

**SOCIAL SECURITY AS A PRODUCTIVE FACTOR  
FOR INFORMAL WORKERS IN TEA GARDENS OF  
BRAHMAPUTRA VALLEY IN ASSAM**

**SUBMITTED BY**

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# सिक्किम विश्वविद्यालय

(भारतीय संसद के अधिनियमद्वारा स्थापित केन्द्रीय विश्वविद्यालय)  
गुणवत्तापूर्ण प्रबंधन प्रणाली ISO 9001:2008 हेतु प्रमाणित संस्थान

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### DECLARATION

I hereby declare that the research work embodied in the dissertation titled "Social Security as a Productive Factor for Tea Garden Workers in Bramhaputra Valley Of Assam" submitted to Sikkim University is my original work. The content of this dissertation or any part of it has neither been submitted nor has been presented anywhere for any other degree, diploma etc.

The entire work of the dissertation has duly acknowledged the work of others wherever and whenever they are used in the thesis

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### CERTIFICATE

This is to certify that the dissertation titled "**Social Security as a Productive Factor for Tea Garden Workers in Bramhaputra Valley of Assam**" submitted to the Sikkim University for partial fulfillment of the requirement of the degree of **Master of Philosophy** in Social Science embodies the result of *bona fide* research work carried out by **Angshuman Sarma** under my sincere guidance and direct supervision. No part of the dissertation has been submitted anywhere for any other degree, diploma, scholarship and fellowship

All the assistance and help received the research work have been duly acknowledged by him.

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# Abbreviations

NCEUS: National Commission for Enterprises in Unorganized Sector

ILO: International Labor Organization

ICT: Information and Communications Technologies

SAP: Structural Adjustment Policy

FAOSTAT: Food and Agricultural Organization of the United Nations

NSS: National Sample Survey

CPR: Community Property Resources

PLA: Plantation Labour Act

TNLA: Transport of Native Labourers Act

MNC: Multi-National Company

ANOVA: Analysis Of Variance

LP: Lower Primary

**CHAPTER 1**  
**INTRODUCTION**

# CHAPTER 1

## INTRODUCTION

### 1.1 Theoretical Background

The tea industry occupies a significant position in the history of the development of Indian economy in terms of its contribution in exports, income and employment. The tea sector is said to be undergoing a crisis since the early 1990s. This crisis in the tea industry is manifested through stagnation in production, decline in exports and closure of tea gardens. Although its linkage to the opening up of the economy has been widely commented upon, at the root of the crisis lies low productivity in the tea sector. Inter alia tea garden labourers are facing a crisis of livelihood. For a number of reasons, it is difficult for them to move out of the gardens and find alternative sources of livelihoods. Their story is among many such contradictions that remain at the margins of the discourse of a globalising and developed India. This study, though focused on a much narrower question, attempts to understand the work conditions in Assam's tea plantations that share the characteristics of both agriculture and industry. Although the tea sector is officially part of the organised sector, informalisation and casualisation of labour have been among the key dimensions of the recent changes in this sector. Tea plantations in India employ more than a million permanent workers, and perhaps twice as many seasonal laborers. This makes the industry the largest private-sector employer in the country. But workers depend on plantations for more than just employment: millions of workers and their families live on the plantations, and rely on them for basic services, including food supplies, health care and education.

The demand –supply scenario in the tea labour market in Assam, particularly in relation to changing employment condition and labour productivity brings out the problems faced by tea sector on employment front. The peculiarity of labour market scenario in the tea gardens lies in the fact that both demand and supply sides are governed by a set of factors that imports the characteristics of ‘Informal Sector’ workers. The main character is rapidly growing informalisation of workforce

Keith Hart (1973), has coined the term informal sector which is defined as that part of the urban labor force which falls outside the organized labor market. But the division of the economy into two sectors has a long heritage. Arthur Lewis (1954) in one of his seminal article propounded the theory of Dualism which assumed that there was an unlimited supply of labor in most developing countries and that vast pool of surplus labor would be absorbed as the modern industrial sector in these countries grew. Hence unorganized sector with surplus labor will gradually disappear as the surplus labor gets absorbed in organized sector. But the late-comer developing countries faced an entirely new situation of development. In 2002 in the report, Decent Work and the Informal Economy, ILO acknowledges that, the informal economy has been swelling rapidly almost everywhere in the world and can no longer be considered a temporary or residual phenomenon. The Lewis model was drawn from the experience of the capitalist countries in which the share of agriculture and the share of unorganized sector showed a spectacular decline. That was not found to be true of many developing countries, including India. (Parthosarathy, 1996).

The concept of unorganized sector began to receive world–wide attention in the early 1970s, when the International Labor Organisation (ILO) initiated serious efforts to

identify and study the area through its World Employment Programme Missions in Africa. In India the National Commission for Enterprises in the Unorganized Sector (NCEUS) in their 2006 and 2007 reports conceptualized unorganized workers as consists of those working in the unorganized sector, excluding regular workers with social security provided by the employer, and includes a worker in the formal sector without any employment and social security benefits provided by the employer.

Plantation is a labour based economy. The production of tea mainly depends on manual labours, who pluck green tea leaves in the tea gardens. In India, tea plucking is done manually; both male and female labourers participate in the job of tea leaf plucking. The more the green leaves plucked by the individual, the more the production of tea. It is often understood and evidences have shown that physical work performance or capacity for work is influenced by many factors, for instance, biological (e.g. age, sex, body dimensions, etc.), psychic (attitude, motivation, etc.), environmental (altitude, air pressure, heat, cold, etc.), nature of work (intensity, duration, technique, etc.), and training and adaptation etc.

Informalisation or casualisation of employment is also increasing in tea industry. The tea industry is also facing stiff competition. Free imports and reduced exports created a harsh situation for the owners and managers. With the objective of lowering the cost of production owners are increasingly resorting to casualisation of employment. Manager's increasingly using contract labors (Ananthanarayanan, 2008). Now only 30-40% tea garden workers in Assam are formally employed. Each tea garden employs casual workers in peak season.



The tea industry in India is said to be facing a severe crisis. However, over the past decade, domestic consumption of tea has increased at a faster rate than production— at a steady rate of around 15 to 20 million kg annually. The steady increase in domestic demand and the inability of the tea sector to enhance production has resulted in a decline in tea exports. India's share in global export of tea has declined drastically in the recent period. The decision of the government to allow cheaper tea imports from Bangladesh and Sri Lanka, according to tea producers, has only deepened the crisis. However, the fall in the price of tea was observed in India as well as in other tea producing countries. Declining productivity in the tea sector at the all India level gets manifested in the tea gardens of Assam much more pronouncedly than in any other state or region. At the same time we can see informalisation of employment in this sector.

Several recent studies (Baruah, 2008) (Bhowmik, 1997) and reports have showed the growing labour unrest and worsening living conditions of labourers in the tea gardens. While low labour productivity is frequently cited as the main reason behind the crisis faced by the sector, other variables such as inability to expand the area under cultivation, ageing of the tea-bushes, inadequate replanting of bushes, inadequate investments in plant modernisation and labour welfare measures, and traditional, cost ineffective management practices have also contributed towards the near-stagnation of production.

While growth rates of production have been considerably low in almost all the major tea producing states, for Assam it was the worst. Among the southern states, growth in tea production was negative in Kerala and was exceptionally low in Tamil Nadu. The important aspect of the growth performance of the states in the recent years is

the remarkably poor performance in production in Assam, as well as north India as a whole during 1998-2004.

One important aspect of the declining productivity growth in tea plantation is the inadequate replanting of bushes. The desired annual rate of replanting is 2 per cent. However, in north India, the present annual rate of replanting is less than 0.3 per cent. 1998-2004, growth was negative in all the districts of Assam

In this pretext the study regarded productivity as a performance indicator as well as basic goal of all firms. However a large no of factors contribute to productivity at the national level. But two factors are important: 1) Technology 2) Human Resource. It is universally well known that technology is an effective factor and many studies have been made on impact of technology on productivity performance (Baruah P. , 2008). Unfortunately because of past success with technology human factor has been neglected. Recently it is realized that human factors plays no less significant role in improving productivity of a concern than technology. And converting the petty workers as resource means providing them social security. Now here, the definition of social security deserves closer attention. Dreze and Sen (1989) first articulated a broader concept of social security. For them social security is...social means to prevent deprivation and vulnerability to deprivation. They conceptualized social security to mean, the support provided to the individuals by the society to enable him/ her to attain a reasonable standard of living and to protect the same from falling due to the occurrence of any contingency. This definition of social security includes both the protective aspects of preventing a decline in living standards and promotional aspects of enhancing normal living condition. Protective aspects means The protection which society provides for its

members, through a series of public measures, against the economic and social distress that otherwise would be caused by the stoppage or substantial reduction in earnings resulting from sickness, maternity, employment injury, unemployment, invalidity, old age and death. This includes the provision of medical care; .and the provisions of subsidies for families with children. Promotional aspects mean food security, housing and sanitation and also income and employment security, education, skill development etc. in the era of liberalisation the market fluctuations in labour demand conditions, our analysis shows, have largely been absorbed by this segment of the labour force: casual workers

## **1.2 Globalisation and Informal Workers**

There are indications that as the Indian economy are integrated into the global circuits of production, exchange and accumulation, the burden of adjustments is being disproportionately shared by small and marginal farmers, agricultural labourers, workers in the urban informal sector and informal workers in organized sector. Globalisation of the world economy tend to privilege capital, since that can move quickly across borders, but disadvantageous to labour, especially lower-skilled workers who cannot migrate easily or cannot migrate at all. To compete global market, more and more investors are moving to countries that have low labour costs or resorting to informal recruitment.

Historically, tea sector in India in particular have been associated with bondage and indenture labour systems, implying varying degrees of freedom for the labourers. Notwithstanding the state-initiated efforts to safeguard the constitutionally guaranteed minimal rights to the workers, reorganisation of this sector in response to changing market conditions and near-complete unionisation seems to be limited by the immobility of tea garden workers or their descendants in terms of diversified employment

opportunities. There seems to be a considerable degree of ‘crowding in’ of tea garden workers and their families in the tea sector itself. In the era of globalisation these slothfully mobile workforce is facing unprecedentedly internationally mobile capital. This, in fact, has been the case not only in India, but elsewhere too.

