (1974). According to the Mincer's model, the log of individual's earning (Y) in a given time period can be decomposed into the additive function of a linear education term and a quadratic experience term, i.e., $\log Y = a + bE + cO + dO^2 + U$ where, E represents the number of years of completed education, X represents the number of years an individual has worked since completing schooling, and e is a random disturbance term. However, data on the number of training years of sample workers was difficult to get and employees/workers were also ambiguous on years of their working experience after completing their formal education. Moreover, majority of sample workers were illiterates. Therefore, we have ignored the experience variable for the present study and included occupation as the second variable.

Following Mincer's (1974) model, we estimated the earning or income function. In estimating the earning function, we have included only two independent variables, i.e, education level and occupation of the sample worker. For estimation purpose, we have scaled both the independent variables. The level of education of worker is quantified into the scale ranging from 1 to 15 (scale 1 for illiterate and class 1, 2 for class 2, 3 for class 3, 4 for class 4, ...10 for class 10 completed, and like this 15 for graduate and above. The

second variable, the occupation of worker, is also quantified into scale ranging from 1 to 10 based on the average annual income of the occupation group given in Table 6.1. That is, the lowest score of 1 for the lowest average annual income and the highest score of 10 for the highest average annual income of the worker group. Thus, scale 1 for agricultural worker, 2 for manual worker, 3 for sardar, 4 for clerk, 5 for driver, 6 for driver, 7 for artisan, 8 for office staff, 9 for teacher and 10 for medical assistant). Hence, the exact earning model is specified as the individual worker's total income is dependent function of educational level and occupation type of the individual worker. It is specified as the equation (6.1):

Earning of individual = f (education level, occupation)

$$\log Y_i = \alpha_0 + \alpha_1 \log E_i + \alpha_2 \log O_i + U_i \quad \text{... (6.1)}$$

where Y is the annual earning of the individual worker in rupee value, E is the number of year of completed education and O represents occupation type of the sample worker i. While $\checkmark_0$ is the intercept term, $\checkmark_1$ and $\checkmark_2$ are slope coefficients to be estimated.

The saving function: For the estimations of the saving and investment functions, linear models used by Rogg (2000) and Kibet et al. (2009) have been adopted in the present study. The saving function of the sample workers has been specified as given in equation (6.2):

Saving = f (education level, income)

$$\log S_i = \alpha_0 + \alpha_1 \log E_i + \alpha_2 \log Y_i + U_i \quad \text{... (6.2)}$$

where S is the total saving amount of the individual worker in rupee value, E is the number of year of completed education and Y represents annual average income of the sample worker i. Two independent variables, i.e., level of education and income or earning, have been defined in the same way as mentioned in the earning function (6.1).

The investment function: Similarly to examine the influence of education on the investment level, we estimate the investment function. The investment function is specified as given in the equation (6.3).

Investment = f (education level, income)

$$\log I_i = \alpha_0 + \alpha_1 \log E_i + \alpha_2 \log Y_i + U_i \quad \text{... (6.3)}$$

where I is the total investment amount of the individual worker in rupee value, E is the number of year of completed education and Y represents annual average income of the sample worker i. Two independent variables, i.e., level of education and income or earning, have been defined in the same way as mentioned in the earning function (6.1). As mentioned earlier, two components are included in households' investment item in the present study, i.e., investment in children's education and investment in other income generating activities.

All the three models have been estimated by the ordinary least squares (OLS) method using the STATA 11 econometric package. Each model has been estimated for three income groups as per our classification, i.e., low income group (upto Rs. 30000), middle income group (30000-70000) and high income group (70000 and above).

6.8 Estimated Results and Discussions:

(a) Estimated Results of the Earning Function: From our literature survey, it was observed that the higher type of occupation can give higher level of earning to a worker. Similarly, higher level of education enables a person to have better and higher position employment and thus leading to higher income of the worker. So, we can expect the estimated slope coefficients of these two explanatory variables to be positive in our model estimations. Estimated results of the earning function for the total sample workers and for each income group are shown in Table 6.10. Interpretations of estimated slope coefficients of variables have been given below:

Education level: The estimated results show that the impact of education level on the earnings of workers is positive for the combined sample and also for all income groups. This influence was statistically significant at 5 percent level for all income groups and the total sample. Keeping the occupation type constant, a one percent increase in the education level led to an increase in earning of workers by about 0.056 per cent among the total sample. Estimated slope coefficient values show that the impact of education level on the earning was higher in case of high income group than in low and middle income groups. This shows that, other things remaining equal, for high income sample workers, earnings are positively and highly responsive to education level.

Occupation type: In addition to education variable, the impact of occupation type on the earning of workers for total sample and three income groups was positive and

statistically significant in explaining the variation of earning of sample workers. While the estimated coefficients of occupation variable were found to be significant in case of total sample, high and middle income group, it was not statistically significant in case of low income group even at 10% level. This shows that the impact of the raising occupation type among low income group of workers was not so strong in increasing the earning of workers. Most of the low income workers are illiterates or having low formal education. This may be one of the reasons that occupation status is not having much impact on the earning of workers.

Thus, estimated earning function results show that both explanatory variables (education and occupation type) influenced the earning of workers in a positive way. This indicates that by increasing the appropriate level of education and occupation position of workers, earning or income of workers may be increased further. The extent of this positive influence varied across different income groups. Interesting, it is observed that the R-square value in the total sample and in each income group was very low, signifying that selected independent variables included in the model are able to explain a very small portion of the variation in the earning of workers. Some other variables (not included in the model) may be responsible for explaining the total variation of the earning of workers in a larger way. For example, only about 11 percent of the total variation in the earning was explained together by the education level and occupation.

Table 6.10: Estimated coefficients of earning functions of sample workers
[Dependent variable: earning or income of workers]

Explanatory variable	Paremeters	Earning (income) function of			
		Total sample	Low income group	Middle income group	High income group
(1)	(2)	(3)	(4)	(5)	(6)
Constant	α_0	4.513*(34.86)	7.359*(37.64)	7.948* (61.72)	4.005 *(10.29)
Occupation	α_1	0.275* (18.00)	0.049(0.96)	0.006**(8.12)	0.089*(5.67)
Education	α_2	0.056* (5.14)	0.016**(2.41)	0.104*(9.53)	0.829*(8.51)
	R^2	0.146	0.101	0.114	0.112
	d.f.	509	446	49	8
	F-stat	[2, 509]=332.71	[2, 446]=24.95	[2, 49]=3.14	[2, 8]=3.18

Notes: t-statistic values are given in parentheses, d.f. = degree of freedom,
*, ** and *** denote statistical significance at 1% level, 5% level and 10% level respectively

(b) Estimated Results of the Saving Function: The estimated results of the saving function are shown in Table 6.11. Results show that education level variable has positive

influence on the saving amount of workers of the total sample as well as for all income groups. But none of the slope coefficients is statistically significant at 10 percent level of significance. This implies that although education level influences and encourages saving among sample workers, this influence is not so significant in statistical sense. The influence of education on the saving was observed to be higher (estimated coefficient being 2.071) for low income group compared to middle (1.407) and high income group (0.429) workers. Contrary to this, income level is found to have positive and significant influence on the saving amount of workers for the total sample and also for all income groups. The positive influence of income on the saving is observed to be increasing as we move from the low income group to the high income group of workers. Since the estimated model is in the double-log linear form, the estimated slope coefficient has elasticity meaning. The estimated income elasticity of saving is greater than unity for all income groups and also for the total sample. This implies that when income rises by one percent, the saving amount of workers will increase by more than one percent. For example, for the low income group, when income increased by one percent, the saving increased by 1.022 percent.

Table 6.11: Estimated cofficients of saving functions of sample workers

[Dependent variable: saving of the workers]

Explanatory variable	Paremeters	Saving function of			
		Total sample	Low income group	Middle income group	High income group
(1)	(2)	(3)	(4)	(5)	(6)
Constant	α_0	-16.231*(-6.15)	-12.660(-0.62)	-14.614**(-2.21)	-8.398(-0.93)
Education	α_1	1.179(0.85)	2.071(1.04)	1.407(1.09)	0.429(0.08)
Income	α_2	1.723*(6.58)	1.022*(5.163)	1.419*(4.237)	2.071**(2.25)
	R^2	0.031	0.031	0.015	0.045
	d.f.	238	19	168	45
	F-stat	[2, 238]=52.45	[2, 19]=6.96	[2, 168]=15.31	[2, 45]=1.82

Notes: t-statistic values are given in parentheses, d.f. = degree of freedom,
*, ** and *** denote statistical significance at 1% level, 5% level and 10% level respectively

Although the both education and income variables were observed to have positive influence on the saving of workers, the R-square value for the total sample as well as for all income groups was found to be very low. This implies that two independent variables (education and income) together have been able to explain a very low percentage of the variation in the saving of the sample workers. Other variables (like lack of awareness, lack

of willingness to save, lack of opportunities to save etc.), not included in the model, together may be able to explain a major portion of the variation in the dependent variable. For example, the R-square value for high income group was 0.045 which means that income and education together explained only about 4.5 percent of the variation in the dependent variable (saving), the remaining 95.5 percent of the variation in saving was explained by the other variables not included in the model.

(c) Estimated Results of the Investment Function: Table 6.12 shows the estimated results of the investment function. Like in the saving function, estimated results show that education level variable has positive influence on the investment amount of workers of the total sample as well as for all income groups. Except for low income group, slope coefficient for education was statistically significant at 5 percent level of significance. The influence of education on the investment was observed to be higher (estimated coefficient being 0.923) for middle income group compared to low (0.799) and high income group (0.183) workers. Like in the saving function, income level is found to have positive and significant influence on the investment amount of workers for the total sample and also for all income groups. Like in the saving function, the positive influence of income on the saving is observed to be increasing as we move from the low income group to the high income group of workers. Since the estimated model is in the double-log linear form, the estimated slope coefficient has elasticity meaning here also. The estimated income elasticity of investment is less than unity (compared to greater than unity in saving function) for all income groups and also for the total sample. This implies that when income rises by one percent, the investment amount of workers will increase but by less than one percent. For example, for the low income group, when income increased by one percent, the saving increased by 0.734 percent.

Like in the saving function, the R-square value in the investment function for the total sample as well as for all income groups was found to be very low. This implies that two independent variables (education and income) together have been able to explain a very low percentage of the variation in the investment of the sample workers. Other variables, not included in the model, together may be able to explain a major portion of the variation in the dependent variable. Some of these non-included variables may be lack of awareness, lack of willingness, lack of opportunities to invest etc. For example, the R-

square value for high income group was 0.229 which means that income and education together explained only about 22.9 percent of the variation in the dependent variable (investment).

Table 6.12: Estimated cofficients of investment functions of sample workers
[Dependent variable: investment of workers]

Explanatory variable	Paremeters	Investment function of			
		Total sample	Low income group	Middle income group	High income group
(1)	(2)	(3)	(4)	(5)	(6)
Constant	α_0	-5.084**(-1.90)	-5.672(-0.12)	-0.828(-0.58)	-2.636(-0.05)
Education	α_1	0.699*(2.84)	0.799(0.089)	0.923*(3.00)	0.183**(1.89)
Income	α_2	1.613*(3.82)	0.734*(3.16)	0.861*(2.62)	0.983*(2.53)
	R^2	0.096	0.058	0.126	0.229
	d.f.	238	19	129	43
	F-stat	[2, 238]=12.70	[2, 19]=0.59	[2, 129]=3.17	[2, 43]=1.34

Notes: t-statistic values are given in parentheses, d.f. = degree of freedom,
*, ** and *** denote statistical significance at 1% level, 5% level and 10% level respectively

6.9 Main Findings and Summary

This chapter examined the impact of education on the earning, saving and investment of sample workers. Towards this end, a brief literature was done on the linkage of education level to employment opportunities, earning, saving and investment. Most of the empirical studies showed the positive correlation of education level of workers to earning, saving and investment. The basic idea behind this correlation comes from the human capital formation theory that persons with higher level of education, skills and training have better and more scope of higher employment opportunities than persons with less education or training or skills.

Main findings observed from the analysis of the sample data in this chapter are given below:

(i) Majority (75% of total workers) is in the category of manual workers followed by agricultural workers whose salary is low. While the absolute number of workers in the category of medical assistants is the lowest (followed by teachers, office staff, clerk etc.), their average annual income is the highest among all workers.

(ii) Findings from many empirical studies have confirmed that with rising educational levels and skills, workers' productive efficiency of employment opportunities with better remuneration tends to increase. Our sample data also support this statement

that workers with higher level of education are engaged in better paid works than the less educated workers. All the workers with higher secondary and graduate level education are engaged in better paid job positions such as office staff, teachers, artisans, medical assistant etc. rather than in manual works. On the contrary, out of the total sample workforce, 310 workers (60.5%) are illiterate in the combined sample and majority of them (282 illiterate workers) are engaged in the manual works. The main duties of these manual workers are working in the field as tea leaf plucking, cleaning bushes, spraying fertilizers and pesticides, watering, gardening, packing, cleaning the factory rooms or machines etc.