Globalisation has been conceptualized as a process of fundamental restructuring of the global economy in a historically unprecedented, irreversible ways (Skonieczny, 2010). However many authors like (Hirst, 1997) (Sweezy, 1997) have questioned this conceptualisation of globalisation as a historically unique process of change. They have attempted to show that in its essence, globalisation is a process of market expansion, which have a strong historical connection. Apart from historical connections present day globalisation has unique features. As against the older Fordist production organisations, the post-Fordist regimes went in for flexible specialisation, with an emphasis on a lean production base that enabled international mobility of capital at an unprecedented scale. Searching for cheapest labour, raw materials, markets, low tax and less rigid environmental regulations, capital could acquire a degree of mobility that was unprecedented. The scale of international flow of commodities, services and capital, the phenomenal improvement in transport and communication technologies, the rise of telecommunications and Information and Communications Technologies (ICTs), and the significant rise of financial capital are all features of contemporary globalisation that bring to it new dimensions.

Borders still matter for most activities as they did in the past, and the different socio-cultural features of countries still leave their imprint on the institutional forms of activities as they have always done. The difference lies in the fact that the majority of

activities, wherever and however they were persisted, are now constrained in one way or another by the same financial goals established by the world's capital markets. This financialisation of the global economy and the homogenisation of priorities is entirely represents nothing other than a new, defining stage in history.

Many developing countries persuaded Structural Adjustment Policy (SAP) that erased capacity of national governments to pursue independent economic policies. If a country tied to the vortex of global capital flows the capacity of the nation-State to pursue policies of its choice, even assuming that its intended policies are informed by the best interests of the people, gets undermined when the economy over which it presides is open to global financial flows (Patnaik, 2013). Finance capital always resents an activist State in matters of employment and activity, it wants State activism occur only towards its own appeasement. And when finance capital is international while the State is a nation-State, its caprices acquire a spontaneous effectiveness, in the sense that any State which dares to go against its wishes, finds itself confronted with "loss of confidence" and hence possible capital flight, not just by foreign but by domestic ones as well (Patnaik, 2014).

Hence as capital move from country to country in search of the lowest wage rates, labourers are facing to low wages, lack of additional benefits, and lack of security in their workplace. Governments are also now less able to respond to the vulnerable and disadvantaged sections of the workforce because revenues are decreasing as tariffs and taxes are reduced as part of the globalisation process. With the extent of this mobility its capacity to transform production conditions across the developing countries, that is, capacity to look for cheap labour within and beyond borders has resulted in significant erosion of the bargaining power of labour within many national contexts. Because finally



there has been a forceful campaign from the international organisations in favor of freeing up market forces in the labour market by cutting employment securities, minimum wages and social protection. The outcome of privatisation in the production process is that the State is compelled to promote the idea of Labour Market Flexibility, including Production Flexibility, Wage System Flexibility and Employment Flexibility. Thus the global competition tends to encourage formal sector (like tea in India) to shift formal wage workers to informal employment arrangements without minimum wages, assured work and social security benefits. It has also been observed that due to the poor physical and social base, a large portion of the people are forced to seek employment with extremely low levels of productivity and wages.

India, no doubt, has some restrictions on cross border financial flows (which may be construed as giving its State a certain degree of autonomy); but it is still sufficiently open to capital flows to transform production condition in India. Thus that unprecedentedly internationally mobile capital thus creates conditions in countries like India to introduce what is euphemistically called labour market flexibility. And even when labour market flexibility has not been formally introduced, other measures which have a *de facto* effect similar to labour market flexibility, like outsourcing and greater use of casual workers were persisted. This increases, not in the ranks of the regular workforce in the organized sector, but in casual, informal, and intermittent employment.

The reform years have witnessed drastic changes in production and production relations. Increasing instances of contractualisation of work is creating a condition in which each worker becomes an enterprise in itself competing for a higher share of income. The quality of employment has been deteriorating significantly in terms of,

rights at work, working conditions, health and safety at work and their ability to negotiate. Intensification of work is a matter of major concern; workers have to work for longer hours to maintain their level of income. Overall employment is becoming less and less a guarantee for food security for many workers only. It has been argued that India's labour market regulations are highly biased towards the organised sector. Even while facing challenges from a globally integrated market, India's vast unorganized sector has been playing a significant, though often less-acknowledged, role in India's post-reform growth. The organised sector itself has gone in for a various ways of informalisation of its operations in terms of greater degree of outsourcing, subcontracting and casualisation across a range of industries, to provide cheap labour to global capital.

But there are contradictory views. Goldberg and Pavnick (2003) and Marjit, Biswas and Ghosh (2007) argue that liberal trade and investment policies may expand or contract output and employment in the informal sector. Whether labor market reforms help the informal workers depend on the behavior of capital flows. Marjit, Kar and Beladi (2007) show that even if workers are laid off in the formal sector and fall upon casual jobs, informal wage and employment can still go up provided capital can be relocated easily from the formal to the informal sector. Depending on the degree of capital reallocation between the formal and the informal sector two countervailing possibilities will occur. But finally they too have agreed that even if capital is considered to be freely mobile between the formal and the informal sectors, as flexible labour market conditions increase returns to capital in the formal sector, capital is drawn into the formal sector and away from the informal sector. A pure supply side response will then be a cut back in the existing wage in the informal sector, hurting the left-out informal workers. (Marjit, Kar,

& Maiti, 2009) Moreover, if formal sector does not expand sufficiently despite increased inflow of capital, more people will be informally employed.

### **1.3 Globalisation and Tea Garden Workers**

India's recent growth performance is widely credited to the bold steps that were taken to deregulate and liberalise the economy with the reforms initiated in 1991. While the overall growth of the economy has fuelled considerable optimism within and outside the country, India's agriculture sector has failed to grow at an appreciable rate. In fact, productivity growth in agriculture has decelerated since the 1990s, leading to an agrarian crisis in many of the poorer regions of India. The informal sector that provides employment to nearly 90 per cent of the workers has also been showing signs of continuing distress in this period of rapid economic growth. Plantation Economy that share the characteristics of both agriculture and industry. Plantation economies in general, and the tea sector in particular, have historically been associated with bondage and indentured labour systems. Although the tea sector is officially part of the organized sector, Informalisation and casualisation of labour have been among the key dimensions of the recent changes in this sector. During the post-liberalisation period the Indian tea industry has been facing a severe crisis, primarily because of a fall in tea auction prices. Other manifestations of this crisis include decline in exports, closure and abandonment of tea gardens; increasing labour unrest at times leading to violent protests and confrontations, nonpayment and curtailment of wages and other statutory benefits of workers, declining living standards and worsening human security in the tea gardens (Guardian, 2007; Ramadurai, 2002).

The crisis in Indian tea industry will be clearer if we see the share of two major tea producing countries in world tea production. China with the highest share in world production of tea around one-third, in 2008. It is remarkable increase from around 10 per cent in 1961. India was the largest producer of tea with a 36 per cent share during 1961 and maintain this status until 2004; since then India's share in world total tea production has declined continuously (Table 1). Similar changes are also noticeable in the share of different tea producing countries in total area under tea. By 2004, China's share in area under tea went up to nearly 46 per cent, while that of India had come down to 19 per cent. India, which had 34 per cent of total area under tea in the world, has steadily lost its position and by the 1990s its share had already come down to 19 per cent (Table 1.1).

**Table 1.1: Annual Production of Tea in China and India: 1961-2008 (in metric tons)**

	1961	1971	1981	1991	2001	2004	2008
China	97,064 (9.87)	179,984 (13.76)	368,223 (19.52)	562,961 (21.98)	721,536 (23.49)	855,422 (24.96)	1,275,384 (32.75)
India	354,397 (36.02)	435,468 (33.28)	559,583 (29.67)	720,300 (28.13)	847,000 (27.58)	878,000 (25.62)	805,180 (20.68)

*Note:* Figures in parentheses show percentage share of world total.

*Source:* FAOSTAT (Food and Agricultural Organization of the United Nations)

**Table 1.2: Area under Tea in China and India: 1961-2004**

	1961	1971	1981	1991	2001	2004
China		303,000 (27.74)		1,060,530 (48.90)	1,140,700 (43.24)	1,262,310 (45.49)
India	332,254 (33.69)	356,516 (25.19)	384,242 (34.44)	420,500 (19.39)	509,806 (19.32)	521,403 (18.79)

*Note:* Figures in parentheses show percentage share of world total. *Source:* Tea Statistics of India (Tea Board, various issues)

Even though area under tea plantation in China is not increasing (in fact decreased between 1991 and 2001) their total production is growing. That means productivity in tea plantations is increasing and that pushed China up to first rank in world in global share of tea production. That clearly indicate severe crisis being faced by tea industry in India, particularly after the disintegration of the Soviet Union, the largest importer of Indian tea. However, over the past decade domestic consumption of tea has increased at a faster rate than production, because of steady increase in domestic demand and the inability of the tea sector to enhance production has resulted in a decline in tea exports. The decision of the government to allow cheaper tea imports from Bangladesh and Sri Lanka, according to tea producers has only deepened the crisis.

There is a growing body of opinion that argues that high labour costs is a result of state regulations to ensure some security to workers and high labour cost is the root cause of the failure of the Indian tea industry to be competitive in both the global and domestic market. Thus the tea sector in Assam, while facing the challenges posed by globalisation, has opted for a strategy of cost reduction that involves increasing casualisation of the labour force. Given the specific characteristics of labour relations in plantations, this has meant drastic reduction in Social Securities for tea workers particularly the casual segment. The crisis in the tea sector, particularly in Assam, has led to labour unrest and apprehensions regarding the future prospects of the sector and of the workers depending upon the sector. Relations between tea garden employers and labourers have deteriorated over the past decades and the crisis in the tea industry has aggravated it. Change in labour share Total cost of tea Industry is not equivalent to change in real wages of labour. Labour share of tea workers was very tiny from earlier days. It was never higher. Due to



state legislations this share had increased little bit. But in the liberalisation era total revenue by tea industry has fall down, so labour share was about to increased. That's why there are any arguments blaming high labour cost as a reason for crisis in tea industry. Actually it's only their share that has increased because total revenue declined. Their real wage never increased. Declining productivity in the tea sector at the all India level gets manifested in the tea gardens of Assam much more pronouncedly than in any other state or region. At the same time we can see informalisation of employment in this sector

Even though labour share in cost is said to be the one of the main reason of inability to compete in a globalized world. But the fact is change in labour share is not equivalent to change in real wages of labour. Labour share of tea workers was very tiny from earlier days. It was never higher. Due to law this share had increased little bit. But in liberalisation total revenue by tea industry has fall down so labour share was about to increased. That's why there are any arguments blaming high labour cost as a reason for crisis in tea industry. Actually it is only their share that has increased because total revenue declined. Their real wage never increased (Marjit, Ghosh, & Biswas, 2007)

### **1.3 Research Questions**

1. What is the degree of relationship between social security and labour productivity?
2. What is the overall impact of Informalisation on living condition and productivity of tea garden workers?
3. How occupational health hazard creating hindrance for labour productivity?
4. What factors determine the employment relation of worker in tea garden?