(iii) The sample data analysis showed that workers with higher level of education have higher annual average earnings. That is, with additional level of education, the average earning level also increased among the sample workers. The average earning of a worker with graduate degree was higher by about 284% compared to an illiterate worker. This means that there is a positive correlation between the level of education and respective average earning level. Thus, our finding confirms the statement of the studies like Becker (1964), Bowen (1964), Myrdral (1968) etc. who stated that education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising worker's future income by increasing their lifetime earnings.

(iv) Though tea plantation workers earn low average income in general yet they do have saving behaviour. Many of them save out of their earning income. The calculated saving-earning ratio has been rising as we move up from the illiterate heads of households to graduate and above level of education (from 0.14 to 0.39). Thus, it is clear that higher level of education encourages/enables persons in occupying better jobs and earning higher income and as a result leading to more ability to save. The calculated correlation coefficient between the average earning and average saving of sample households is very high (0.96). Sample workers were also found to make some forms of investment like investment in children's education, investment in other income generating activities, etc. Like saving behaviour, investment decision/amount was found to be rising as we move from illiterate workers to higher education level and graduation and above.

(v) Our estimated earning function results showed that both explanatory variables (education and occupation) influenced the earning of workers in a positive way. This indicates that by increasing the appropriate level of education and occupation position of workers, earning or income of workers may be increased further. But the observed low R-square value in the total sample and in each income group indicates that selected independent variables included in the model are able to explain a very small portion of the variation in the earning of workers.

(vi) The estimated results of the saving function showed that education level variable has positive influence on the saving amount of workers of the total sample as well as for all income groups. Income level was found to have positive and significant influence on the saving amount of workers for the total sample and also for all income groups. The positive influence of income on the saving was observed to be increasing as we move from the low income group to the high income group of workers. Like in the saving function, estimated results showed that education level and education level variables had positive influence on the investment amount of workers of the total sample as well as for all income groups. Both in the saving and investment functions, low R-square value was observed signifying that other variables, not included in the model, together may be able to explain a major portion of the variation in the dependent variable. Some of these non-included variables may be lack of awareness, lack of willingness, lack of opportunities to save/invest etc. Thus, this finding of the present study similar to other studies like Collin (1991), Athukorala and Sen (2001) etc. which proved that education has positive impact on saving and investment behaviour of an individual.

Chapter 7
Summary and Conclusion

7.1 Summary

Tea is one the plantation crops like coffee and rubber, whose plants last for several years during which produce can be obtained. Despite commonly consumed beverage of the world, tea cultivation is confined only to certain specific regions of the world due to specific requirements of climate and soil conditions. Majority of the tea producing countries are located in the continent of Asia where China, India, Sri Lanka are the major producers. India's large tea plantations are mostly concentrated in Assam and North Bengal. The area and production of tea in Assam has been increasing over the years. Assam contributes more than 50% of India's total tea production by occupying around 52% of country's tea cultivation areas.

Tea industry in Assam is still a labour intensive industry which requires a large number of regular and casual labour forces. Due to this feature, tea industry provides employment to a large number of workforces in the state. The employment potential in tea industry is estimated to be more than the employment potential of any other plantation sectors. The magnitude of employment generated by the tea industry in Assam can be understood by its direct employment of about 2 million persons spread over the state both in the field and factory of which about 50 percent are woman workers and children (Tea Digest, 2005-06, Tea Board of India). In tea industry, women and children are generally considered the better pluckers and the most productive labour. A large proportion of these women tea plantation workers are illiterate or educationally backward. Since independence, the Government of India has been implementing various policies for accelerating the women's overall education, literacy rate as well as to reduce the school drop-out rates. Some of such educational policies include Mahila Samakhy (1989), District Primary Education Programme (1994), Mid-Day Meal Scheme (1995), Sarva Siksha Abhiyan (2000), National Programme for Education of Girls at Elementary Level (2003-04) and various schemes under the Department of Women and Child Development. In addition to these policies, the Government of Assam through the Assam Tea Employees

Welfare Board conducted various training programmes for the females at the Mezenga Female Labour Welfare Training centre situated at Mezenga in upper Assam (Kaniampady, 2003). The females are taught about the health, hygiene and first aid, family welfare, care for children including crèche attendance etc. and vocational training like cutting and tailoring, weaving, embroidery etc.

After independence, the Government of India through the 'Central Board for Workers Education' (CBWE) introduced educational programmes such as vocational training to increase the general awareness of the workers in the organised, unorganised and rural sectors at national, regional and unit levels. This central board also gave emphasis on the adult education programme to educate those workers who could not attend or were compelled to leave schools early. The CBWE started functioning since 1958, which gets grants-in-aid from the Ministry of Labour and Employment to operate its activities. The government of Assam through the Assam Tea Employees Welfare Board (1959) had been providing vocational training to the members of the tea workers community in selected streams like tailoring, knitting, etc. Further, they have been conducting various training programmes for the females of the community and sponsoring the willing female candidates from the community to undergo professional training in nursing courses at the Gauhati medical college, Gauhati and Assam Medical College, Dibrugarh. The Directorate of Welfare of Tea Garden and Ex-tea Garden Tribes, constituted by the Government of Assam in 1984, had been implementing some socio-economic development schemes in the field of education for the members of the tea community. The existing schemes include post-matric scholarship, grants for cultural activities including educational tour, grant to non-official organizations, grant for purchase of text books and uniform and grants for construction of hostel for boys/girls. Further, under various five year plans, the government of Assam had undertaken the establishment of community centres for plantation labour in concentrated tea areas with a view to ameliorating the condition of labour and training up in cultural, social, economic, educational and similar other activities. The enactment of Plantation Labour Act in 1951 compelled employers or tea garden authorities to make arrangement for proper educational facilities for the workers and their children.

The Tea Garden Cell in Assam was established in line with Sarva Siksha Abhiyan (SSA) and the officials of elementary education in 2003. Since the inception, the SSA Mission has been conducting many programmes such as enrolment drive programme,

Meena Campaign, summer camp, etc. in tea gardens of Assam. Meena Campaign is a continuous effort to promote education among girl children in tea & ex-tea garden areas for creating awareness among girl children and make them active. In tea garden areas in Assam in collaboration with UNICEF, Meena Campaign is aimed to implement in 1055 tea gardens, 1336 ex-tea gardens and 2180 char area schools and education guarantee scheme centres by engaging tea garden volunteers and mothers' group.

First, the SSA Mission in Assam identified some educationally backward areas covering all 825 registered tea gardens as the special focus group areas in 2004. In addition, to evaluate the available infrastructure facilities in the schools of tea gardens, the SSA officials conducted a survey on school infrastructure in July 2004. Though the SSA could not provide physical facilities to the tea garden schools, they have been engaging in many educational developmental activities in plantation areas. Every year during summer vacation, summer camps were organized in many schools in tea garden areas and tea garden volunteers were entrusted for organizing the camps. Orientation of children on scouts & guide, drills, reading ability development of children and enhancement of co-curricular skills of children were the main targets of the programme up to 2005-06. Further, the SSA mission also granted annual school infrastructure, maintenance & repairing and teachers' grants to the tea garden managed schools in 2008-09. This scheme includes granting financial assistance for construction and repairing school buildings, toilets, drinking water facilities and fencing/ boundary wall etc. Despite many efforts, improvement of their educational level seems to be far below the expectation.

In spite of various educational policies since independence, high percentage of illiteracy still exists among the tea garden women labourers compared to other occupations. The study conducted by labour Bureau, Ministry of Labour and Employment, Government of India, New Delhi (1980) showed the pathetic condition of educational scenario in tea plantation areas even after the Plantations Labour Act (PLA) was introduced in 1951. There were only 66.1 percent tea gardens that provided educational facility to their workers in the country as a whole by the managements. Remaining 33.9 percent of tea gardens had no schools. The management provided only primary schools in all these tea gardens. Schools beyond primary level did not exist in these gardens. The study found that, no fee was charged in any of these schools. But the picture of supplying certain articles such as books, uniform, etc. to the school going children were in vague.

Only about 27.3 percent of tea estates were supplying such articles to children in entire southern region of the country whereas about 15.1 percent were in West Bengal. Assam, where country's more than half percent of the tea is produced, has been receiving only 6.3 percent of such articles. Another study conducted by the Labour Bureau (Chandigarh) in 2008-09 on Socio-economic conditions of women Workers in Plantation Industry found that about 40.4 percent tea gardens (19 units out of 47 tea plantation sample units in the country) were maintaining schools. The study also found that about 50 per cent of the units were providing education facilities in Assam and West Bengal. Toppo (1999) also showed the poor quality of education system in tea plantation areas which resulted in drop-out of children from schools. Similar studies by Fernandes et al. (2003) and Goswami (1990) also revealed that poor infrastructures as the main reasons behind the illiteracy among workers in the all tea growing districts of Assam.

In the light of above background and motivations, in the present thesis, an attempt has been made to examine the following main objectives:

(i) to give an overview of the present state of education among the tea plantation workers in Assam,

(ii) to evaluate the availability and accessibility of education among the workers in the sample tea gardens and to analyze the reasons behind the disparities in the level and access of education among the tea plantation workers and

(iii) to examine the influences of education on the employment, earning, saving and investment patterns of sample workers.

The analysis was carried out by using both primary and secondary data. Primary data were collected from four tea estates (two big and two small gardens) in Udalguri district of Assam. Bhooteachang and Hattigor tea estates are big tea gardens selected for the study. Two small tea gardens are Brotherhood tea growing firm and Jwnglari tea farm. From these tea estates, the primary data were collected using structured questionnaires which were administered at the household level. Primary data were collected from school head masters and garden authorities also. The present study was based on the following two main hypotheses: (a) Higher educated workers earn higher income than those who have lower educational qualifications and have greater likelihood of being employed at higher

paid employment positions, and (b) Higher or better educated workers save and invest more than less educated workers on many respects.

7.2 Chapter-wise Main Findings

The entire thesis is divided into seven chapters. The first chapter is the introduction chapter which deals with the introduction of the problem, significance and scope of the study, objectives, hypothesis, data sources and methodology. In chapter 2, a brief overview of education among the tea plantation workers in Assam is discussed with the help available secondary data. Chapter 3 describes the sample tea estates and primary survey data collection. Chapter 4 discusses the general profile of sample households where main items are on the demographic characteristics, occupational structure, income expenditure pattern and social organisations. Chapters 5 and 6 form the core of the study as the main objectives of the thesis were examined.

The analysis of availability and accessibility of education among the sample workers in is given in chapter 5. Some of the main findings of this chapter are given below:

(a) The state of education among the tea workers in the sample gardens is very poor both qualitatively and quantitatively. Still about 60% of sample population are illiterate. This might be partly due to the negligence of garden authority and the concerned state departments, and partly due to the indifferent attitude of working community to education.

(b) Available schools are limited to the primary level only in the sample gardens. Schools beyond primary level are not found in all the sample gardens. Children who wish to continue their studies beyond primary level have to go to outside schools which are located at nearby towns. These towns are far from the sample gardens and therefore, children who wish to go for further studies have to face many problems. Existing schools suffer from various problems like lack of qualified teachers, shortage of class rooms, etc.

(c) The extent of wastage and stagnation among school children in sample gardens has been very high. School drop-out students were found almost in both families of literate and illiterate parents and in all occupations. However, drop-out number was higher among the illiterate parents than in literate families.

(d) The power of accessibility of education among the sample workers is not equally distributed. The highest number of students studying at the college level (about 22 students) is from officer families. While children of other occupations are almost

decreasing in number while moving from the lower class to higher class, children from officer families are almost remaining the same in number. Among labourer families, maximum children are studying in primary schools. One sad thing is that in each occupation category in the combined sample, at least some children are found who are out-of-schools, the largest number being in the labourer families.

(e) On average, the parents' education level has been found to have direct and positive impact on their children's education. Therefore, the parents who are literate and educated are sending more children to schools and receiving better education compared to those of illiterate parents.

(f) The extent of consumption of alcohol is found to be high among the tea labourers. Though alcoholism does not have any direct impact on the education of the school going children yet it has adverse effects on the economic, social condition and health aspects of the labourers. Thus, higher percentage (35.2%) of drop-out children was observed in alcoholic families than in non-alcoholic families. On the other hand, non-alcoholic families have higher proportion (68.4%) of school going children than in alcoholic families. This shows that children of alcoholic families are more likely to be deprived of education than non-alcoholic families.

(g) Education of girl children is very much neglected among the tea garden labourers. It was observed that at all levels of schooling, number of girl students has been lower than number of boy students in every garden. Moreover, the number of school going girls goes on falling at every higher class of education. This is due to the lack of proper appreciation of the value of girls' education.

(h) The main source of income of majority of sample families is the wage income from garden works. The statistical testing shows that, on average, parents' income level affects children's education positively, i.e., the higher the income level of the family, more children are likely to get more and better education. But the simple correlation coefficient between the household income level and number of school going children is found to be very low. Some families with higher income were also reluctant to send their children to schools.

Chapter 6 discussed how education affected occupational distribution of sample workers with different levels of education. Further, this chapter also examined econometrically the influence of education on the earning, saving and investment

behaviour of sample workers. Some of main findings observed from the analysis of the sample data in this chapter are given below:

(a) Majority (75% of total workers) is in the category of manual workers followed by agricultural workers whose salary is low. While the absolute number of workers in the category of medical assistants is the lowest (followed by teachers, office staff, clerk etc.), their average annual income is the highest among all workers.

(b) Findings from many empirical studies have confirmed that with rising educational levels and skills, workers' productive efficiency of employment opportunities with better remuneration tends to increase. Our sample data also support this statement that workers with higher level of education are engaged in better paid works than the less educated workers. All the workers with higher secondary and graduate level education are engaged in better paid job positions such as office staff, teachers, artisans, medical assistant etc. rather than in manual works. On the contrary, out of the total sample workforce, 310 workers (60.5%) are illiterate in the combined sample and majority of them (282 illiterate workers) are engaged in the manual works. The main duties of these manual workers are working in the field as tea leaf plucking, cleaning bushes, spraying fertilizers and pesticides, watering, gardening, packing, cleaning the factory rooms or machines etc.

(c) The sample data analysis showed that workers with higher level of education have higher annual average earnings. That is, with additional level of education, the average earning level also increased among the sample workers. The average earning of a worker with graduate degree was higher by about 284% compared to an illiterate worker. This means that there is a positive correlation between the level of education and respective average earning level. Thus, our finding confirms the statement of the studies like Becker (1964), Bowen (1964), Myrdral (1968) etc. who stated that education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising worker's future income by increasing their lifetime earnings.

(d) Though tea plantation workers earn low average income in general yet they do have saving behaviour. Many of them save out of their earning income. The calculated saving-earnings ratio has been rising as we move up from the illiterate heads of households to graduate and above level of education (from 0.14 to 0.39). Thus, it is

clear that higher level of education encourages/enables persons in occupying better jobs and earning higher income and as a result leading to more ability to save. The calculated correlation coefficient between the average earning and average saving of sample households is very high (0.96). Sample workers were also found to make some forms of investment like investment in children's education, investment in other income generating activities, etc. Like saving behaviour, investment decision/amount was found to be rising as we move from illiterate workers to higher education level and graduation and above.

(e) Our estimated earning function results showed that both explanatory variables (education and occupation) influenced the earning of workers in a positive way. This indicates that by increasing the appropriate level of education and occupation position of workers, earning or income of workers may be increased further. But the observed low R-square value in the total sample and in each income group indicates that selected independent variables included in the model are able to explain a very small portion of the variation in the earning of workers.

(f) The estimated results of the saving function showed that education level variable has positive influence on the saving amount of workers of the total sample as well as for all income groups. Income level was found to have positive and significant influence on the saving amount of workers for the total sample and also for all income groups. The positive influence of income on the saving was observed to be increasing as we move from the low income group to the high income group of workers. Like in the saving function, estimated results showed that education level and education level variables had positive influence on the investment amount of workers of the total sample as well as for all income groups. Both in the saving and investment functions, low R-square value was observed signifying that other variables, not included in the model, together may be able to explain a major portion of the variation in the dependent variable. Some of these non-included variables may be lack of awareness, lack of willingness, lack of opportunities to save/invest etc. Thus, this finding of the present study similar to other studies like Collin (1991), Athukorala and Sen (2001) etc. which proved that education has positive impact on saving and investment behaviour of an individual.

Thus, the main findings of the present study are: (i) Majority of sample population are still illiterates and available schools are limited to the primary level only, (ii) School drop-out students were found higher among the illiterate parents than in literate families, (iii) Parents who are literate and educated are sending more children to schools compared to illiterate parents, (iv) At all levels of schooling, number of girl students has been lower than number of boy students, and the number of school going girls goes on falling at every higher class of education, (v) Majority of sample workers is in the category of manual workers, whose main source of income is the wage income from garden works and their annual average salary is very low, (vi) Workers with higher level of education are engaged in higher paid works than the less educated workers, (vii) Education was found to have positive influence on the earning, saving and investment of sample workers for the total sample workers as well as for all income groups.

7.3 Policy Implications and Suggestions

Above findings have important policy implications for the development of education and socio-economic conditions of tea plantation workers in Assam. The present study shows the educational backwardness, its reasons and other related implications on the earning and saving of sample workers. Moreover, findings of the present study also show that the state government of Assam has been lagging behind in implementing the rules and provisions of recently enacted 'Right to Education Act, RTE, 2009' or the Right of Children to Free and Compulsory Education Act. Education facilities cannot be neglected for any society in any region. Considering the factors responsible for educational backwardness, prompt measures for its improvement are considered highly necessary. Three broad interrelated and interdependent measures, viz, institutional, economic and social, can be adopted. These are briefly described below:

(a) Institutional measures: Since the tea garden areas have non-available schools, more schools should be established, especially beyond the primary level. In this context, the state government and garden authorities have vital roles. No doubt, the state government has already initiated to introduce schools through Assam Sarva Siksha Abhiyan. However, schools are still limited to primary level only. Therefore, state government should establish not only more primary schools but also schools beyond primary level.

Maximum workers in sample gardens are illiterate and are not able to appreciate the value of education. Therefore, to spread the awareness of education among them, constant campaign on education is required. This can be done through the government agencies, NGOs and garden authorities. They should come together to campaign for the awareness programmes on education in the garden areas. Moreover, education of parents is linked to the education development of children. Since many parents are illiterates and uneducated, massive adult education programmes should be taken up so as to enable the parents to appreciate the value of children's education. For this purpose, more night schools should be established in the garden areas by the planters in co-operation with the concerned departments. Workers should be encouraged to attend such schools.

Many tea garden authorities have given a scanty attention towards the educational aspect since the inception of tea plantation. This attitude should be done away with. The tea garden authorities should open up their eyes in giving adequate attention to education of workers and their children. Existing rules and provisions should be implemented properly by garden authorities for the welfare of all workers. This can only happen when state government will keep an eye on garden authorities regarding implementation of various policies and schemes. Theoretically, many garden authorities had provided all the necessary provisions required for the school children. But in actual practice, existence of large school-dropout children implies that all is not well in garden schools. To encourage both parents and children, incentives should be given to the school going children as scholarships. Facilities like infrastructure facilities, good teachers, scholarships etc. should be improved. Therefore, the state authority should check physical facilities provided by garden authorities. For this, inspection should be made regularly from time to time.

(b) Economic Measures: Within the tea garden areas, all the plantation workers are not engaged in plantation works due to inability of the estates to absorb all of them. Moreover, as the nature of workers in tea garden is more or less seasonal, the number of permanent labourers in the estates is less. Besides, they are paid very less amount as their daily wages. Therefore, in addition to plantation work, the labourers have time and can engage themselves in other subsidiary occupations to boost their incomes. Some of these subsidiary occupations are agricultural activities, rearing livestock, shop keeping, small business, etc. Therefore, state and garden authorities should encourage and give incentives to workers to take up such subsidiary occupations.

Many garden areas do not have provisions of the non-farm activities like small manufacturing, construction, handicraft, repair, tailoring, netting, cutting, processing and personal services etc. Though tea plantation is playing a very significant role for generating employment to the workers in tea gardens, the introduction of non-farm activities will create additional employment for those workers who are not able to get work in the gardens. For these, free training programmes should be given to the deserving candidates. Thus, development of various non-farm activities can effectively be exploited as a potential stimulator for generating additional income to garden workers.

As the tea plantation workers in general are very poor and many are not able to afford the educational cost of their children, introducing self help groups in the garden areas will boost their income by earning additional income through various group activities.

(c) Social Measures: Practices of child labour, child marriage, alcoholism, neglect of education of girl children are some of the main social problems among the tea garden workers. As stated above, school going children are withdrawn from schools to fulfil the demand of labour force during the peak seasons. This leads to drop-outs and stagnation to many school children. Generally, many garden workers arrange their children's marriage at their early ages. Moreover, negligence of girls' education is common problem among the sample workers. Such social practice leads to further problem of illiteracy, health problem and ignorance to higher education values. State policies to control or activities of NGOs on the awareness of people on the bad sides of such social practices must be available. In this context, adult education programmes can play a good role.

Further, field survey found that many family heads in sample areas drink country made liquor and alcohol. Although alcoholism of parents does not affect children's education directly, yet it affects the health of the alcoholic person and consequently affects the earning of that person. Therefore, besides government agencies, local student/social organization should conduct awareness campaign against the negative effect of the alcoholism.

7.4 Limitations and Future Scope

The present study suffers from some limitations. The first of them is the data problem. Garden-wise published data on education variables of workers or children and socio-

economic variables are difficult to get. The main reason is that concerned officers of the respective tea gardens do not maintain proper official records of educational status of tea plantation workers. Available education data were collected from the Sarva Siksha Abhiyan (SSA) official records. Therefore, analysis like the present topic on the basis of secondary data is difficult. Therefore, the core objectives were examined using the field survey data. Second limitation is small sample size. The present study could do field survey only in four tea gardens due to lack of permission. Many tea garden authorities were not giving permission to do field surveys in their gardens due to their internal security problems and also due to the fear that workers may reveal various internal issues. While stated objectives could be examined by data from these four sample gardens, larger number of sample gardens in different districts or states might have given information on lots of variations in findings due to different socio-economic conditions. Such a study, if conducted, may enable the researcher to draw better conclusions and understand the reasons behind poor educational development among the tea plantation worker in different parts of state or in different states of the country. Third, the present study is mainly based on the field survey data conducted in the year 2011 and thus it cannot give information of education and its linkage to earning or saving over a period of years. If the surveys are conducted at various years or at an interval of five or ten years, variations of education over time can be captured. Such findings will be useful for policy decisions. Such analysis can be done by a researcher or research organizations having more resources.

Bibliography

- Aktas, A., D. Guner, S. Gursel and G. Uysal (2010), "Structural Determinants of Households Savings in Turkey 2003-2008", BETAM Working Paper Series 007.
- Almar, J. A. and L.M. Richard (1998), "The Analysis of Saving Behaviour: The Case of Rural Households in the Philippines", ACPC Working Paper Series 4, Pp. 88-20.
- Ambrose, Ramson Mwamba (2012), "Determinants of Rural Household Savings in Kesumu District", A Master Thesis of Kenyatta University Institutional Repository.
- Arrow, Kenneth J. (1962), "The Economic Implications of Learning by Doing", *The Review of Economic Studies*, Vol. 29, Issue No. 3, Pp. 155–173.
- Asopa, V. N. (2004), "*Competitiveness in Global Tea Trade*", Oxford University Press and IBH Publishing House, New Delhi.
- Astone, N.M. and S.S. McLanahan (1991), "Family Structure, Parental Practices and High School Completion", *American Sociological Review*, Vol.56, Issue No. 3, Pp 309-320.
- Athukorala, Prema Chandra and Kunal Sen (2001), "The Determinants of Private Saving in India", Working Papers in Trade and Development, Division of Economics, Research School of Pacific and Asian Studies.
- Awasthi, R.C. (1975), "*Economics of Tea Industry in India*", United Publishers, Guwahati.
- Banerjee, G.D. and Srijeet Banerjee (2009), "*Tea Industry in Transition*", Abhijeet Publications, Delhi.
- Becker, G. S. (1964), "*Human Capital*", Columbia University Press, New York.
- Behrman, Jere R. (1990), Human Resource Led Development: Review of Issues and Development", New Delhi, India: ARTEP/ILO.
- Bhadra, M. (1992), "*Women Workers of Tea Plantations in India"*, Heritage Publishers, New Delhi.
- Bhattacharjee, J. B. (1977), "*Cachar under British rule in North East India*", Radiant Publishers.
- Bhowmik, Sharit Kumar (1992), "Plantation Labour Act and Child Labour", *Economic and Political Weekly,* Vol.27, Issue No. 42, Pp. 2287-2290.
- Biblarz, Timothy J. and Adrian E. Raftery (1999), "Family Structure, Educational Attainment, and Socioeconomic Success: Rethinking the "Pathology of Matriarchy", *American Journal of Sociology*, Vol. 105, Issue No. 2, Pp. 321-365.