## **1.4 Objectives of the Study**

The objectives of the study are as follows:

1. To explore various types of social security provided to the garden workers.
2. To study the extent of effect of social security on labour productivity on the basis of size of tea garden in Assam.
3. To measure the labour productivity of tea garden workers at present levels of social security in each garden. .
4. To estimate the garden-wise degree of relationship between social security and productivity of workers.

**CHAPTER 2**  
**LITERATURE REVIEW**

# **CHAPTER 2**

## **LITERATURE REVIEW**

### **2.1: The Background**

Today, an alarming situation exists in most of the production unit, where two different types of workers work in the same floor, performing the same job but under highly unequal working condition. The proportion of permanent workers and those with secure employment and social security benefits has significantly come down. Tea garden is also not an exception to this. The organized sector has been rapidly shrinking. The proportion of workers in the unorganized sector and unorganized segment of organized sector has been increasing. This is accomplished by hiring and firing of workers according to need of the market, masking of employer-employee relationship by resorting to various methods – contractisation, outsourcing, casualisation, getting the same work done by casual or daily wage workers etc. (Kabra, 2003). India is the second largest producer and consumer of tea. The tea industry in India is one of the oldest industries and among the largest employers in the organized sector. Over 12 lakh permanent and almost the same number of casual and seasonal workers are employed in the industry. Over 50%, and in some operations, like tea plucking, over 80% of these, are women. 75% of tea is produced in 1686 big tea estates while 1.41 lakh small tea growers contribute to 25% production of tea.

No state government has even included the tea industry in the schedule of employment in the Minimum Wages Act (1948). The wages of tea workers are the lowest among the so-called organized sector. The 15th session of the Indian Labour Conference in 1957 decided that the formula for fixing minimum wages for an adult worker should

be based on the costs of three units of consumption. The owners of the tea estates argued that since employment was family based, the ratio of 1:3 (Ratio of wage of one adult worker to three units of consumption, i.e. three members in a family) was too high and only 1.5 units of consumption should be taken into account for fixing minimum wages. In 1966, the Central Wage Board for the Tea Plantation Industry found the employer's argument baseless as the extent of family employment was not as much as in the earlier days. (Bhowmik, 1997). Even the workers cannot earn all the days of a month. Sujata Gothoskar observed "most workers are able to work for 18 to 20 days a month and receive an average of ₹2,000 a month. (The general range is between ₹ 1,800 and ₹ 2,200.) This is because the workloads are such that it is not possible to work for all six days of the workweek without injury or illness. The monthly wage amounts to much less than \$2 per day and would come within the definition of extreme poverty. All workers report that their wages are far from sufficient to make ends meet" (Gothoskar, 2012, p. 33).

## **2.2 Socio Economic Dimensions of Workers in Tea Plantations**

Despite similar per day per hectare labour days employed in the Tea industry across the country, the productivity of labour in the tea industry of Assam is one of the lowest and it has not achieved much increase over the years (Baruah, 2008). Productivity of labour in Assam is below all India level and the gap between productivity of Assam and India was increasing till Nineties, but that productivity of Assam increased relative to all India level because of the plunge of small tea growers in this sector (In 1998 state government allowed small tea farmers to do tea farming). But again that gap is decreasing.

**Table 2.1: Labour Productivity of Tea Garden Workers in Assam and India**

(Production per Labour in kg)

	1982	1986	1991	1995	2002	2004
Assam	646	693	715	710	740	713
All India	651	696	757	735	691	696

Study of a tea plantation owned and operated by a big company (Jayaraman & Ray, 2014) shows approximately 73 percent of the pluckers are permanently employed and have a median tenure of 21 years, approximately. They are entitled to work on all workdays. They cannot be fired. Moreover, the Plantation Labour Act of 1951 stirrer generous non-pecuniary benefits for all permanent workers, including free housing, health care and children's education. The remaining 27% of workers are hired on a temporary basis season by season. Temporary workers are not entitled to the same non-pecuniary benefits. According to management, absenteeism is idiosyncratic (i.e., not in the form of coordinated shutdowns or strikes) and driven largely by illness or family obligations (Jayaraman & Ray, 2014).

A remark often made that high labour cost in the regulated labour market of tea (ensured by the Plantations Labour Act (PLA), 1951) has destroyed competitiveness. In the post-liberalisation period the tea sector witnessed labour retrenchment and rising casualisation of the workforce. Chapter 3 of the book *Unfolding Crisis in Assam's tea Plantation* (Sharma, Mishra, & Upadhay, 2012), based on Tea Board of India statistics, analyses the trend in labour use and spatio-temporal variations in labour absorption in Assam's tea sector, which had reached its peak in 1997 (engagement of 2.5 workers per hectare from 2.2 workers per hectare in 1980, which again declined to 2.3 workers per

hectare in 2004). Data provides clear indication that along with formal absorption (employment elasticity <1), labour productivity also shows a declining trend.

Poor labour absorption and productivity reflects the crisis in this sector and its inability to ensure inclusive growth. As indicated by (Joseph, 2012), taking account of the Human Development Reports of the states of India, where plantation areas (all types including tea) are located, concentration of plantations in backward districts of the respective states have been found. As argued by Joseph plantation development can help promote growth in backward areas. The counterargument to this is that reduction in inequality and a fair distribution of the gains from plantations will depend on the presence of effective regulatory measures. Moreover, the gender dimension occupies an important place in the tea plantation sector, which has a very significant involvement of women

A large proportion of tea plantation workers in India are still women, most of whom are illiterate or educationally backward. Basumatari (2013) found in her study on four tea gardens in Udalguri district a very low proportion (only 39.7 percent) of the population were literate. Again a large proportion of women workers in the sample gardens were illiterate, women literates consisting of only 33.4 percent. In all the sample gardens, female literacy was less than that of male workers. Another pathetic feature of Plantation economy is huge existence of child and adolescent labour. Non-adult permanent workers accounted for around 3.10% of the total permanent workers in the tea industry as a whole in 2004. The actual incidence of child labour is considered to be higher, as many of them are employed as casual workers. The incidence of child labour was found to be much higher in Assam (5.23%) than in the plantations of South India,

although there has been a sharp decline in the share of child labour since the early 1990s (Tea Board, 2004; Sarma et al., 2008)

Under the Plantation Labour Act, 1951, employers are required to provide ration, fuel, housing, maternity benefits and free medical treatment to the workers, appoint welfare officers, make primary education compulsory for all and have crèches where there are more than 50 workers are women. But the study of two tea gardens of Hajua Tea Estate of Sibsagar District and Marangi Tea Estate of Golaghat District in Assam shows that only some of the above benefits are available to the workers of the two surveyed tea estates, some of them are not applicable in the case of temporary workers who constitute a considerable proportion in the surveyed tea estates. Factors such as income, educational levels of the workers, availability of medical facilities in the tea gardens, hygiene and sanitation, general awareness and perception about the different occupational health hazards has resulted in a number of work-related accidents and the workers are found to suffer from a number of health problems (Borgohain, 2013). ILO, Committee on Employment and Social Policy in their agenda note on ‘Social Security as a Productive Factor’ wish further research on that issue. (‘Research could be undertaken on the growth-fostering role of social protection system’ (ILO, 2005).

The *coolie*<sup>1</sup> lines do not fall under the purview of the Panchayati Raj system, the residents here are being deprived of benefits accruing under many Central and State government welfare schemes The tea garden *coolie* lines are considered as neither urban nor rural areas. They have not even been declared as habitat villages within the tea gardens while the labourers residing here are not recognized as Below the Poverty Line (BPL) despite their obvious poverty and poor living conditions. They have thus not

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<sup>1</sup> *Coolie* is the local name for tea garden workers. *Coolie* line means hamlet for tea garden workers



received any ration card-cum-identification card mentioning their BPL status. Consequently, the *coolie* lines in the tea gardens in the state have no rural electricity connections nor are they covered by any subsidized rural electrification schemes for the BPL population (Saikia, 2008)

Still existing colonial structure made tea Industry in Assam an ‘Enclave Economy’<sup>2</sup> (Gupta, 1985; Baran, 1967). That local economy is poorly diversified and workers’ lack of access to education appear to be the prime determinants of concentration in lower-end jobs in and around plantations. These, combined with uncertain income at the local labour market make tea estate jobs preferable for the sampled workers. This great deal of occupational concentration in the tea gardens; the little occupational diversification that is visible seems not because people have willingly shifted. There are two reasons for this – they are either retired or not absorbed in the tea estates. It appears that this phenomenon of abundant labour supply is utilized well by the estate sector, offering work opportunities in casual form, and by the newly-emerged tea smallholdings, where labour does not come under regulation.

## **2.2: Informalisation and Social Security**

It is entirely normal to describe the informal sector by summing up the absence of element found in the formal sector. In the absence of a more analytical definition, the landscape of the informal sector becomes synonymous with the kaleidoscope of unregulated, poorly skilled and low-paid workers. Highlighting this chaotic assortment Keith Hart coined the term ‘informal economy’ in 1971. There are different

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<sup>2</sup> Enclave economy is defined as an economic system in which an export base industry dominated by international or non-local capital owners. The term is widely used to describe post-colonial dependency relations. An enclave economy differs itself from rest of the economy in terms of culture, legal etc. there are both plantation and mining types of enclaves.

terminologies used so interchangeably to signify the unorganized sector like informal sector, informal economy, and even informal labour which often highlights the most affected part of the sector, namely, the labour. Informal labour is a labour whose use is not governed either by state regulations or by collective agreements between workers and employers.

Informal labour has, in different instances, been viewed as labour engaged in urban small scale enterprises, as self-employment, as labour engaged in “traditional activities”, as wholly unskilled labour, and as labour whose use is not subject to any rules or norms. But none of this has any sound conceptual or empirical foundation. Informality does not imply a particular mode or location of labour use; informal labour can be in self-employment, in casual wage employment, and in regular wage employment, just as it can be in urban as well as in rural areas. There is little reason to think that informal labour must be confined to ‘traditional’ and ‘modern’ activities.