- Blau, P. and O.D. Duncan (1967), "*The American Occupational Structure*", Free Press, Wiley, New York.

- Blaug, M. (1965), "The Rate of Return on Investment in Education in Great Britain", *The Manchester School*, Vol. 33, Issue No. 3, Pp. 203-251.

- Blossfeld, H.P. (1986), "Career Opportunities in the Federal Republic of Germany: A Dynamic Approach to the Study of Life Course, Cohort and Period Effects", *European Sociological Review,* Vol.2, Issue No 3, Pp. 208-225.

- Blundell, R., L. Dearden and B. Sianesi (2004), "Evaluating the Impact of Education on Earnings in the UK: Models, Methods and Results from the NCDS", CEE DP-47, ISSN.2045-6557.

- Borah, B.B. (1984), "Impact of Technological Innovation in Tea Industry: A Case Study in Jorhat Sub-Division", Unpublished M.Phil dissertation, Gauhati University.

- Borpujari, H.K. (1963), "*Assam in the Days of the Company (1826-1858*)", Lawyers Book Stall, Guwahati.

- Boruah, Tutul (2000), "*Mundas in Tea Plantation: A Study in their Health Behaviour*", N.L. Publishers, Dibrugarh, Assam.

- Bose, R.K. (1954), "*Capital and the Labour in the Indian Tea Industry*", Issue No.8, Trade Union Publication Series by All India Trade Union Congress, 156 Pages.

- Bosumatari, D. and P. Goyari (2013), "Educational Status of Tea Plantation Women Workers in Assam: An Empirical Analysis", *Asian Journal of Multidisciplinary Studies,* Vol.1, Issue No.3, Pp. 17-26.

- Bowen, S.G. (1964), "Assessing the Economic Contribution of Education: An Appraisal of Alternative Approaches", in M. Blaug (ed), '*Economics of Education'*, Vol.1, Penguin Books.

- Bowlby, R.L. and W.R. Schriver (1970), "Non-Wage Benefits of Vocational Training: Employability and Mobility", *Industrial and Labour Relations Review,* 23(4): 500-509.

- Buchinsky, Moshe and Phillip Leslie (2010), "Educational Attainment and the Changing U.S Wage Structure: Dynamic Implications on Young Individuals' Choices*", Journal of Labour Economics,* Vol.28, Issue No. 3, July 2010.

- Cameron, S.V. and C. Taber (2004), "Estimation of Educational Borrowing Constraint Using Return to Schooling*", Journal of Political Economy*, 112(1): Pp132-182.

- Card, David (2000), "Estimating the Return to Schooling: Progress on some Persistent Econometric Problems", NBER Working Paper Series 7769.

- Chakraborty, R.N. (1997), "*Socio-economic Development of Plantation Workers in North East India*", N.L. Publishers, Dibrugarh, Assam.

- Chetterjee, S. and R. Das Gupta (1981), "Tea Labour in Assam: Recruitment and Government Policy, 1840-80", *Economic and Political Weekly*, Vol. 16, Issue No.44/46, Pp. 1861-1868.

- Cohn, Elchanan and John T. Addison (1997), "The Economic Returns to Lifelong Learning", University of South Carolina College of Business Administration Division of Research Working Paper B-97-04.

- Coleman, J.S. (1987), "Families and Schools", *Educational Researcher,* Vol.16, Issue No.6, Pp.32-38.

- Collins, S. M. (1991), "Saving Behaviour in Ten Developing Countries", in B. Douglas Bernheim and J. B. Shoven, (eds), '*National Saving and Economics Performance'*. National Bureau of Economic Research, Chicago, Pp.349-373.

- Das, Rekha and Mayuri Goswami (2004), "Fertility Performance of a Tea Working Population of Dibrugarh District, Assam", *Journal of Human Ecology,* Vol.16, Issue No.2, Pp. 119-123.

- Das, Tulsi Kumar and Hasan Zakirul Islam (2006), "Human Rights of the Tea Gardens: A Case Study of Selected Gardens of Sylhet", *Asian Affairs*, Vol.28, Issue No. 3, Pp. 25-39.

- Dasgupta, P.K. and Iar Ali Khan (1983), "*Impact of Tea Plantation Industry on the Life of Tribal Labourers"*, Anthropological Survey of India Publishers.

- Dasgupta, R. (1992), "Plantation Labour in Colonial India", *The Journal of Peasant Studies*, London Vol.19, Issue No.3-4, Pp.173-77.

- Debeauvais, M. (1974), "The Contribution of Economics of Education to Aid Policies: A Critical Comment", in Champion F. (ed) 'Education and Development Reconsider', The Bellai Conference Papers, Eraoger Publishers, New York.

- Denison, E.F. (1962), "Education, Economic Growth and Gap in Information", *Journal of Political Economy,* Vol.70, Issue No.5, Pp.124-128.

- Devi, Uma. S. (1989), "*Plantation Economy of the Third World*", Himalaya Publishing House, New Delhi.

- Dewan, V. K. (1988), "*Assam Plantation Labour Rules, 1956, with the Plantation Labour Act, 1951",* Orient Law House, Allahabad.

- Duncan, O.D., D.l. Featherman and B. Duncan (1972), "*Socioeconomic Background and Achievement*", Academic Press, New York.

- Dutta, M.L. (1983), "Education and Employment of the Tea Plantation Labourers of Assam with Special Reference to the District of Sibsagar", A Ph.D. Thesis Submitted to Gauhati University.

- Ermisch, John and Marco Francesconi (2000), "The Effect of Parents' Employment on Children's Educational Attainment", IZA Discussion Paper Number 215.

- Featherman, D.L and T.M. Carter (1976), "Discontinuities in Schooling and the Socioeconomic Life Cycle", In W.H. Sewell, R.M. Hauser and D.L. Featherman (ed), '*Schooling and Achievement in American Society*', Academic Press, New York.

- Fernandes, Walter, Sanjay Barbara and Gita Bharali (2003), "Children of the Plantation Labourers and Their Right to Education", paper presented in the 'Seminar on Labour and Employment Relations in Plantations in a Globalizing Economy', at V. V. Giri National Labour Institute and OKDISC, March 9-10, 2003.

- Friedman, Milton (1957), "*A Theory of Consumption Function*", Princeton University Press, New Jersey.

- Gait, E. (1906), "*A History of Assam*", Thacker, Spink & Co Second Revised Edition.

- Goel, S.C. (1975), "*Education and Economics Growth in India*", Macmillan, Delhi.

- Goldberg, Jessica and Jeffrey Smith (2008), "*The Effects of Labor Market Outcomes*", Handbook of Research in Education Finance and Policy (688-708), New York, Routledge.

- Goswami, Debotpal (1992), "A Study of the Tea Labour Population of the Brahmaputra Valley of Assam", A Ph.D. thesis Submitted to Gauhati University.

- Goswami, I. M. (1990), 'The Tea Workers in Assam and Social Security Programme in S. Kaotramprel and B. Dutta Roy (eds.), 'The Tea Garden Labourers of North East India: A Multidimensional Study on the Adivasis of the Tea Gardens of North East India', Shillong: Vendrame Institute, Pp. 283-293.

- Goswami, P.C. (1963), "*Economic Development of Assam*", Asia Publishing, Bombay.

- Griffith, P. (1967), "*The History of Indian Tea Industry*", Weidenfeld and Nicolson Publishers, London.

- Griliches, Z. (1977), "Estimating the Returns to Schooling: Some Econometric Problem*",* *Journal of Econometrica,* Vol.45, Issue No.1, Pp. 1-22.

- Guha, A. (1977), "*Planters Raj to Swaraj: Freedom Struggle and Electoral Politics in Assam 1826-1947*", Indian Council of Historical Research, New Delhi.

- Guha, A. (1981), "Formation of Working Class in Assam Plantations: A Case Study in Retrospect", Published in 'Problems of Tea Industry in North East India,' Council of Social Science Research, Shillong.

- Guha, A. (1988), "Maniram Dewan and the Tea Industry: Some New Facts", Proceedings of North East India History Associations, 9th Session, Guwahati.

- Hannan, M., K. Schomann and H.P. Blossfeld (1990), "Sex and Sector Difference in the Dynamics of Wage Growth in the Federal Republic of Germany", *American Sociological Review*, Vol. 55, Issue No. 5, Pp. 694-713.

- Hanushek, E.A. (1997), "Assessing the Effects of School Resources on Student Performance: An Update", *Educational Evaluation and Policy Analysis,* Vol. 19, Issue No.2, Pp 141-164.

- Harlalka, S.S. (1973), "Socio-economic Study of Tea Garden Labourers of Assam", A Ph.D Thesis Submitted to Gauhati University.

- Harmon, C., H. Oosterbeek and I. Walker (2003), "The Returns to Education Micro Economics", *Journal of Economic Survey*, Vol.17, Issue No.2, Pp.115-156.

- Haveman, Robert and Barbara Wolfe (1995), "The Determinants of Children's Attainments: A Review of Methods and Findings", *Journal of Economic Literature*, Vol. 33, Issue No. 4, Pp. 1829-1878.

- Horioka, C. Y. and J. Wan (2007), "The Determinants of Household Saving In China: A Dynamic Panel Analysis of Provincial Data", Working Paper Series No 2723 of National Bureau of Economic Research.

- Issahaku, Haruna (2011), "Determinants of Savings and Investment in Deprived District Capitals of Ghana: A Case Study of Nadowli in the UPper West Region of Ghana", *Continental Journal of Social Science,* Vol.4, Issue No.1, Pp.1-11.

- Johnson, J.H. and J. Salt (1986), "*Labour Migration: The International Geographical Mobility of Labour in the Developed World*", David Fulton Publisher Ltd. London.

- Kain, J.F. (1989), "The Economics of Discrimination", Englewood Chifts (ed) '*Race and Poverty',* Printice Hall, New Jersey.

- Kaniampady, Elezabeth (2003), *"Status of Women Working in the Tea Plantations: A Case Study",* Akansha Publishing House, New Delhi.

- Karotemprel, Sebastien and B. Dutta Roy (1990), "Tea Garden Labourers of North East India: A Multidimensional Study on the Adivasis of the Tea Gardens of North East India", Vendrame Institute (Shillong).

- Kean, Davis and Pamela E. (2005), "The Influence of Parent Education and Family Income on Child Achievement: The Indirect Role of Parental Expectations and the Home Environment", *Journal of Family Psychology*, Vol. 19, Issue No. 2, Pp 294-304.

- Keynes, J.M. (1936), "*The General Theory of Employment, Interest and Money*", Harcourt Brace and World, New York.

- Kibet, Lawrence K., Mutai B.K., Desterio E. O., Shem A. Ouma and George Owuor (2009), "Determinants of Household Saving: Case Study of Smallholder Farmers, Entrepreneurs and Teachers in Rural Areas of Kenya", *Journal of Development and Agricultural Economics,* Vol. 1, Issue No.7, Pp. 137-143.

- Kingdon, Gita Gandhi (2002), "Education of Women and Socio-economic Development", Published in "*Reason and Revelation: Studies in the Babi and Baha*", Los Angles, Kalimat Press.

- Kumar, Purnendu (2006), "*State and Society in North-East India: A Study of Immigrant Tea Plantation Labourers",* Regency Publications, New Delhi.

- Kurian, Richel (1981), "The Position of Women Workers in the Plantation Sector of Kerala", A Dissertation Submitted to MG University.

- Lucas, Robert (1988), "On the Mechanics of Economics Development", *Journal of Monetary Economics,* Volume 22, Issue No.1,Pp 3-42.

- Lynch, Lisa M. (1992), "Private-Sector Training and the Earnings of Young Workers", *The American Economic Review,* Vol. 82, Issue No. 1, Pp. 299-312.

- Majumdar, A. Basu., B. Bera and A. Rajan (2012), "Tea Statistics: Global Scenario" *International Journal of Tea Science"*, Vol. 8, Issue No. 1, Pp-121-124.

- Mincer, Jacob (1974), "Progress in Human Capital Analysis of the Distribution of Earnings", Working Paper Series of National Bureau of Economic Research.

- Muthumana, M. (1990), "Christian Faith among the Adivasis in the Tea Gardens and in the Adjacent Areas", in Kaotrmprel and Dutta Roy (ed) 'The Tea Garden Labourers of North East India: A Multidimensional Study on the Adivasis of the Tea Gardens of North East India*'*, *Vendrame Institute*, Shillong, Pp. 227- 231.

- Myrdal, G. (1968), "Asian Drama: An Inquiry into the Poverty of Nations", *The Australian Quarterly,* Vol.40, Issue No.4, Pp.118-121.

- Myron, W. (1991), "*The Child and the State in India*", Princeton University, U.S.A.

- Natarajan, S. (1990), "*Introduction to Economics of Education*", Sterling Publishers Private Ltd, New Delhi.