There are many workers in organized sector who are employed informally. That means they are not entitled to any social security. In 2009-10 there are 42.14 million i.e. 9.16% of total work force are under informal employment (NSS 66th round). Thus, while the organized sector’s share in employment is increasing, it is only due to the increase in informal employment in that sector. (Mehrotra, 2012) What this mean in simple term is that the entire increase in the employment in the organized sector is without any job or social security, which can be termed as informalisation of formal sector where any employment increase consist of regular worker without social security and casual or contract workers again without those benefits that should accrue to formal workers.

Informalisation of workforce thus had become one of the most severely debated aspects of our post-reform growth process. Firms find it optimal to use informal labour more intensively because marginal costs associated with such employment are lower than formal one. The continuous tendency for Informalisation eventually mean reduction in social security in other words (sometimes putting incentives in place of social security, say in service sector). So there are two contending views. One is that informalisation will give higher output because it will squeeze out more productive effort. According to this view labor productivity depends on the effort a worker is willing to expend; if they face a content threat of lay off workers will not shirk, and thus they will produce efficiently. So according to this view investing in social security measures is regarded as unproductive expenditures. Until now, social security has attracted attention mainly in terms of financial burden on public finances (Yasuharu, 2011). Informalisation allows for firms larger expansion of output at a lower marginal cost. (Bhusnurmath, 2012).

The other view is that social security should be provided not only on human grounds but also for economic reasons as they are conducive to productivity and aggregate demand. (ILO, 2001). It advocated that public discussions often convey the impression that social protection is rather considered as hampering economic productivity than reinforcing it. However, there is also a growing recognition that social protection policies can have a positive impact on the economic environment either directly through fostering productivity and – more indirectly – through fostering social cohesion and social peace which are prerequisites for stable long-term economic growth. The core of the debate on the economic repercussions of social protection is thus whether social protection systems are purely mechanisms that redistribute consumption based on some

normative rules among citizens – which could have negative effects on economic performance – or whether they can also be considered a societal investment in social and human capital with long-term growth enhancing effects (ILO, 2005).

### **2.3: Social Security and Labour Productivity**

It has been suggested by various researchers that social security contributes to labour productivity and enhancing social stability (ILO, 2001). Various types of social security particularly relevant to labour productivity are:

1. Health-care systems help to maintain workers in good health and to cure those who become sick. A major cause of low productivity is Poor health, in many developing countries where workers do not have access to adequate health care. This not only limit their ability to cope with the physical demands of their jobs, but it also leads to sickness absence and can seriously undermine efficiency even among workers who do not absent themselves from work. Care for workers' family members help to ensure the good health of the future labour force. Sickness absence is frequently seen among tea garden workers also (ILO, 2001).
2. Pension systems ease the departure of older workers from the labour force, thereby helping to avoid the problem of workers remaining in employment when their productivity has fallen to a low level. Pension systems can be interpreted as systems that allow for buy-out of exhausted persons from the production process (Martin, 1996).
3. Cash sickness benefit contributes to the recovery of sick workers by removing the financial pressure to carry on working when ill. It also helps to maintain the

productivity of other workers by countering the spread of infection (Duggal, 2006).

4. Maternity insurance is of particular importance for the reproduction of a healthy workforce, as well as for the maintenance of the health of working mothers. . Studies have shown that provision of child care in the work place, results in up to 50 per cent enhancement in the income of the mother as well as lower morbidity and a better growth rate for the child (Jhabvala, 1998).
5. Work injuries schemes — the oldest and most widespread form of social security —are playing an increasingly important role in preventing work-related accidents and sickness and in rehabilitating workers who fall victim to these. Such activities are of considerable relevance to labour productivity, given the tremendous numbers of days off work attributable to avoidable health risks (ILO, 2005).
6. Unemployment benefit provides unemployed workers with the breathing space they need in order to find suitable work which makes full use of their talents and potential; the associated employment and training services are also highly relevant in this respect. Moreover self-employed and wage contracted workers have little access to capital and hence find it difficult to increase productivity (Floro & Beneria, 2003; ILO, 2001).
7. Child benefits (and other cash benefits provided when the breadwinner is unable to work) help to ensure that families with children have enough income to provide proper nutrition and a healthy living environment for their children. In developing countries, child benefits can also be a powerful instrument to combat child labour and promote school attendance. (ILO, 2001) Children can thus receive an

education that will permit them in the long run to attain much higher levels of productivity and income.

More indirect effects on productivity may also be important. The existence of a good unemployment insurance scheme creates a feeling of security among the workforce which can greatly facilitate structural change and technological innovations that workers might otherwise perceive as a great threat to their livelihoods. Social security can be an important factor in the maintenance of effective demand and of business environment. This effect is most obvious in the case of unemployment benefits, since that help to maintain the purchasing power of workers during jobless period. However, other social security benefits also act as an economic buffer during a recession. Without them, the multiplier effects of the first round of job losses could be followed by second and third rounds that could cut deep into the social fabric.

But there are other factors also that affects labour productivity. Das (2012) has shown that in large sized gardens each worker covers more area for plucking and accordingly lesser in mid-sized and small sized gardens. However, during the peak season, the area coverage per worker gradually diminishes as more casual labourers are hired for plucking the leaves. So to say precisely area covered by each worker varies with the size of the garden. Moreover naturally age is also another factor that effects labour productivity. Similarly, the effect of skill and body shapes has a significant relationship on labour productivity (Roy, 2005) .In another study Mean Social Security Scores has been calculated taking the following aspects:  $s_1$ = Paid Leave,  $s_2$ = Bonus ,  $s_3$ = medical support,  $s_4$ = Housing Support,  $s_5$ =Maternity leave,  $s_6$ = Insurance,  $s_7$ = Other benefit.

Access to any of these benefits is given the value 1 and non-availability had been assigned value zero. The composite Social Security Score will be  $S = \sum_{i=1,2,3...7} S_i$ . (Sharma et al, 2012)

Finally apart from swelling casualisation and sluggish labour productivity there are some unique features of labour market in tea industry. Firstly, the plantation system has a distinguishable, vertical work hierarchy that maintains the class structure of workers and management. Critics point out that, in its pre-marketing phases, the industry has still maintained the feudal relations of production. Secondly, women constitute over 45% of the total labour force in the industry. This is the only industry in the organized sector that employs such a high proportion of female workers. They are mainly employed in plucking of tea leaves and in easy maintenance work. Thirdly, engagement of adolescent and child labour as permanent workers is a special feature of the plantation industry. Fourthly, in comparison to other sectors, the rate of unionisation is fairly high in the tea industry. Fifthly, not only money wage, real wage of tea plantation labourers are also the lowest in the organized sector.

**CHAPTER 3**  
**PROFILE OF STUDY AREA**



# **CHAPTER 3**

## **PROFILE OF STUDY AREA**

### **3.1 Origin of Tea Garden Workers in Assam**

Informalisation within organized sector is increasing in the era of globalisation in a break neck speed, which was not even anticipated by many development theorists. Higher the Informalisation lower will be Social Security for workers. Tea industry is the largest organized sector in India. Although the tea sector is officially part of the organised sector, informalisation and casualisation of labour have been among the key dimensions of the recent changes in this sector. But the enclave economy of tea gardens have long history and gardens still inherits many colonial legacies.

Gardens have long- standing association with notion of paradise and civilisation, weather in indo-Persian or in European tradition. However from the early modern period onward there appeared a remarkable change, as Europeans began to view gardens as receptacles of Empire, filled with collections of flora and fauna accumulated from the land they had discovered and colonized. The creation of botanical and zoological gardens linked with bio-prospecting explorations and imperial expansions was paralleled by global endeavors to transform seemingly nonproductive spaces into productive gardens. Assam appeared to be a promising example of such a space (Sarma, 2012).

Assam is innumerous ways a state of exceptional interest. Assam comprises the Brahmaputra and the Barak river valleys along with the Karbi Anglong and the North Cachar Hills with an area of 30,285 square miles (78,438 square km) comprising 27 districts. As per 2011 census, total population of Assam was 31,169,272, which is 2.58

percentage of India's population comprising of 1,210,193,422. Male population of Assam is 15,954,927 whereas female population is 15,214,345 (Assam D. o., 2012). Assam is bounded on the North by Arunachal Pradesh and Bhutan; on the South by Tripura, Mizoram, Meghalaya and Manipur; on the West by West Bengal and Bangladesh. The state comprises mainly two river valleys, namely; the Brahmaputra Valley and the Barak valley.<sup>3</sup>

Tea is the oldest industry in organized manufacturing sector in India. Still it is the largest employment provider in that sector. One out of seven in organized manufacturing is a tea-worker. India's place in the world tea market is unquestionably very high. It occupies the largest area (40%) under tea, and produces the largest amount (38%) in the world. The leading provinces in respect of tea industry in India are Assam and West Bengal. The area devoted for this purpose in Assam is 270,163 ha in 2002 (Baruah, 2002). Tea is produced in some other provinces like Tripura, Uttar Pradesh, Bihar, Himachal Pradesh, Tamil Nadu, Kerala and Karnataka. But, in fact the plantation of tea is practically restricted to the table land of Assam with its two adjacent districts Darjeeling and Jalpaiguri of West Bengal, and to the elevated regions of Malabar Coast and Nilgiri regions of South India

Assam is the world's largest tea growing region, producing more than 500million of KGs of tea annually. Beautiful tea estates of Assam cover about 2, 16, 200 hectares of land. There are 765 tea estates in Assam and more than 100,000 smaller gardens that together produce, more than half of the tea consumed by India and 13 percent of global tea production. Cropping season normally begins from March and lasts by mid-

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<sup>3</sup> The map of the Dibrugarh Tea District attached in the annexure-3

December. For around two months from March is First plucking season. The second plucking season starts from June. Nowhere in the world has the tea grown in such a large quantity as in Assam. The labour force in the tea gardens popularly called as the 'tea tribes' and 'ex-tea tribes'. In 2000, a total of 602531 labourers along with their dependents were working in 1,012 registered gardens spread in an area of 2.32 lakh hectares, which is 2.9% of Assam landmass.

### **3.2 The History of the Plantations in Assam**

After 1826 Treaty of *Yandabo* for which Assam has been under British rule and the enjoyed the blessing of a settled Government, its material prosperity had increased rapidly. Its trade had grown, and its exports of mustard seed, potatoes (introduced in the Khasi hills by David Scott), silk and other local produce had increased greatly, both in the quantity and value. Coal had been discovered and worked in various parts, especially in the neighborhood of Makum in the Lakimpur district,<sup>4</sup> and mineral oil had been found at Digboi in the same district, where wells had been sunk for its extraction (Gait, 2013). But by far the most important factor in the growing prosperity and commercial importance of the province had been the remarkable expansion of Tea industry. Imperial capital transformed Assam into a plantation economy characterized as much by rapid demographic change as by visible emergence of ordered tea gardens and rice fields in place of forest, riverine and commons lands.