- Nomani, A.M. (2008), "The Plantation Labour Act 1951 and the Assam Plantation Labour Rules, 1956", Published by Assam Law House, Law Publishers and Book Sellers, North Sarania, Gandhi Basti, Guwahati.

- Ozturk, Ilhan (2001), "The Role of Education in Economic Development: A Theoretical Perspectives", *Journal of Rural Development and Administration,* Vol.33, Issue No.1, Pp 39-47.

- Paul, A.K. (1978), "*Role of Tea Plantation Industry in the Economic Development of North East India",* B.R. Publishing Corporation, New Delhi.

- Petty, William (1662), "A Treatise of Taxes and Contributions", Archive for the History of Economic Thought, McMaster University Archive for the History of Economic Thought.

- Phukan, A .C. (1976), "Socio-economic Problems of the Ex-Tea Garden Labour Population in Assam", A Ph.D. Thesis Submitted to Gauhati University.

- Phukan, A.C. (1979), "*Personnel Administration in the Tea Industry of Assam*", Archita Publications, Jorhat.

- Phukan, Umananda (1984), "*The Ex-Tea Garden Labour Population in Assam: A Socio-Economic Study*", B.R. Publishing Corporation, New Delhi.

- Psacbaropoulos, George (1994), "Returns to Investment in Education: A Global Update", *World Development*, Vol.22, Issue No.9, Pp 1325-1343.

- Psacharopoulos, George and Harry A. Patrinos (2004), "Returns to Investment in Education: A Further Update", *Education Economics*, Vol.12, Issue No.2, Pp.111-134.

- Rahman, Atta Ur and Salah Uddin (2009), "Statistical Analysis of the Different Socio-economic Factors Affecting the Education on N-W F.P(Pakistan)", *Journal of Applied Quantitative Methods,* Vol. 4, Issue No.1, Pp 88-94.

- Rao, Ramachandra A. (1966), "Scholastic Backwardness in Tribal Children", *Journal of Indian Education,* Vol.5, Issue No.6, Pp. 20-25.

- Robert, E. Lucas (1988), "On the Mechanics of Economic Development", *Journal of Monetary Economics,* Vol.22, Issue No.1, Pp. 3-42.

- Robinson, D. (1970), "*Local Labour Markets and Wage Structures*", Gower Press London.

- Rogg, Christian S. (2000), "*The Impact of Access to Credit on the Saving Behaviour of Micro-entrepreneurs: Evidence from 3 Latin American Countries*", Inter American Development Bank Publishers.

- Romer, Paul M. (1986), "Increasing Returns and Long Run Growth", *Journal of Political Economy,* Vol. 9, Issue No.5, Pp.1002-1037.

- Rumberger, R.W. and S.L.Thomas (2001), "The Distribution of Dropout and Turnover Rates among Urban and Suburban High Schools", *Sociology of Education*, Vol. 73, Issue No.1, Pp. 39-67.

- Saikia, Phukan (1994), "Socio-economic Study of Tea Plantation Workers in Assam", A PhD Thesis Submitted to Geography Department, Guwahati University.

- Sander, W. and A.C. Krautmann (1995), "Catholic Schools, Dropout Rates and Educational Attainment", *Economic Inquiry*, Vol. 33, Issue No. 2, Pp 217-233.

- Sarkar, R.L. and Mahendra P. Lama (1986), "*Tea Plantation Workers in the Eastern Himalayas: A Study on Wages, Employment and Living Standard*", Atmaram and Sons Publications.

- Schultz, T.W. (1958), "The Emerging Economic Scene and its Relation to High School Education", in F.S Chase and H.A Anderson (eds), *The High School in New Era*, University of Chicago Press, Pp.97-109.

- Schultz, T.W. (1971), "*Investment in Human Capital", The Role of Education and Research*", Free Press, New York.

- Scott, B. (1998), "Family Structure, Economic Status, and Educational Attainment", *Journal of Population Economics*, Vol.11, Issue No. 2, Pp. 205-222.

- Sen, A.K. (1966), "Education, Vintage and Learning by Doing", *Journal of Human Resources*, Vol.1, Issue No. 2, Pp. 3-21.

- Sengupta, Sarthak (2009), "*The Tea Labourers of North East India: An Anthropo-Historical Perspective",* A Mittal Publication, New Delhi.

- Sharma, I.R.K. (1986), "Does the Saving Behaviour of the Indian Household Sector Conform to the Planner's Expectations", *Margin,* Vol. 18, Issue No.4, P. 92.

- Sharma, K. R. and T.C. Das (2009), "*Globalization and Plantation Workers in North-East India",* Kalpaz Publications, Delhi.

- Sharma, K.R. and T.C. Das (2008), "*Agony of Plantation Workers in North –East India",* Kalpaz Publications, New Delhi.

- Sharma, Khemraj (1997), "*Socio-economic life of Cinchona Plantation Workers in India*", N.L. Publishers.

- Sharma, Khemraj (2003), "*Tea Plantation Workers in a Himalayan Region*", A Mittal Publications Publisher of Scholarly Books.

- Shukla, P.D. (1991), "*The New Education Policy in India*", Sterling Publication Pvt. Ltd., New Delhi.

- Singh, Navinder K. (2001), "*Role of Women Workers in the Tea Industry of North East India*", Classical Publishing Company, New Delhi.

- Singh, R.D. (1977), "Labour Migration and Its Impact on Employment and Income in a Small Farm Economy", *International Book Review*, Vol.116, Issue No.3, Pp. 331-341.

- Singh, S.N., A. Narain and P. Kumar (2006), *"Socio-Economic and Political Problems of Tea Garden Workers: A Study in Assam*", Mittal Publication, New Delhi.

- Smith, Adam (1776), "*An Inquiry into the Nature and Causes of the Wealth of Nations*", University of Chicago Press.

- Solmon, Lewis. C. (1975), "The Relation between Schooling and Savings Behaviour: An Example of the Indirect Effects of Education", in F. Thomas (ed), *"Education, Income and Human Behaviour*". Pp.253-294, NBER Publisher.

- Toppo, H. (1999), "Violation of Human Rights in the Tea Plantations of Assam and West Bengal", In Thomas Pulloppilli (ed) '*Identity of Adivasis in Assam'*, *Indian Publishers Distributors*, Delhi, Pp. 129-156.

- Unny, C.J. (2012), "Determinants of Savings of Rural Households in Kerala", A Paper Presented at Money and Banking Conference, Kantlya Digital Repository at IGIDR.

Internet Sources:

http://www.assam.gov.in
http://www.fao.org
http://www.indiatea.org
http://www.mapsofindia.com
http://www.mhrd.gov.in
http://www.nedfi.com
http://www.nuepa.org
http://www.revenueassam.nic.in
http://www.righttoeducation.in
http://www.ssaassam.gov.in
http://www.teaboard.gov.in
http://www.udalguri.gov.in

Appendix- A.3.1 Questionnaire/Schedule for the Head of Sample Households (Availability and Impact of Education on Income: A Study of Tea Plantation Workers in Assam)

Date of interview:…….

Date of verification:……..

Name of the Investigator: ……

Name of the respondent: ……..

Name of the head of household:……...

Village:---------- Religion:----------Caste/ Tribe:----------

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Item 1: Whether in migrated. Yes/No

(i) If migrated, when? ……(ii) From where?:……..(iii) Reason for migration:

☐ Better opportunity at new place ☐ Difficulties at old place ☐ Any other

Item 2: Housing Characteristics (Inside/ Outside the Garden)

☐ Own ☐ Rented ☐ provided by the garden authority

Item 3: Employment History

(A) Past Employment

(a) Did you hold any job before joining this garden? Yes/No

(b) If yes: (i) What job?..... (ii) Where?.....

(c) Reasons for leaving previous job.

☐ Better working hour at new job ☐ higher salary than previous job

☐ Better facilities at present job than previous job ☐ any other (specify)

(B) Present Employment

(a) Nature of present job:……b) Permanent or temporary:……

(c) Working hour:…… (d) Salary/ wages……

(e) How many of family members are working in tea garden?

☐ Permanent ☐ Temporary

(f) Are you satisfied with present work? Yes/ No

(g) If yes: mention some reasons

☐ Better working hour ☐ Higher salary ☐ Better extra facilities ☐ any other

(h) Mode of transportation of labour

☐ Residing in the garden itself ☐ residing out side the garden

(C) Future Employment Expectation

(a) Is there availability of better jobs outside the garden? Yes / No

(b) If yes: what are those jobs?..... (c) Are you planning to shift from the present work? Yes/ No

(d) If yes: why?.....

(e) Are promotion facilities available in the present job?..... .(f) If yes, nature of promotion

Item 4:Assets Position of the Farm Household(Fixed Assets)

S. No	Particulars	Number	Year of Purchase/ Construction	Value of Purchase	Current Value (Rs.)
1	House				
	Thatched				
	Tin roof				
	Pucca				
2	Grain storage house				
3	Pump sets				
4	Dug wells				
5	TV				
6	Radio				
7	Cycle				
8	2-Wheelers				
9	Miller				
10	Others				

Item 5: Details on plots of land

Plot number	Name of the location or/and place	Area (bigha)	Land quality*	Lease status**	Terms of lease***	Source of water Irrigation****
1	2	3	4	5	6	7
1						
2						

*Land quality= Fertile/Sandy/Loamy/Clay/Rocky etc **Lease status: OW=Own (not leased), LI=Leased in, LO=Leased out, MI=Mortgaged in, MO=Mortgaged out, AD=Adi *** Terms of lease: A. Sharecropping (50:50), B. Cash rent (Rs. Per bigha), C. Kind rent (Specify name of crop and quantity in kgs per bigha), ****source ofwater/ irrigation: A. Rain B. Natural water ways C. canal, D.Tube well

Item 6: Demographic particulars of the Sample household

SL. No.	Name	Relation to head	Gender (M/F)	Age (Years)	Marital status	Education level	Type of School	occupation Main	Subsidiary Occupation	Monthly income	Remarks
1											
2											

Item 7:Agricultural crops grown during the last year

Sl. No	Crops	Area(bigha)	Output(Kgs)	Yield (kg/bigha)	Cost of input(Approx. in Rs)
1					
2					
Crops: paddy, wheat, maize, pulses, mustard, potatoes, sugarcane, green vegetables, etc					

Item 8: Particulars of Live Stock of Household

S.No.	Particulars	Number	Year of Purchase	Value of Purchase	Total annual income (Rs.)
1	Bullocks				
2	Cows				
3	Buffaloes				
4	Poultry				
5	Sheep/goat				
7	Others (Specify)				

Item 9: Educational Particulars of the Sample Household

(A) Adult (men and women)

(a) Do you receive any special training facility for current job? Yes /No (b) If yes; who provides it? ☐ Garden authority ☐ State/ central government ☐ Trade union association ☐ any other (specify)

(c) If yes; what are those training?

☐ Work based training programme ☐ Education level upliftment programme

☐ Excess income enhancement programmes like weaving, netting, tailoring, poultry, etc. ☐ Any other (specify)

(i) Work based Training Programme

(a) Are you getting work based training? Yes/ No (b) If no; why?

☐ Lack of information ☐ Garden authority/ state government/ trade union are not providing such training ☐ Any other ☐

(c) If yes; who provides?

☐ Garden authority ☐ Trade union ☐ State/ central government ☐ Any other

(d) Is it per month or per annum?

(e) Do you think it enhances your work performances and salary?

(f) Are you willing to avail such programme even from outside the tea garden?

(g) What are the constraints you face to avail such training programmes?

(ii) Education level Upliftment Programme (Informal Education)

(a) Do you receive any educational level upliftment programme? Yes/ No

(b) If no; why? ……..

(c) If yes; who provides?

☐ ☐ ☐ ☐

Garden authority Trade union State/ central government Any other

(d) Is it per month or per annum? ……e) When is the time slot? ……

(f) Is it beneficial to your work or family work?.....(g) What are the constraints do you faced to avail such training programmes?.....

(iii) Extra income enhancement programmes like weaving, netting, tailoring, poultry, etc.

(a) Are you getting income enhancement training? Yes/ No

(b) If no; why?

☐ Lack of information ☐ Garden authority/ state government/ trade union are not providing such training ☐ Any other ☐

(c) If yes; who provides?

☐ Garden authority ☐ Trade union ☐ State/ central government ☐ Any other

(d) Is it per month or per annum? ……..(e) What are the programmes? ……

(f) Are they benefiting you in enhancement of your income? ……..

(g) What are the constraints you face to avail such training programmes?

(B) For Children of Tea Workers

(a) Does the garden authority provide play/ child care school facility? Yes / No

(b) If no; who takes care of their children if all adult members are working?

(c) Do the garden have primary/ secondary/ college? (d) If yes; who provides?