But throughout the entire colonial rule, urban and infrastructure growth within Assam remain tardy, since the state attention and private investment concentrated on agro-industrial plantation sector and mining. The export oriented tea enterprise focused on

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<sup>4</sup> After independence Makum is now a part of Tinsukia district.

intimating connections that are external to the region centering around Kolkata and its port and looking to the British metropolis beyond. Rather than serve as agents within Assam, Kolkata's managing agency houses were the hub for Assam tea's capital accumulation, disbursement, recruitment, supplies and marketing.

The discovery of the tea bush in Assam by Robert Bruce inspired the colonial capitalist to make large-scale investments in it. The availability of suitable land and a thin population were favourable conditions so was the climate of Assam. Brahmaputra Valley is perhaps the best tea growing area of the world with favourable soil, climate and topography. Once the problem of land was over the planter had to manage necessary capital. To attract the investors the colonialist enacted many laws in their favour. Within two decades many more British companies entered different parts of Assam. Between 1859 and 1866, the British Authority cleared the hills of Assam for tea gardens and tried to attract huge investments for the industry. In 1837 British for the first time exported 46 boxes of tea leaves to England and initiated the international business of tea. Within a few decades, tea manufacturers in Assam had covered 54 percent of the market in the United Kingdom and had outstripped China (Fernandes et al, 2003).

Once the problem of capital was solved the first major tea garden was started in upper Assam in 1839 by the Assam Company. From the time the steady growth of the tea industry began from 1870, the plantations faced labour shortage. The technology of the plantation system that was launched was primitive and labour intensive. So supply of labour became the crucial factor. The total labour force in the Assam plantation in 1859 hardly exceeded 10,000 although knowledgeable planters put the requirement for the province at 16,000 to 20,000

hands for current plantation alone.<sup>5</sup>The Assam Company in its beginning years paid its imported Chinese staff some 70 workers at one stage four to five times the wage rate paid to the corresponding categories of Assamese labour.<sup>6</sup>After the services of the Chinese workers were dispensed with in 1843, the local people remained practically the sole source of labour for the industry till 1859. At first the planters hoped that the indigenous people of Assam would become labourers once they lost their land according to the *Wasteland Grant Rules 1838*. The most important source of recruitment was the Kachari tribe of Darrang district. Besides, peasants of nearby villages in their drooping season were also employed through contractors.

But the Bodo, Kachari, Ahom and other indigenous people of Assam were reluctant to clear dense forests infested with malaria and kala-ezar. Besides, becoming wage labourers on land that was acquired unjustly from them would have gone against their self-respect (Guha, 2006). The income differential between plantation work and the peasant economy and the unattractive working conditions added to their refusal to become wage labourers. Besides, the cultivators were reluctant to be away from home to work in the plantations. It needed both men and women but Assamese men were not ready to allow women to work under the British planters. (Guha, 2006). Moreover local labourers were attached to their homes and families in village and very frequently used to go back to them their heart was not at work but at their home. This promoted the planters to seriously consider introducing labourers who will work not only for themselves but would encourage their women and children to work in plantations. (Baruah, 2008)

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<sup>5</sup>*Selection from the Records of the Government of Bengal*, Vol. 37, pp. 63-66 and 69-72.

<sup>6</sup>Antrobus, *History of Assam Company*, pp. 383 and 388.

Thus, these arose great scarcity of labours and the Assam Company decided to recruit labours from the other parts of the country and sent agents to then Bengal and present Bangladesh. In 1852, an agency was opened in Rangpur district of Bengal and 392 labours were brought to Cachar tea estates for the first time, and then another 400 in 1859 from Chota Nagpur, Ghazipur and Banaras.<sup>7</sup> The planters began to recruit workers from Bihar, Jharkhand, Uttar Pradesh and other parts of India as indentured labour in slave-like conditions. They were uprooted from their land and livelihood by the *Permanent Settlement Act 1793* meant to ensure regular tax collection for the colonial government. Impoverished by it they had no choice but to find other sources of bread and butter. In the absence of options, they were forced to follow the labour contractor and become indentured labour on the land that the Assam indigenous communities had lost under the same colonial processes to the tea gardens.

### **3.3: The Saga of Minimum Wage**

The labour policy of planters and their government was not to encourage free labour market by offering competitive wages. Unlike the public works department and railways, the planters made the worse use of semi-feudal methods to suppress wages and reduce free labourers to a kind of serfdom

The wage rate generally varied between ₹ 2.50 and ₹ 3.50 per month in the 1840s and early 1850s, and it rose to ₹ 4 immediately after the revolt of 1857. The local labour had bargaining power. It is on the record that the labour of the Assam Company struck work in 1848 and gheraoed the superintendent's office to realize three months wage

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<sup>7</sup> Kurmi, Sushil. 1991. *Chah Bagichar Jivan Aru Sanskriti*. (Assamese: Life and Culture in Tea Garden). Asom Sahitya Sabha, 1<sup>st</sup> Ed: 1-88.

arrears. They were able to secure an assurance about no default in payment of wages in the future. Again, in 1859 the Company's Kachari labour struck work for a wage increase. This time, with the help of the District Magistrate, the leaders of the strike were apprehended, tried on the spot and punished on the plea that any stoppage of work before the expiry of their contract was illegal.<sup>8</sup> Twenty two leaders were arrested and imprisoned for periods up to one year, and twenty others were dismissed from service.<sup>9</sup>

The conditions soon changed after indentured labour began to appear on the tea plantation system. The TNLA of 1863 did not stipulate a minimum wage but required the wage rate to be started in written contract. However, the actual payment was made proportionate to the amount of work done, according to the tariff of task work shown to the recruit in Calcutta.<sup>10</sup> The labour policy of the planters and their government was not to encourage a free labour market by offering competitive wages. Unlike the public works department and the railways, the planters made the worst use of semi-feudal methods of reducing the free labourer to a kind of serfdom (Guha, 2006). In 1864, while a free labourer was able to earn a wage of ₹ 7 per month when employed by the public work department, the going rate of wages in the Assam Company's was only ₹ 4 to ₹ 5. The average wage earned in many tea gardens was even as low as ₹ 3.50 per month.

Statutory wages were laid down by amending act of 1865. The minimum wages so set were ₹ 5 and ₹ 4 respectively, for men and women workers above the age of 12. Child labour was to be paid ₹ 3 per month. The planters had undertaken to supply labour

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<sup>8</sup>Antrobus, *History of Assam Company*, pp. 97-98.

<sup>9</sup>'Proceedings of the Company's Calcutta Board', 28.10.1859, Manuscript No. 9925, Vol. 10 (Guildhall Library, London).

<sup>10</sup>*Bengal Legislative Council Proceedings*, 1865-67, p. 14.

with rice at ₹ 1 per maund<sup>11</sup>. The relevant legislation merely provided for the supply of rice at specified rate, to be include in the terms of the written contract. But once a rate was specified, it had to be maintained. Planters soon began to violate their own undertaking and started charging around ₹ 2-8 as per maund of rice supplied to the labour. Thus they could lower the real wage by manipulating the stipulated price of the rice. Even the nominal minimum wage could be further lowered by varying the standard task. A commission of enquiry appointed in 1867 found that in most gardens minimum wages were not earned. There were even instances where the wage payment was kept in arrears for as long as six months.<sup>12</sup>

This process of their unequal recruitment and unfair wage relations has continued through their history. *The Workman's Breach of Contract Act XII of 1859* was introduced in Assam in 1861 and amended in 1865 to ensure the perpetuation of extra economic coercion and allow the planters a free hand in matters related to the workers' justice and welfare (Singh et al 2006: 47). The workers had hardly any possibility of exploring alternatives. They lived on daily wages that did not provide any possibility of savings and mobility. The management was supposed to provide all the facilities including health but the management refuses to bear the health cost on the pretext that the industry is passing through a crisis. The Act of 1865 prescribed nine hours of work per day and six days per week. It also laid down that a contract must not be extend beyond three years. But, for

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<sup>11</sup>The maund is the anglicized name for a traditional unit of mass used in British India and also in Afghanistan, Persia and Arabia, the same unit in the Moghul Empire was sometimes written as mun in English, while the equivalent unit in the Ottoman Empire and Central Asia was called the batman. At the different times, the mass of the maund has varied, from as low as 25 pound (11 kg) to as high as 160 pound (72.5 kg).

<sup>12</sup>Secretary to Government of Bengal to Secretary to Government of India, Home Department, 3 December 1866, and Agent to the G.G. and Commissioner of Assam to Secretary to Government of Bengal, 21 March 1867, *Assam Proceedings of Legislative Department*, Government of Bengal, August 1867, *Report of the Commissioners on the Tea Cultivation of Assam*, 1868, p. 50.



lack of proper inspection, these provisions of the Act were not observed. The same was with the provision for a hospital in every garden. The above-mentioned commission of enquiry found that, generally speaking, the protective clauses had broken down.<sup>13</sup> alternatives, they were forced to follow the labour contracto Desertion on the part of the workers was made criminally punishable under the Act, and even continued 'laziness' on his part was a criminal offence.

### **3.4: The Indentured Labourers of Assam in Brief:**

The indentured labours were brought to Assam by the British planters in the early part of the nineteenth century to work in the newly established tea gardens of the state. The labours were brought originally from various parts of Bihar, Odisha, Madhya Pradesh, Bengal, Tamil Nadu and Andhra Pradesh. The migratory labours situation can be understood in the context of Permanent settlement of 1793 and the Assam tea plantation system. To make the revenue collection easy the Permanent settlement 1793 in the Calcutta Presidency to which Jharkhand belonged depended on individual land ownership and landlordism. The British turned tikedars and jathedars whom the local king had appointed as tax collectors into zamindars. The Permanent Settlement began the process of the marginalisation of the tribal communities that depended not on the individual ownership or landlordism but on Community Property Resources (CPR) in which land and forests belonged to the village.. These laws are based on the colonial principle of eminent domain according to which all natural resources are state property, so is all land that does not have an individual patta. They thus turned them into encroachers on their own land and deprived them of their traditional rights (Misra, 2000).

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<sup>13</sup>Griffiths, *History of the Indian Tea Industry*, pp. 261-71.