☐ Garden authority ☐ Trade union association ☐ State/ central government ☐ Any other (specify)

(e) Do the tea garden workers engage private tutors for their children? Yes/ No

(f) If yes; who are those tutors?

☐ Teachers from the same school ☐ Teacher of the other school

☐ Educated persons from among the labourers ☐ Any other (specify)

(g) If no; who teach their children when all adult members are working?

(h) Do the children of the tea garden labourers drop out from the school before the completion of the course? Yes/No

(i) If yes; why?

☐ Distance of the school ☐ early marriage ☐ Economic backwardness

☐ Language difficulty ☐ Child labour ☐ Parents indifference to education

☐ Any other (specify)

Item 10: Consumption/Expenditure pattern of the family

	S.No.	Items	Period of expenditure is Incurred(Daily/Weekly / Ftly/Mthly/Qrtly/Yrly)	Quantity	Value (Rs.)
Food	1	Rice			
	2	Wheat			
	3	Oil			
	4	Milk			
	5	Eggs			
	6	Meat/Fish			
	7	Vegetables/Fruits			
	8	Others			
Non-Food	9	Clothing			
	10	Transport Expenses			
	11	Medical/health			
	12	Education			
	13	Fuel/Electricity			
	14	Entertainment/phone			
	15	Alcohol			
	16	Others			

11. Saving

(a) Do you have saving account in Insurance (LIC, SBI, ICICI) or mutual investment?

(b) If yes: in which scheme? ……c) If insurance, for how many persons of family members?.....

(d) Who introduced such schemes to you?

☐ By garden authority ☐ Plantation employers ☐ by concerned companies

☐ Relatives

☐ Personal contact with such companies ☐ Friends ☐ Others

(e) How much do you save per month/ year?.....

(f) Period of saving……(g) Have you save this sum from wage of salary?.....

(12) Investment

(a) Do you invest your salary/ wage? Yes/ No (b) How much money do you invest from your salary?.....

(c) If yes: what kind of investment do you made?

☐ Invest on children's education ☐ Income generation scheme (self help group, co-operative organization, etc.) ☐ on-farm sector (rearing in cattle, fowl, etc)

☐ any others

(d) Is there any demonstration effect in consumption? Yes/ No (e) If yes; which commodity?

☐ Basic consumption ☐ Luxurious consumption

(f) From where do you get this information?

☐ Electronic medias i.e. TV, Radio or newspaper ☐ friends or related persons

Item 13: Annual Income of Sample household

S.No	**Particulars**	**Total annual income**
A	Wages (No. of persons employed)	
B	Services(No. of persons employed)	
C	agriculture	
D	Live stock	
E	Business	
6	Any other(specify)	
Total of (a + b + c + d + e + f)		

Item 14: Credit/Indebtedness/Borrowings

Sl. No	Source of borrowing	Year of loan	Purpose Of loan	Total loan receive d	Interest rate	Nature of repayment	Amount Repaid (Rs.)	Balance Amnt (Rs.)
1								
2								
3								

Sources: Bank, Co-operatives, Friends/Relatives, Village Rich, Village Committee, Traders etc.

Item 15: Whether beneficiary of any govt. scheme? If yes,

(a) Name of the Scheme ……(b)Benefits…….

Item 16: Health Care

(a) Is there any provision of free medical facilities when you are fall sick? (Yes/No)

(b) If yes; what types of health care is provided?

☐ Free medicine ☐ free check up ☐ any other (Specify)

Item 17: Financial assistance

(a) Is there any provision of awarding scholarships to the children of the tea garden workers attending school? Yes/ no

If yes: from where?.....

(b) Is there any facility provided by the Sarva Siksha Abhiyan? Yes/ No (c) If yes: what types of facilities are provided?

☐ Providing funds for infrastructural development ☐ Supply teaching learning materials ☐ any other

(d) Are you satisfied with these schemes?

Appendix- A.3.2 Questionnaire/Schedule for the Head Master of Garden Schools

(Availability and Impact of Education on Income: A Study of Tea Plantation Workers in Assam)

Date of interview:…….

Date of verification:……..

Name of the Investigator: ……

Name of the respondent:.……..

Sex……. Age……..……Village:-…….

Religion:…….……..Caste/ Tribe:.....

Qualification…… Teaching experience (years)……..

---

(1) Language you can speak, read and write:

(2) Identification Data of Tea Garden

(a) Name of the school: …… (b) Name of the tea garden ……..

(c) Name of the nearest town ……..

(d) What is the distance of the town from your school?

☐ Below 1km ☐ 2km to 3 km ☐ 4km to 5km ☐ More than 5 km

3) Management Type and Location of the School

(a) Classes taught in the school:

From class …… to class ……..

(b) Type of school

☐ Girl's school ☐ Boys school ☐ Co-education school

(c) How far is your school from the office of the Deputy Inspector of schools?

☐ Up to 4 km ☐ 5km to 8 km ☐ 9 km to 12 km

(4) School Building

(a)Accommodation available for the school

☐ Open space ☐ Thatched house ☐ Semi Pucca ☐ Pucca ☐ Other

(b) Is the school building owned by?

☐ Tea Garden ☐ Government ☐ Private Managing Board ☐ Any other

c) Total approximate area of the school (in sq. ft)……

(d) Total no. of class rooms including history rooms, geography rooms, etc…….

(e) How many additional rooms for instrumental purpose are required at present? ……

(f) Is their any additional space/ land available for expansion of the building? (Yes/ No)

(5) Schools Hours and Use of School Buildings

(a) What is your school timing? .....

(b) Is the school running in shifts? .....

(c) Is the school premises generally used for other purposes? Yes /No

(6) School Facilities Available

(a) Does the school have playground facilities? (Yes/ No)

(b) Does the school have games and sport materials? (Yes/No)

(c) Does the school have library for the students? (Yes/ No)

(i) if yes; how many books are there in the library?.....

(ii) if not; why?.....

(d) Does the tea garden worker's children attending the school get books, etc. free of cost from the school authority? …….

(e) Does the school arrange for vaccination/ inoculation of students? Yes/ No

(f) Does the children of the tea garden worker's attending the school get free medical treatment? Yes/ No

(i) If yes; from where? .....

(ii) If no: why? .....

(g) Does school have urinals/ lavatories? (Yes/ No)

(h) Does the school provide free Tiffin/meal to the children of the tea garden laborer's attending schools? (Yes/ No)

(i) If yes; how frequently a week daily?…….

(ii) What kinds of Tiffin/ meal are usually provided? ……

(i) Does the school have adequate furniture for the students? (Adequate/ inadequate)

(j) Does the school have adequate furniture for the teachers? (Adequate/ inadequate)

(k) Does the school have adequate number of Black Boards? (Yes/ No)

(l) Is drinking water available to the students in the school premises? (Yes/No)

(7) Home School Contact

(a) Do you keep close contact with the guardians of the school going children of the tea garden labourers? (Yes/ No)

(i) If yes; how?

☐ Visiting students house ☐ Calling guardians meeting ☐ Any other (specify)

(b) Do parents come to discuss the problems of their children? (Yes/ No)

(i) If yes; how frequently? ☐ Very often ☐ Now and then

(8) Wastage and Stagnation

(a) Do the children of the tea garden labourers attending school drops-out from the school before the completion of the course? (Yes/ No) (i) If yes; tick out the reasons separately for boys and girls

	Reasons	Boys	Girls
1	Distance of the school		
2	Caste distinction		
3	Economic backwardness (Poverty of Parents)		
4	Child labour		
5	Poor physical facilities of the school		
6	Defective curriculum		
7	Language difficulty		
8	Parents indifference to education		
9	Poor health of the child		
10	Any other(specify)		

(b) Do the children of the tea garden labourers attending school fail in the same class very frequently? (Yes/ No) (i) If yes tick out the reasons separately for boys and girls

	Reasons	Boys	Girls
1	Not having text books		
2	Inefficient teaching		
3	Lack of proper accommodation		
4	Defective curricula		
5	Language difficulty		
6	Defective examination		
7	Poor health of the child		
8	Parental indifference to education		
9	Irregular admission		
10	Any other(specify)		

(9) Sources Available and Suitability of Syllabus

(a) What subjects are taught in your school?

☐ Assamese ☐ Bengali ☐ English ☐ Social studies

☐ General science ☐ Work experience ☐ Maths ☐ any other (Specify)

(b) What do you think about the proficiency of the school going children of the tea garden labourers of your school in the following subjects?

S.No	Subjects	Good	Average	Poor
1	English			
2	Mother Tongue (Specify)			
3	Other Language Subjects			
4	Mathematics			
5	Social studies			
6	General science			
6	other			

(c) Is the course meant for your school suitable for the children of the tea garden labourers attending the school? (Yes/ No) If no; why?

☐ Too theoretical ☐ Isolated from the practical life

☐ Too advance ☐ Any other (specify)

(10) Reward and Punishment

(1) Do you give reward to the children of the tea garden labourers attending your school? (Yes/No). (a) If yes; when?

☐ Good class performance ☐ Good behavior ☐ Good performance in Exam

☐ Good in extra curricula activities ☐ Any other (specify)

What kinds of rewards are given?

☐ Praising words ☐ Text book ☐ other books

☐ Stationary ☐ Cash Money ☐ Any Others

(b) Do you impose punishment to the children? (Yes/ No). If yes; why?

☐ Poor performance in the class ☐ Poor performance in the examination

☐ Bad conduct ☐ Any other (specify)

(2) What kinds of punishment do you impose?

☐ Corporal punishment ☐ Impose fine ☐ Expulsion ☐ any other (specify)

(3) If no; why?

☐ Found ineffective ☐ Parents complain ☐ Students leave school ☐ Any other

(11) Attitude of Garden Management

(a) What is the attitude of the garden management towards education of the children of the tea garden labourers?

☐ Encourages education ☐ Discourages education

☐ Indifferent ☐ Any other (specify)

(b)What do you think to be the most suitable medium of instruction for the children of tea garden labourers attending school and why? ……

(12) School Discipline

(a) Is there provision for school uniform? (Yes/ No)

If yes; do they wear it regularly? ……

(b) Do the children of the tea garden labourers attending the school come late very often to the school? (Yes/ No)

(c) Do the children of the tea garden labourer's sometime runaway from the school?

☐ Very often ☐ Now and then ☐ Never

(13) Problems Faced by the Teacher

(a) What sort of problems do you face in the school?

☐ Language difficulty in student ☐ Inattention of the students in the class

☐ Students leave school at any time of the year ☐ Students joining school at any time of the year ☐ Irregular attendance of the students ☐ Children of different age group in the class ☐ Lack of text books and other reading materials with the students

☐ Salary of teacher is low ☐ any other (specify)

(14) How many times a year school is inspected by the govt inspector of school? ….

(15) Student Fee

(a) Does the school charge tuition fees on the children of the tea garden labourers attending the school? (Yes /No) If yes; at what rate?

(i) Class 1-2..... (ii) Class 3-4 ……

(iii) Class 4-5 ……(iv) Class 6-7 ……

(b) For what purpose the money (school fee) is utilized?

☐ Building construction ☐ Payment of teacher and other staffs ☐ Student welfare

☐ Purchase of library books ☐ Recurring expenditure of the school ☐ Any other (specify)

(16) School Activities

(a) Do the students have tutorial class? (Yes/No)

(b) Do you teach the student physical exercise? (Yes/No)

(c) Is there any provision for the children of the tea garden labourers to learn music in your school? (Yes/ No)

(17) Private Coaching

(a) Do the tea garden labourers engage private tutors for their children? (Yes/No)

(b) If yes; who are those persons?

☐ Teacher from the same school ☐ Teacher of the other school

☐ Educated persons from among the labourers ☐ any other (specify)

(c) Why do they engage private tutor?

☐ Teaching in the school is not satisfactory to ther ☐ Lack of congenial atmosphere at home ☐ Teachers encourages to take private coaching ☐ any other (specify)

(d) If no; why?

☐ Teaching in the school is satisfactory to them ☐ Economic difficulty

☐ Teacher do not encourage ☐ they are not aware ☐ any other

(18) Examination Procedure

(a) How many examinations do you conduct for each class in a year? …….

(b) What of the following basis is/ are considered essential for promoting students to the next higher class?

☐ Performance in the annual examination ☐ Class attendance

☐ Performance in the annual examination and other examination

☐ Performance in the class ☐ any other (specify)

(19) Staffs Position

(a) Furnish the following information about the teachers in position in your school:

S.No.	Teachers	Full time	Part time	Total
1	SCs			
2	STs			
3	OBCs			
4	General			
5	Total			

(b) Give the number of teachers according to this qualification, sex and stage at which they are teaching:

Qualification	No. of Teachers in position

	Primary		Middle		Secondary		Higher Secondary	
	Male	female	male	female	male	female	male	female
Below Middle pass								
Middle pass								
Matriculate								
Graduate								
Post graduate								
Any other								

(20) Discussion Sheet

Appendix- A.3.3 Questionnaire/Schedule for the Garden Owner

(Availability and Impact of Education on Income: A Study of Tea Plantation Workers in Assam)

Date of interview:…….
Date of verification:……..
Name of the Investigator: ……
Name of the respondent: ……..