Crucial to this process is the fact that the Permanent Settlement broke the link between the CPRs and their communities, weakened or destroys their cultural identity and the economic security linked and impoverished them. The agrarian regions of Bihar, Uttar Pradesh, Madhya Pradesh and Orissa was saw famine, drought, flood and epidemics coupled with excessive exploitation of poor peasants and landless labourers by the big landlords and zamindars was common. These factors led to migration of huge bulk of population to Assam in search of livelihood. Apart from these “push factors”, certain “pull factors” like false assurance regarding easy work, ideal condition of work, better pay and unlimited land available for cultivation were given to the workers which motivated them to migrate to Assam. The transportation of the workers to these estates, covering sometimes a distance of 800kms without any road or rail link was a hazardous task. The long journey mostly caused sickness and high mortality (Baruah, 2008). After reaching the tea estates, the migrant labourer’s mobility was restricted within the vicinity of the tea garden and factory alone and was completely isolated from the outside world. They were consciously made dependent on the basic facilities provided in the estate. Gradually the migrant workers realized that it was all false assurances of good pay and better facilities that was used to procure their blood and sweat in order to earn massive profit from tea production. There was and still exists excessive exploitation of the workers by the owners of the estates (Duara & Mallick, 2012).

The TNLA of 1863 Act was passed merely for licensing recruiters and registering in-migrants, to regularize the recruitment through *arkattis* (agents) that had been going on for some time. In this *arkatti* system, commission agents collected labours from impoverished areas with false promises of prosperity in Assam and earned a good

fortune as commission. These agents deployed contractors to work for them. They went to areas like Chota Nagpur, Singbhum, Ranchi, Telengana where famine took place and lured the poor, starved to local people to work in Assam tea plantations with false hopes and promises.

Under the Amendment Act of 1870, the *sardari* system of recruitment was recognized, though not allowed to replace the arkatti (licensed recruiter) system. In the sardari system, first started in Cachar district 1870, the sardars (head man of a group) were entrusted with the job of collecting labours. The tea companies bore all the expenses of collecting the labours and the *sardars* were paid wages for their job by the company with which they were appointed. They, too, indiscriminately brought people on false promises. From that time till 1915, both methods of recruitment were in vogue, side by side. Yet another amendment, the Bengal Labour Districts Emigration Act, passed in 1873, permitted free recruitment outside the provisions of the Act of 1865, provided that the contract did not extend beyond one year.

By the mid-1860, the policy of recruitment of labour from the other provinces was well under way. Available early labour statistics, though imperfect, were adequate to show the change was going in the ethnic composition of the labour force. Of a total plantation labour force of 34,433 in Assam proper, as reported by the Bengal Administrative Report for 1867-68, 22,800 or two thirds were imported labour, and only 11,633 or one third local. The total number of outside recruits, net of all wastages by way of death, desertion etc, stood at approximately 24,000 in Assam and 20,000 in Cachar on 31<sup>st</sup> December 1872.<sup>14</sup> Living far away from their homes and hearths and contract bound,

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<sup>14</sup>*Bengal Administrative Report*, 1867-68, p. 204 and *ibid.*, p. 15.

these labours were undoubtedly the most easily exploitable and exploited section of the people. Although there were legal provisions of recruiting people under the above Acts, the norms were grossly violated and most of the people collected were sent to the tea gardens illegally. In the year 1877, an estimate put the number of labours brought under legal provisions at 44,549 and 91,258 illegally (Baruah, 2008). In the initial years, the river Brahmaputra was the only means of transportation and the labours were brought from different parts of India in boats and steamers. In 1847, the first government steamer in Assam was introduced between Calcutta and Guwahati and then between Calcutta and Dibrugarh in 1856. However, they ran into trouble and got discontinued. Indian General and Steam Navigation Company started steamer service regularly between Calcutta and Dibrugarh in 1860 which helped the process of transportation of labours. With the birth of the railways in Assam 1882 and further extension in 1883, Dibrugarh became a railway station and things became easier.<sup>15</sup>

The conditions of recruitment were inhuman. During the two years from 15 December 1859 to 21 November 1861, the Assam Company brought 2,272 recruits from outside, of whom 250 or 11% died on the way. Of a total of 2,569 recruits who were sent down the Brahmaputra in two batches during the period from 2 April 1861 to 25 February 1862, as many as 135 died, including deaths by drowning, and 103 absconded. Of 84,915 recruits for Assam between 1 May 1863 and 1 May 1866, 30,000 had died by 30 June 1866. This high mortality did cost the planters, for the price changed by

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<sup>15</sup>Kurmi, Sushil. 1991. *Chah BagicharJivan Aru Sanskriti*. (Assamese: Life and Culture in Tea Garden). Asom Sahitya Sabha, 1<sup>st</sup> Ed: 1-88.

contractors per recruit ranged from ₹ 12 to ₹ 20.<sup>16</sup> Men, women and children were enticed, even kidnapped and traded like cattle, absconders were hunted down like runaway salves. Under the Workmen's Breach of Contract Act of 1859, Section 490 and 492 of Indian Penal Code (1860), Labour Act of 1863 as amended in 1865, 1870 and 1873, runaway workers could be punished by the government alone. Yet the planters themselves generally disciplined such workers, inflicting upon them punitive tortures of all kind. For labour was too precious to be sent out their tea gardens to police and jail custody.<sup>17</sup>

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<sup>16</sup>Note by J. W. Edger, Off. Junior Secretary to Government of Bengal, 11 September 1873, in *Papers Regarding the Tea Industry in Bengal*, 1873, p. XIX. *Proceedings of Legislative Department, Government of Bengal*, 1863, No. 15-18.

<sup>17</sup>D. Chaman Lal, *Coolie: The Story of Labour and Capital in India*, Vol. 2 (Lahore, 1932), p. 5.

**CHAPTER 4**  
**METHODOLOGY**

# **CHAPTER 4**

## **METHODOLOGY**

The methodology section describes the nature, type and sources of data; and sample size research area methods of analysis.

### **4.1 Sources of Data**

Primary data have been collected from sample tea gardens. Required data have been obtained from personnel records, drawn from supervisor entries, taking worker-day as unit of analysis. Observations include the number of kilograms of tea leaf plucked by each worker. This one number is our measure of productivity.

Attention was restricted to only those days on which pluckers participated and were assigned to plucking duty. The reason for such focus on actual plucking days is twofold. First, on days when the worker is absent, there have no any means of knowing to what activity she would have been assigned. That will compel to assign a missing value for productivity, rather than a zero, to such an observation. Second, when workers are assigned to non-plucking activities, there is no comparable measure of productivity. The tea plantation is made up of a number of fields on which tea bushes grow in rows. The production of tea leaf — fresh, unprocessed leaves — is labor-intensive. Flushes, each comprising three leaves and a bud, are plucked from tea bushes manually, either by hand or with metal shears. For the purpose of our study, this is the final output.

### **4.2 Nature of Data**

The basic objective of the study is to examine the impact of social security on the productivity of tea garden workers. To achieve this objective five variables had been

taken. Labor productivity is the dependent variable and health security, employment security, financial security and educational status of workers are independent variable.

On the basis of the survey of literature the information on various aspects collected are: composition of household, educational background etc, employment profile , financial access and production data of the workers. To estimate the livelihood condition of the worker a “Social Security Score” has been calculated. The basic idea of “Social Security Score” has been taken from (Sharma et al, 2012). The Score has been calculated taking the following aspects: possession of land, housing and other household assets, garden hospital facility, peculiarly benefits for workers by garden authority and financial inclusion. So the Social Security Score is

$$\text{Social Security Score} = \sum_{i=0}^{16} s_i$$

s<sub>1</sub>= Insurance

s<sub>9</sub>=Blanket

s<sub>2</sub>= Bank account

s<sub>10</sub>=Umbrella

s<sub>3</sub>= Medical support

s<sub>11</sub>=Slipper

s<sub>4</sub>= Housing Support

s<sub>12</sub>= Domestic Animal

s<sub>5</sub>=Land

s<sub>13</sub>= Jewelry

s<sub>6</sub>= Rice

s<sub>7</sub>= Wheat

s<sub>14</sub>= Bicycle

s<sub>8</sub>= Bonus

s<sub>15</sub>= Firewood

s<sub>16</sub> =Crèche

Access to any of these benefits is given the value 1 and non-availability had been assigned value zero. For example is a respondent prefers to go garden hospital in a health crisis that is assigned 1 otherwise 0,

$$S = \sum_{i=1,2,3...16} s_i$$



## 4.3 Data Collection

### 4.3.1 Data Collection Tools.

#### Interview Methods

Personal interviews and group interviews were conducted. One group session was conducted with an average of 10–12 workers in each garden. In-depth interviews were conducted with 10 individual (comparatively educated person in a workers line) in order to understand and explore the current situation of construction industry.

### 4.3.2 Process of Data Collection

#### Sampling method

Three important steps have been followed to collect the sample. The size of the sample was 112.

#### *First step::*

The workers were covered from five special locations, *chaabua*, *Duliajan*, *Maakum*, *Dibrugarh* town, *Doom-Dooma*. These areas had been selected because they among highly tea garden concentrated areas and they are familiar to the researcher so that the data can be verified in future if needed. Moreover *Chaabua* is the place where the first tea garden of Assam was established at least 200 years before. That garden also has been included.

#### *Second step:*

As relevant studies (Das, 2012) (Sharma et al, 2012) shows, area covered by each worker varies with the size of the garden. That's why our sample had been divided in three categories size wise to include that factor. This division also helps to include ownership of garden factor. Since our objective is to study effect of social security on labor productivity and social security meant for tea garden workers varies according to ownership of the gardens, which had been mentioned in any study on livelihood of tea

garden workers. In our sample all the three large gardens taken are owned by private companies four out of five small gardens taken are owned by individual owners.

When a population is scattered over a region and complete lists of the total population are not available, “clustering” is of assistance in sampling. The sample has been divided in three clusters, i.e. Large, Medium and Small on the basis of size of the gardens. A fair representation was tried best to be given to all three segments of Tea gardens. There are 91 small sized (10-100 hectares), 112 middle sized (100-400 hectares) and 65 large sized (above 400 hectares) tea gardens in Dibrugarh tea district. So in that ratio 4 small, 5 middle and 3 large tea gardens has been covered (that is 4.5% of each group) for primary survey. Total 112 workers, both permanent and casual has been selected for direct personal interview with close end questions. So initially cluster sampling have been taken giving each category a proportionally equal representation and within a category random sampling has been done. Gardens below 10 hectare has been avoided, because they are too small to deploy permanent workers to provide social security. That’s why those have not been counted in Laws meant for tea garden workers

*Third Step:*

Two separate structured schedules with questions have been prepared (in English). One for tea garden workers to collect information about their level of informalisation and social security on various aspects of social security. Only closed ended questions were included because study is basically a quantitative study. Another schedule for Tea-garden authority and supervisors to know about total figures on parameters for productivity in each garden.