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(1) Location of the Tea Estate

(a) Name of the Tea Estate: ……..
(b) Post Office: ……..(c) Police station……..
(d) District: …… (e) Sub-division…….
(f) Distance from the Sub-division: ……

(2) Date of Establishment ……..(3) Date of possession ……
(4) If purchased, when and where from ……
(5) Nature of ownership: …….. (6) Name of the proprietor:…….

(7) Area, Production and Productivity

Year	Area (Hect/Acre	Production(000 tones)				Productivity (Kg/ hac)			
		CTC	Orthodox	Green	Total	CTC	Orthodox	Green	Total

(8) Labour particulars

S.No	Particulars		Male	Female	Child labour	Total
(a)	Managerial	Permanent				
		Casual				
(b)	Factory workers	Permanent				
		Casual				
(c)	Field workers	Permanent				
		Casual				

(9): School information

(a) School particulars

S. No	School particulars		Total
1	No. of Schools	Primary	
		Middle	
		High school	
2	No. of students		
3	No. of teachers		

(b)Who managed the school in the garden?

☐ Government ☐ Local body ☐ Garden owners ☐ Garden aided

☐ Private aided ☐ Any other (specify)

(c) Is there any provision of awarding scholarships to the children of the tea garden labourers attending school? (Yes/No)

(i) If yes; from where? ……..

(ii) How many such scholarships have been given till now? ……..

(d) Is there any facilities provided by Sarba Shikhsha Abhijan? Yes/ No

(e) If yes, what types of facilities are provided by Sarba Shikhsha Abhijan?

☐ Providing funds for infrastructural development

☐ Mid day meal scheme ☐ Supply teaching learning materials

(f) Do you feel satisfy with the facilities provided by Sarba Siksha Abhijan?

(10) Health care

(a) Do you have any health care facilities for the workers in the garden? Yes/ No

If yes; how do you access it to them?

☐ By distributing free medicine ☐ through free medical cam ☐ any other (specify)

(b) Do you provide free medical check up while workers are in seriously ill or made an accident? Yes/ No

(c) Do you arrange any vaccination/ inoculation for the children's of tea garden workers in your tea garden? Yes/ No

(11) Infrastructure

(a) Is there any pucca road connecting from the garden to nearest town? Yes/ No

(b) Do you provide drinking water to tea garden workers? Yes/ No

If yes: how? ……

If no; how did they get the drinking water? ……

(c) Do you provide housing facilities to the workers? Yes/ No

(d) If yes; what types of house do you provide?

☐ Pucca ☐ Semi pucca ☐ Kacha house ☐ Thatches house ☐ any other (specify)

(12) Discussion sheet

PhD Synopsis

AVAILABILITY AND IMPACT OF EDUCATION ON INCOME: A STUDY OF TEA PLANTATION WORKERS IN ASSAM

A THESIS SUBMITTED TO THE UNIVERSITY OF HYDERABAD
FOR THE AWARD OF THE DEGREE OF
DOCTOR OF PHILOSOPHY IN
ECONOMICS

BY

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AVAILABILITY AND IMPACT OF EDUCATION ON INCOME: A STUDY OF TEA PLANTATION WORKERS IN ASSAM

Introduction

Tea industry is a labour intensive industry in Assam which requires a large number of regular labour forces. Tea industry, being a labour intensive industry, provides employment to a large number of workforces in the state. The employment potential in tea industry is more than any other sectors in the state. The magnitude of employment generated by the tea industry in the state of Assam can be understood by its direct employment of about 2 million persons spread over the state both in the field and factory of which about 50 percent are women workers and children (Tea Digest, 2005-06, Tea Board of India). A large proportion of these plantation workers are illiterate or educationally backward. Education, an important ladder for transformation of a community or society for betterment, is at the root of the social exclusion of the tea workers. There are only few schools in the garden areas and the quality of education provided in these schools remains to be a concern. Therefore, an overwhelming majority of the children of the tea plantation workers drop-out from schools before they can use education to step in to other profession and thus they have to enter the tea gardens as labourers. As a result, the literacy rate among the tea garden workers and their families is poor. Thus, to protect them from such suffering or ill fortune, since independence the Government of India through the Central Board for Workers' Education introduced educational programmes such as vocational training to increase the general awareness of the workers and adult education programme to educate those workers who could not attend or were compelled to leave schools early. The Directorate of Welfare of Tea Garden & Ex-tea Garden Tribes, constituted by the Government of Assam in 1984 also introduced post-matric scholarships, grant for cultural activities including educational tour, grant to non-official organizations, grant for purchase of text books and uniform and grants for construction of hostels for boys/girls.

The Tea Garden Cell was established by the Sarva Siksha Abhiyan (SSA) with the officials of elementary education and secondary education in 2003. Since inception, the SSA has been taking part in providing various schemes for the development of tea

plantation community in the state. Accordingly, they have established some schools in the gardens of Assam. Further, the SSA Mission has been engaging in many educational developmental activities in plantation areas since the inception. Some of these activities are enrolment drive programme, Meena Campaign, summer camp, orientation of children on scouts & guide, drills, reading ability development of children and enhancement of co-curricular skills of children. In addition to establishment of schools and educational development activities, the SSA mission also has granted annual school infrastructure, maintenance & repairing and teachers' grants to the tea garden managed schools in 2008-09. This scheme includes granting financial assistance for construction and repairing school buildings, toilets, drinking water facilities and fencing/ boundary wall etc.

Despite many efforts, improvement of their educational level seems to be far below the expectation. In spite of various educational policies, high percentage of illiteracy still exists among the tea garden labourers compared to other occupations. This is evident from some of the studies like Toppo (1999) and Fernandes et al. (2003). According to Toppo (1999), the quality of education system in the tea plantation areas are not up to the mark. As a result many students drop-out from schools. Fernandes et al. (2003) found poor infrastructural facilities in the tea garden area schools. They concluded that the poor infrastructural provision in the tea plantation area school is the main reason behind the illiteracy among workers. Therefore, it is felt necessary to examine the availability and accessibility of educational facilities in tea garden areas and also to evaluate how the level of education influences the earning, saving or investment patterns of workers.

Objectives

In the light of above background and motivations, in the present thesis, an attempt has been made to examine the following main objectives:

(a) to give an overview of the present state of education among the tea plantation workers in Assam,

(b) to evaluate the availability and accessibility of education among the workers in the sample tea gardens and to analyze the reasons behind the disparities in the level and access of education among the tea plantation workers and

(c) to examine the influences of education on the employment, earning, saving and investment patterns of sample workers.

Data Sources and Methodology

Relevant empirical data for the present study were collected through both secondary and primary sources. The data through secondary sources were collected to provide a general overview of labour force of tea industry and to provide key information about various aspects of tea industry. The primary data were collected to get into more intensive information at the micro level. The primary surveys collected more detailed information into socio-economic conditions of tea plantation workers. The secondary data were collected from websites of annual reports of Indian Tea Association, Tea Board of India, CMIE, Food and Agricultural Organization, NUEPA publications on district education information and NER data bank.

Primary data were collected from four tea estates in Udalguri district of Assam. The behind choosing Udalguri district is that Udalguri district is a newly formed district in the state with densely tea plantation area. Many scholars and researchers have studied various aspects of the tea garden workers of various plantation districts of Assam, i.e., Jorhat, Dibrugarh, Sibsagar, Golaghat, Cachar. Being a newly formed district, no comprehensive study has yet been carried out till today in Udalguri district on this present topic. Therefore, present study covers Udalguri district as sample study area.

The primary survey adopted a multi stage random sampling method. At the first stage, Udalguri district was selected among the tea growing districts of Assam. Besides about 21 big tea gardens, Udalguri has ever increasing number of small tea gardens, both at the co-operative and individual basis. At the second stage, a list of major tea gardens in Udalguri was made. At the third stage, four tea estates (two big gardens and two small gardens, were selected for primary data collection. Bhooteachang Tea Estate (under the McLeod Russel India Limited) and Hattigor Tea Estate (Amalgamated Plantations Private Limited) are big tea gardens selected for the study. Two small tea gardens are Brotherhood Tea Growing Firm and Jwnglari Tea Farm. From these tea estates, the primary data were collected using structured questionnaires which were administered at the household level. Primary data were collected from school head masters and garden authorities also.

The analysis on the overview of educational status in Assam (i.e., first objective) is based on the available secondary data. Availability and accessibility of education facilities have been examined by the tabulated primary survey data. The econometric regression analysis is adopted to examine the influence of education of sample workers on the

earning, saving and investment. The earning function analysis uses the basic human capital earning function of Mincer (1974). The exact earning model is specified as the individual worker's total income is dependent function of educational level and occupation type of the individual worker. For the estimations of the saving and investment functions, linear models used by Rogg (2000) and Kibet et al. (2009) had been adopted in the present study. In both saving and investment functions, independent variables are education level and the earning of workers. Each model has been estimated for the total sample and for three income groups as per our classification, i.e., low income group (upto Rs. 30000), middle income group (30000-70000) and high income group (70000 and above). All three models have been specified in the double log form because it is convenient to interpret in terms of percentage change. Moreover, the elasticity meanings can be obtained from the estimated slope coefficients.

Hypotheses

The present study is based on the following main hypotheses: (a) Higher educated workers earn higher income than those who have lower educational qualifications and have greater likelihood of being employed at higher paid employment and as a result offer greater economic security and higher ability to accumulate wealth and enabling individuals to obtain higher standard of living. According to the studies of Becker (1964), Bowen (1964), Myrdral (1968), education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising worker's future income by increasing their lifetime earnings. (b) Better educated workers save and invest more than less educated workers on many respects. It is generally assumed that with higher level of education, they understand better regarding the benefits of saving and investment and hence, do higher saving and investment. Further, more educated workers with higher earning have more ability to save than less educated individuals. Many studies like Collin (1991), Athukorala and Sen (2001) etc. have also proved that education has positive impact on saving and investment behaviour of an individual.

Organization of the Study

The entire thesis is organized into seven chapters. The first chapter is the introduction chapter. This chapter deals with the introduction of the problem, significance and scope of the study, objectives, hypothesis, data sources and methodology. In chapter 2, a brief

overview of education among the tea plantation workers in Assam is discussed with the help available secondary data. The first section gives an account of development of education system in plantation areas before the independence. The second section describes the development of education during the post independence period, followed by the scenario of education in tea plantation after the globalization. Chapter 3 describes the sample tea estates and primary survey data collection. Chapter 4 discusses the general profile of sample households where main items are on the demographic characteristics, occupational structure, income expenditure pattern and social organisations.

Chapters 5 and 6 form the main chapters of the thesis. The analysis of availability and accessibility of education among the sample workers is made in chapter 5. The availability of schools in sample tea estates is discussed in section 5.2. The accessibility of education among workers in sample tea estates is examined in section 5.3. Further, the reasons for discrepancies in level of accessibility of education among the sample workers and the factors affecting the educational development in sample gardens are examined in section 5.4 and 5.5 respectively. Finally, in section 5.6, policy measures to improve education among the sample workers are discussed briefly.

The chapter 6 is focused on how education affects occupational distribution of sample workers with different levels of education. Further, disparity in gaining employment with similar level of education among the sample workers is also examined. Besides this, an attempt is made to examine how different levels of education affect the earnings of sample workers. This chapter also examines the impact of education on saving and investment behaviour of sample households. Moreover, the determinants of saving and investment of sample workers is also briefly analyzed in this chapter. Finally, chapter 7 provides the broad summary of the study and derives some policy implications.

Chapter-wise Main Findings

The chapter 2 discussed the overview of the education of tea plantation workers in Assam. The analysis was based on the secondary data and information. Education development of tea plantation workers was neglected during the pre-independence period both by the garden authorities and government. After independence, many Acts and rules were passed by both the central and state governments for the educational development as well as overall welfare of the garden workers. One notable was the Plantation Labour Act of 1951. But, inspite of several provisions, still tea garden workers are backward educationally and

economically compared to many workers in other sectors. Secondary data show us that educational facilities for the members of the tea garden resident workers community or the whole demographic group consisting of the casual workers as well as the ex-tea garden workers are below the actual needs, both qualitatively and quantitatively. This is partly due to the apathy on the part of the guardians who are mostly illiterate and the rampant poverty which prevent the guardians from dispensing with the income of their children.

Chapters 5 and 6 form the core of the study as the main objectives of the thesis were examined. These have been examined using the primary survey data.