Age estimation was certainly a great problem in the field, where written records were not available in most of the cases, especially in this community. But age was corrected in all possible ways such as reference with the important local events of recent history and of course cross checking from the elderly individuals. The illiteracy and backwardness of the workers was another big problem while collecting data.

**CHAPTER 5**  
**FIELD ANALYSIS**

## CHAPTER 5

### FIELD ANALYSIS

#### 5.1 Labour Market in Tea Plantation of Assam

The production process in the tea sector, particularly in the tea plantations, is highly labour intensive. Tea sector provides direct employment to around 12.6 lakh workers in India, apart from providing direct sustenance to another 12.3 lakh people, who are the dependents of the workers. Around ten (The Hindu, 2011) lakh were employed in the tea gardens of Assam in the year 2011. There has been a steady growth of employment in absolute terms in the tea gardens of Assam. Along with increase in the volume of production, and in recent years, with the expansion of area under tea gardens there has

*Table 5.1 Growth of Employment in Different Districts of Assam*

District/State	1980-2004	1981-1990	1991-2000	1991-2004	1998-2004
Darrang	1.49	1.95	1.35	1.17	0.84
Goalpara	1.89	0.91	1.36	1.32	1.42
Kamrup	0.83	-1.37	1.47	2.03	1.23
Dibrugarh*	0.92	1.3	0.96	0.93	0.9
Nowgong	1.28	3.5	0.27	0.29	0.49
Sibsagar#	1.01	1.87	0	0.59	0.94
Cachar	1.51	2.96	1.85	1.38	0.75
Assam	1.43	2.06	1.08	1.06	0.87
All India	1.76	1.82	2.02	2.29	2.53

*Note:* All growth rates are compound growth rates,

*Source:* Computed from the data provided in Tea Statistics, various years

been a greater demand for labour. Table 5.1 shows that employment has grown at a higher rate at the all India level than in Assam. Within Assam, higher employment growth has been witnessed in districts like Goalpara and Cachar

When the growth differentials during the two decades of eighties and nineties are taken into consideration, it is clear that employment growth suffered serious setbacks during the latter decade, that is the post-liberalisation decade in Assam, but continued to show a higher growth rate at the all India level, owing to an exceptionally high expansion of employment in Tamil Nadu actually. In Assam, the only districts where employment growth improved in the nineties as compared to the earlier decade were Goalpara and Kamrup; in all others, and particularly in Sibsagar and Nowgong it declined substantially. When a relatively longer view of employment scenario is considered, during 1991 to 2004, it is found that in Dibrugarh growth of employment was less than one per cent during this period. The worrying aspect on the employment front gets manifested in the fact that for the latest period under consideration, i.e., 1998-2004, employment has grown at a rate of less than one per cent per annum in all the districts of Assam, except in Goalpara and Kamrup. Although at the all India level, growth of labour employed has been relatively robust during this period. In Assam the growth rate has decelerated to 0.87 per cent per annum. It is important to note that this slowing down of employment growth in Assam has occurred in the backdrop of increase in the area under tea as a result of expansion of area by small tea growers.

The tea plantation sector of Assam is largest employment provider of industrial employment in the state. More than 25% of working population (apart from cultivator and agricultural labourers) are engaged in plantation sector. However since the last

**Table 5.2 Employment Growth in Tea Plantations**

YEAR	TOTAL WORKER	ANNUAL GROWTH	TOTAL CASUAL WORKER	ANNUAL GROWTH
1981	462754	1.54	NA	2.28
1991	585044	1.7	97366	2.5
1992	581638	-0.58	96524	2.48
1993	574088	-1.29	88645	2.48
1994	565809	-1.44	84226	2.49
1995	575175	1.65	89030	2.54
1996	587382	2.12	92237	2.57

*Source:* Computed from the data provided in Tea Statistics, various years

labour market in tea plantation is showing some kind of stagnancy. In the early phase of liberalisation there is decline in both type of workers, permanent and casual. In the later phase though there is some growth, it is more towards casualisation of workforce, which can be seen in Table 2. Data on tea workers on roll reflects that in 1971 altogether 397,000 workers were engaged in 182,325 hectares of tea plantations, with average involvement of 2.2 workers per hectare. Till 1998 area under tea increased to 230,978 hectares and employment to 588,714 in numbers, with average involvement of 2.5 workers per hectare. It may be noted that among the total workers engaged 16.3 percent were casual workers and 1971 data did not show record of casual workers. Rapid casualisation of workers in estate sector tea plantations is visible from the 1990s (Baruah, 2002).

In terms of average production per labour, Assam has recorded slightly higher labour productivity in comparison to the all India average (Table 5.3). Within the districts

**Table 5.3 Growth of labour Productivity in Tea Gardens**

District/State	1980-2004	1981-1990	1991-2000	2001-2004	1998-2004
Darrang	-0.26	1.6	-1.66	-1.46	-1.32
Goalpara	0	2.8	-0.73	-0.95	-2.05
Kamrup	-0.33	4.22	-2.4	-2.75	-3.07
Dibrugarh	0.37	0.25	0.33	0.71	0.62
Nowgong	0.16	-0.71	0.13	-1.06	-3.98
Sibsagar	0.66	1.88	1.67	0.32	-0.65
Cachar	0.54	-0.23	0.66	-0.65	-4.47
Assam	0.35	0.8	0.4	-0.1	-1.62
All India	0.32	1.26	-0.28	-0.73	-1.79

*Note:* All growth rates are compound growth rate.

*Source:* Computed from the data provided in tea statistics, various years

of Assam, Dibrugarh recorded the highest labour productivity during 1980-2004. When the growth rate of labour productivity during this period is considered, Assam's labour productivity has increased at a level of only 0.35 percent per annum. The performance of four districts namely, Darrang, Goalpara, Kamrup, and Nowgong has been incredibly dismal on this front. However, in all these districts except Nowgong, labour productivity had increased comfortably during the 1980s. It was precisely during the 1990s that labour productivity growth slumped in many of the districts of Assam and during 1991 to 2004 in as many as five of the seven districts the state experienced deceleration in labour productivity growth. During the last six years, for which data is available i.e., 1998 to 2004, there has been a substantial deterioration in labour productivity in almost all Districts except Dibrugarh.



## 5.2 Study Area

The study was conducted from July 5, 2014 to July 26, 2014. Primary survey has been done in Dibrugarh tea district (that is Dibrugarh and Tinsukia administrative districts). which is situated on the southern bank of the river Brahmaputra, lies in the North-eastern corner of Assam. It extends between 94°44' E and 95° E longitudes and 27°3'45 N and 8° N latitudes. It is bounded on the North by the rivers Brahmaputra and Lohit, on the East by a part of Lohit of Arunachal Pradesh, and the South Western boundary of the district runs along the eastern boundary of Sibsagar district. Population of the district is composed of the members of various ethnic, linguistic, social and religious affiliations. Dibrugarh had population of 1,326,335 with male and female were 676,434 and 649,981 respectively (Assam D. o., 2011). Around 30 per cent of the plantations of the state are situated here. It is also estimated that around 25 per cent of the population of the district is composed of tea and ex-tea plantation workers and their dependence.<sup>18</sup>Dibrugarh had 145 numbers of tea estates (Assam D. o., 2011).

Dibrugarh is the largest tea district in Assam. it has highest no tea estates, highest area under tea plantation and of course highest yield. Dibrugarh has total 22,855 tea estates spread over 95,118 hectare of land. Apart from large no of small tea growers conventional tea estates are have diverse features in terms of forms of ownership, industry affiliation and size. Adequate care have been taken to ensure that sample includes all kinds of tea estates, i.e. large, medium and small tea gardens.. The name of the tea estates which are included in the field survey are.

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<sup>18</sup>Kar, R. K., 2007 Tea plantation and its labour in Assam: An overview. An unpublished paper presented in the seminar on Society and Development in the Tea Gardens of the North East with special reference to Barak Valley, organized by the Department of Sociology, Assam University, Silchar in September.

**Table 5.4: Locational and Size Distribution of Enumerated Gardens**

SL No	Name of the Gardens	Ownership	District	Area (hectare)	Category of Garden
1	Chabua TE	Amalgamated	Tinsukia	755	Large
2	Glinderth	Company	Tinsukia	545	Large
3	Rajgarh TE	Company	Dibrugarh	955	Large
4	Ethelwood TE	Company	Dibrugarh	145.6	Medium
5	Nadua TE	Private owner	Dibrugarh	264	Medium
6	Muttok TE	Private owner	Dibrugarh	325	Medium
7	Madhuting TE	Company	Dibrugarh	395	Medium
8	Moud TE	Private owner	Tinsukia	165	Medium
9	Jalpaniya TE	Private owner	Tinsukia	100	Small
10	Purbipur TE	Private owner	Dibrugarh	100	Small
11	Hatikhola TE	Private owner	Tinsukia	11.52	Small
12	Madhuban TE	Company	Dibrugarh	100	Small

Primary survey has been done in Dibrugarh tea district (that is Dibrugarh and Tinsukia administrative districts). There are 91 small sized (10-100 hectares), 112 middle sized (100-400 hectares) and 65 large sized (above 400 hectares) tea gardens in Dibrugarh tea district. So in that ratio 4 small, 5 middle and 3 large tea gardens has been covered (that is 4.5% of each group) for primary survey total 112 workers. The study has covered twelve tea gardens namely Chabua, Glinderth, Rajgarh, Ethelwood, Nadua, Muttok, Madhuting, Moud, Jalpaniya, Purbipur, Hatikhola and Madhuban managed and owned by different management and owners. Chabua is an amalgamated tea estate with highest share owned by TATA. Glinderth Tea estate is a joint venture of a MNC and an Indian company

Kothari group of industries. Rajgarh is also jointly owned by two companies namely Jindal and Co. and Bajabari group. Ethelwood tea estate is now owned by an India tea company Jalan group. Nadua, Muttok and Moud tea estates are owned by Indian or Assam native owners. Madhuban and Madhuting tea estates are owned by MNC Warren but managed by Assam native management. Purbipur and hatikhola tea estates are owned and managed by Assam native owners though their head offices are in Kolkata. It is based on the assumption that pecuniary and non-pecuniary benefits to the workers may vary in estates managed by different managements. The gardens are purposively selected in Dibrugarh and Tinsukia administrative districts of Assam and workers are selected randomly. Gardens of size 100 hectares or less are taken as small sized gardens, more than 100 hectares to 400 hectares are clubbed as Medium sized garden and gardens above 400 hectares are named as Large sized gardens.