The analysis of availability and accessibility of education among the sample workers in is given in chapter 5. Some of the main findings of this chapter are given below:

(a) The state of education among the tea workers in the sample gardens is very poor both qualitatively and quantitatively. Still about 60% of sample are illiterate.

(b) Available schools are limited to the primary level only in the sample gardens. Schools beyond primary level are not found in all the sample gardens. Children who wish to continue their studies beyond primary level have to go to outside schools which are located at nearby towns. These towns are far from the sample gardens and therefore, children who wish to go for further studies have to face many problems. Existing schools suffer from many problems like lack of qualified teachers, etc.

(c) The extent of wastage and stagnation among school children in sample gardens has been very high. School drop-out students were found almost in both families of literate and illiterate parents and in all occupations. However, drop-out number was higher among the illiterate parents than in literate families.

(d) The power of accessibility of education among the sample workers is not equally distributed. The highest number of students studying at the college level (about 22 students) is from officer families. While children of other occupations are almost decreasing in number while moving from the lower class to higher class, children from officer families are almost remaining the same in number. Among labourer families, maximum children are studying in primary schools. One sad thing is that in each occupation category in the combined sample, at least some children are found who are out-of-schools, the largest number being in the labourer families.

(e) On average, the parents' education level has been found to have direct and positive impact on their children's education. Therefore, the parents who are literate and

educated are sending more children to schools and receiving better education compared to those of illiterate parents.

(f) The extent of consumption of alcohol is found to be high among the tea labourers. Though alcoholism does not have any direct impact on the education of the school going children yet it has adverse effects on the economic, social condition and health aspects of the labourers. Thus, higher percentage (35.2%) of drop-out children was observed in alcoholic families than in non-alcoholic families. On the other hand, non-alcoholic families have higher proportion (68.4%) of school going children than in alcoholic families. This shows that children of alcoholic families are more likely to be deprived of education than non-alcoholic families.

(g) Education of girl children is very much neglected among the tea garden labourers. It was observed that at all levels of schooling, number of girl students has been lower than number of boy students in every garden. Moreover, the number of school going girls goes on falling at every higher class of education. This is due to the lack of proper appreciation of the value of girls' education.

(h) The main source of income of majority of sample families is the wage income from garden works. The statistical testing shows that, on average, parents' income level affects children's education positively, i.e., the higher the income level of the family, more children are likely to get more and better education. But the simple correlation coefficient between the household income level and number of school going children is found to be very low. Some families with higher income were also reluctant to send their children to schools.

Chapter 6 discussed how education affected occupational distribution of sample workers with different levels of education. Further, this chapter also examined econometrically the influence of education on the earning, saving and investment behaviour of sample workers. Some of main findings observed from the analysis of the sample data in this chapter are given below:

(a) Majority (75% of total workers) is in the category of manual workers followed by agricultural workers whose salary is low. While the absolute number of workers in the category of medical assistants is the lowest (followed by teachers, office staff, clerk etc.), their average annual income is the highest among all workers.

(b)Our sample data also support the statement that workers with higher level of education are engaged in better paid works than the less educated workers. All the workers with higher secondary and graduate level education are engaged in better paid job positions such as office staff, teachers, artisans, medical assistant etc. rather than in manual works. On the contrary, out of the total sample workforce, 310 workers (60.5%) are illiterate in the combined sample and majority of them (282 illiterate workers) are engaged in the manual works. The main duties of these manual workers are working in the field as tea leaf plucking, cleaning bushes, spraying fertilizers and pesticides, watering, gardening, packing, cleaning the factory rooms or machines etc.

(c) The sample data analysis showed that workers with higher level of education have higher annual average earnings. That is, with additional level of education, the average earning level also increased among the sample workers. The average earning of a worker with graduate degree was higher by about 284% compared to an illiterate worker. This means that there is a positive correlation between the level of education and respective average earning level. Thus, our finding confirms the statement of the studies like Becker (1964), Bowen (1964), Myrdral (1968) etc. who stated that education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising worker's future income by increasing their lifetime earnings.

(d)Though tea plantation workers earn low average income in general yet they do have saving behaviour. Many of them save out of their earning income. The calculated saving-earnings ratio has been rising as we move up from the illiterate heads of households to graduate and above level of education (from 0.14 to 0.39). Thus, it is clear that higher level of education encourages/enables persons in occupying better jobs and earning higher income and as a result leading to more ability to save. The calculated correlation coefficient between the average earning and average saving of sample households is very high (0.96). Sample workers were also found to make some forms of investment like investment in children's education, investment in other income generating activities, etc. Like saving behaviour, investment decision/amount was found to be rising as we move from illiterate workers to higher education level and graduation and above.

(e) Our estimated earning function results showed that both explanatory variables (education and occupation) influenced the earning of workers in a positive way. This indicates that by increasing the appropriate level of education and occupation position of workers, earning or income of workers may be increased further. But the observed low R-square value in the total sample and in each income group indicates that selected independent variables included in the model are able to explain a very small portion of the variation in the earning of workers.

(f) The estimated results of the saving function showed that education level variable has positive influence on the saving amount of workers of the total sample as well as for all income groups. Income level was found to have positive and significant influence on the saving amount of workers for the total sample and also for all income groups. The positive influence of income on the saving was observed to be increasing as we move from the low income group to the high income group of workers. Like in the saving function, estimated results showed that education level and education level variables had positive influence on the investment amount of workers of the total sample as well as for all income groups. Both in the saving and investment functions, low R-square value was observed signifying that other variables, not included in the model, together may be able to explain a major portion of the variation in the dependent variable. Some of these non-included variables may be lack of awareness, lack of willingness, lack of opportunities to save/invest etc. Thus, this finding of the present study similar to other studies like Collin (1991), Athukorala and Sen (2001) etc. which proved that education has positive impact on saving and investment behaviour of an individual.

Policy Implications and Suggestions

Above findings have important policy implications for the development of education and socio-economic conditions of tea plantation workers in Assam. The present study shows the educational backwardness, its reasons and other related implications on the earning and saving of sample workers. Moreover, findings of the present study also show that the state government of Assam has been lagging behind in implementing the rules and provisions of recently enacted 'Right to Education Act, RTE, 2009' or the Right of Children to Free and Compulsory Education Act. Education facilities cannot be neglected for any society in any region. Considering the factors responsible for educational backwardness, prompt

measures for its improvement are considered highly necessary. Three broad interrelated and interdependent measures, viz, institutional, economic and social, can be adopted. These are briefly described below:

(a) Institutional measures: Since the tea garden areas have non-available schools, more schools should be established, especially beyond the primary level. In this context, the state government and garden authorities have vital roles. No doubt, the state government has already initiated to introduce schools through Assam Sarva Siksha Abhiyan. However, schools are still limited to primary level only. Therefore, state government should establish more schools, both primary and higher.

Maximum workers in sample gardens are illiterate and are not able to appreciate the value of education. Therefore, to spread the awareness of education among them, constant campaign on education is required. This can be done through the government agencies, NGOs and garden authorities. They should come together to campaign for the awareness programmes on education in the garden areas. Moreover, education of parents is linked to the education development of children. Since many parents are illiterates and uneducated, massive adult education programmes should be taken up so as to enable the parents to appreciate the value of children's education. For this purpose, more night schools should be established in the garden areas by the planters in co-operation with the concerned departments. Workers should be encouraged to attend such schools.

Many tea garden authorities have given a scanty attention towards the educational aspect since the inception of tea plantation. This attitude should be done away with. The tea garden authorities should open up their eyes in giving adequate attention to education of workers and their children. Existing rules and provisions should be implemented properly by garden authorities for the welfare of all workers. This can only happen when state government will keep an eye on garden authorities regarding implementation of various policies and schemes. Theoretically, many garden authorities had provided all the necessary provisions required for the school children. But in actual practice, existence of large school-dropout children implies that all is not well in garden schools. To encourage both parents and children, incentives should be given to the school going children as scholarships. Facilities like infrastructure facilities, good teachers, scholarships etc. should be improved. Therefore, the state authority should check physical facilities provided by garden authorities. For this, inspection should be made regularly from time to time.

(b) Economic Measures: Within the tea garden areas, all the plantation workers are not engaged in plantation works due to inability of the estates to absorb all of them. Moreover, as the nature of workers in tea garden is more or less seasonal, the number of permanent labourers in the estates is less. Besides, they are paid very less amount as their daily wages. Therefore, in addition to plantation work, the labourers have time and can engage themselves in other subsidiary occupations to boost their incomes. Some of these subsidiary occupations are agricultural activities, rearing livestock, shop keeping, small business, etc. Therefore, state and garden authorities should encourage and give incentives to workers to take up such subsidiary occupations.

Many garden areas do not have provisions of the non-farm activities like small manufacturing, construction, handicraft, repair, tailoring, netting, cutting, processing and personal services etc. Though tea plantation is playing a very significant role for generating employment to the workers in tea gardens, the introduction of non-farm activities will create additional employment for those workers who are not able to get work in the gardens. For these, free training programmes should be given to the deserving candidates. Thus, development of various non-farm activities can effectively be exploited as a potential stimulator for generating additional income to garden workers. Introducing self help groups in the garden areas will also boost their income by earning additional income through various group activities.

(c) Social Measures: Practices of child labour, child marriage, alcoholism, neglect of education of girl children are some of the main social problems among the tea garden workers. As stated above, school going children are withdrawn from schools to fulfil the demand of labour force during the peak seasons. This leads to drop-outs and stagnation to many school children. Generally, many garden workers arrange their children's marriage at their early ages. Moreover, negligence of girls' education is common problem among the sample workers. Such social practice leads to further problem of illiteracy, health problem and ignorance to higher education values. State policies to control or activities of NGOs on the awareness of people on the bad sides of such social practices must be available. In this context, adult education programmes can play a good role.

Further, field survey found that many family heads in sample areas drink country made liquor and alcohol. Although alcoholism of parents does not affect children's education directly, yet it affects the health of the alcoholic person and consequently affects the earning of that person. Therefore, besides government agencies, local student/social

organization should conduct awareness campaign against the negative effect of the alcoholism.

References

- Athukorala, P. C. and K. Sen (2001), "The Determinants of Private Saving in India", Working Papers in Trade and Development, Division of Economics, Research School of Pacific and Asian Studies.

- Becker, G. S. (1964), "*Human Capital*", Columbia University Press, New York.

- Bowen, S.G. (1964), "Assessing the Economic Contribution of Education: An Appraisal of Alternative Approaches", in M. Blaug (ed), '*Economics of Education'*, Vol.1, Penguin Books.

- Collins, S. M. (1991), "Saving Behaviour in Ten Developing Countries", in B. Douglas Bernheim and J. B. Shoven, (eds), '*National Saving and Economics Performance'*. National Bureau of Economic Research, Chicago, Pp.349-373.

- Fernandes, W., S. Barbara and G. Bharali (2003), "Children of the Plantation Labourers and Their Right to Education", paper presented in the 'Seminar on Labour and Employment Relations in Plantations in a Globalizing Economy', at V. V. Giri National Labour Institute and OKDISC, March 9-10, 2003.

- Kibet, Lawrence K., Mutai B.K., Desterio E. O., Shem A. Ouma and George Owuor (2009), "Determinants of Household Saving: Case Study of Smallholder Farmers, Entrepreneurs and Teachers in Rural Areas of Kenya", *Journal of Development and Agricultural Economics,* Vol. 1, Issue No.7, Pp. 137-143.

- Lucas, Robert (1988), "On the Mechanics of Economics Development", *Journal of Monetary Economics,* Volume 22, Issue No.1,Pp 3-42.

- Mincer, Jacob (1974), "Progress in Human Capital Analysis of the Distribution of Earnings", Working Paper Series of National Bureau of Economic Research.

- Myrdal, G. (1968), "Asian Drama: An Inquiry into the Poverty of Nations", *The Australian Quarterly,* Vol.40, Issue No.4, Pp.118-121.

- Myrdal, G. (1968), "Asian Drama: An Inquiry into the Poverty of Nations", *The Australian Quarterly,* Vol.40, Issue No.4, Pp.118-121.

- Psacharopoulos, George and Harry A. Patrinos (2004), "Returns to Investment in Education: A Further Update", *Education Economics*, Vol.12, Issue No.2, Pp.111-134.

- Rogg, Christian S. (2000), "*The Impact of Access to Credit on the Saving Behaviour of Micro-entrepreneurs: Evidence from 3 Latin American Countries*", Inter American Development Bank Publishers.

Toppo, H. (1999), "Violation of Human Rights in the Tea Plantations of Assam and West Bengal", In Thomas Pulloppilli (ed) '*Identity of Adivasis in Assam'*, *Indian Publishers Distributors*, Delhi, Pp. 129-156.

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