### **5.3 Dire Destitution of Casual Workers**

While labour demand is responding to the forces of market, supply of labour is determined by specific features of tea gardens. Historical continuity of the enclave economy creates specific features of labour supply in tea gardens. That have facilitated casualisation in tea gardens. It has been perceive that in the present competitive and liberalized regime, tea plantation estates are pushed to the extreme to cut down their operational costs. In the tea sector, labour costs account for about two-thirds of the total costs of production. As the wages and other benefits in tea estates are ensured by PLA, 1951, the management always makes efforts to cut down the labour costs. The present approach of the estate management lies in the use of casual labour as and when required in order to clear the tasks in the plantations.

Casualisation of workers created seasonal unemployment inside the tea gardens. On the basis of the terms of appointment, a permanent worker is one who resides inside the tea estate and whose name is entered in the estate roll of workers. With regard to the permanent workers the wage rates are ₹ 93 to ₹ 110. Per day, depending upon the tea estate management. But there is no difference in wages on the basis of sex. As far as wage is concerned the status of men and women seems to be at par. The permanent workers are entitled to all the benefits like sickness allowances, rent free accommodation, maternity benefits, fire wood, free cinema shows (1 show in a month plus 4 shows during Durga/Kali puja), bonus minimum is 8.33% of annual wage etc. The casual (Locally called *faltu* worker) workers are engaged in the garden to work for a specific period. A casual worker's appointment is limited to a maximum period of 150 working days. The period from May to November is generally regarded as the peak season in a tea plantation. During this peak plucking there are quite a large number of casual workers who are employed for the plucking of the tea leaves. The number of temporary workers varies from plantation to plantation depending on the plucking potential, on the basis of the intensity of the flushing of the new leaves. It is thus implied that the *faltu* workers are the pluckers, and as such, the majority of them are women. If the volume of work demands, even the minor girls and others are also employed casually. The fringe and other social security benefits to casual workers vary from garden to garden with the nature of the appointment. The temporary workers are hardly entitled to the benefits like rent free accommodation and bonus.

The data provided/collected, reflect that the tea estates in the survey, on an average, engage 42.59 percent permanent workers. The inclusion of casual workers

however leads to the deployment of labour in higher numbers in the tea estates. The sample shows tea estates deploy 58.40 percent casual workers during peak season. This is evident because casual workers are employed in garden activities for minimum 3 months to maximum 6 months. Field interactions with the workers reveal that the male casual workers are mostly engaged in field maintenance and female workers are engaged in tea leaf plucking.

The stated figures on the number of workers, including both permanent and casual workers, engaged in the sampled tea estates reveal the prevalence of massive casualisation. Here 58% per cent workers are casual, as indicated in Table 5.4.

**Table 5.5 Workers in Different Employment Relations**

	No of Permanent workers	Percent of permanent workers	No of Casual workers	Percent of casual workers	total
Large	11	40.7	16	59.25	27
Medium	24	42.1	33	57.8	57
Small	12	41.37	17	58.6	29
Total	47	42.59	66	58.4	113

Source: Field Survey, 2014

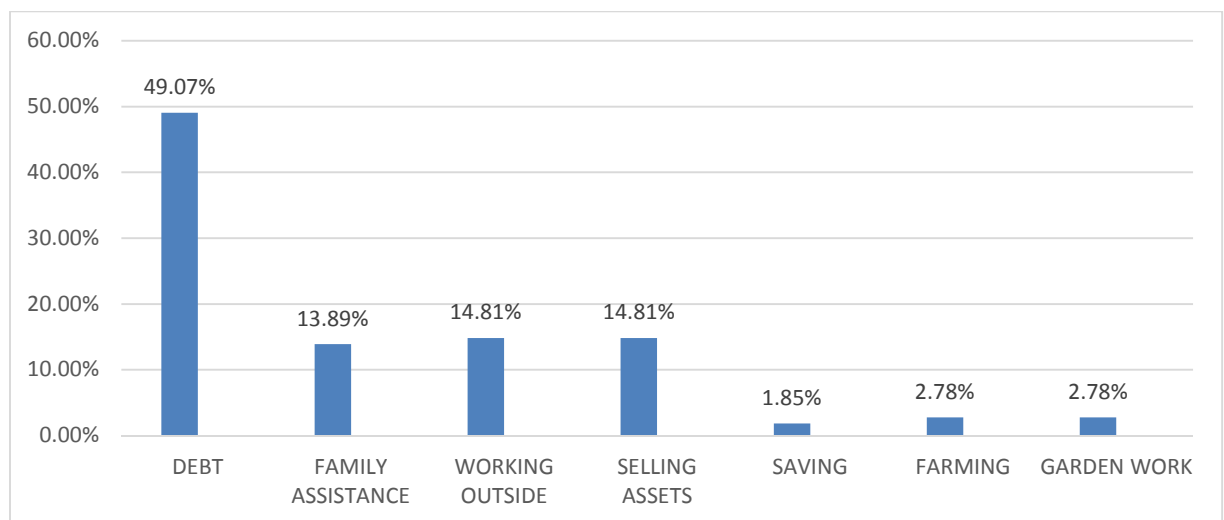
It is discovered that the larger sized holdings depend more on casual workers (59.25%), and that the intensity of permanent workers is relatively more in medium sized holdings. A reasonably larger concentration of casual workers in the smallholdings is due to the fact that more workers are used to clear the flush during the peak plucking season. Large gardens have ample spaces and plenty of abandoned workers in *coolie* lines. Tea gardens not only differ in their sizes and volume of leaves produced they also differ in terms of location. Relatively Large gardens are located near National Highways and more integrated to local economy. So they have more access to outside workforce. This

flexible use of labour is possible because the labour supply is not constrained in Assam. These linkages are relatively weak in remote gardens with poor connectivity status.

Despite the poor provisions at work and poor conditions of the workers, the tea plantation sector of Assam still enslave the workforce. Most of the workers were in destitute condition as 49.07% workers (53 in numbers) were indebted (see Figure5.1).

15% workers even sale family assets like animal, jewelry or other household products. Field interactions revealed a casual worker or an unemployed person in the tea plantation areas aspires to become a permanent worker in the estates. A permanent job in the plantation estates provides a regular source of income and some non-pecuniary benefits. In relative terms in tea plantations areas, a job in the sector is still considered as the only possible opportunity for better livelihood. Figure 5.1 reflects how opportunities for decent alternative jobs in plantations areas are limited and even with a certain level of attainment of education it is impossible for them to move out for a decent job.

**Figure 5.1: How Workers Manage Income Crisis**



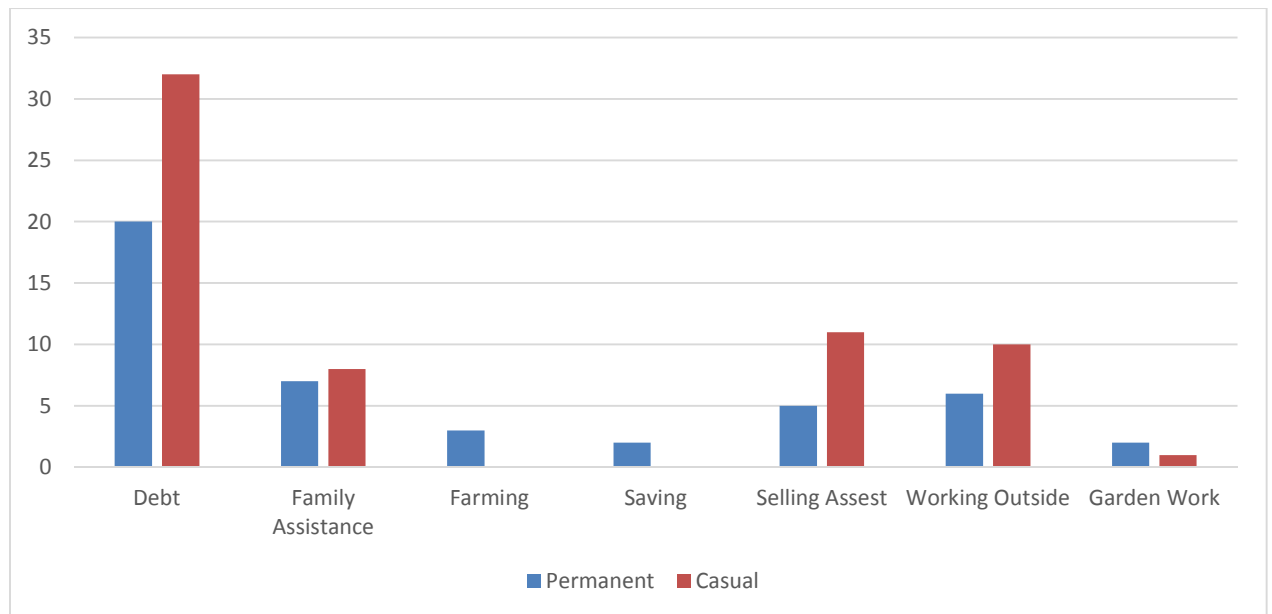
*Source:* Field Survey, 2014

In the whole survey 95.57% workers has been found who are not satisfied with present earnings for basic requirements, but only 16 workers (14.8%) has been found who work outside the garden when not employed in garden works. But surprisingly all of them are not casual workers. The life of permanent workers is better only in relative terms. Among the casual workers who works outside to supplement income, only 11.32% workers (Figure 5.3) actually migrated to distant place in such off period when there is no job for them in garden premises. But approximately the same percent of workers (13.8%) can take resort to family conglomeration (Figure 5.1) to meet economic crisis in family since they have more proportion of working hands in family. Average family member of those respondents who resort to families for financial crisis is 8. Casual workers are more dependent on the family (Figure 5.2). So higher the number of casual workers in a family lesser is the probability of subdivision of family. So the families of casual workers or families with more number of casual workers are less likely to disintegrate. Only 1.85% workers can support themselves by own saving in any financial crisis, all of them are permanent workers. Casual workers are more impoverished. They are more indebted. No casual worker can support themselves in crisis from their own saving.

Moreover, limited availability of land for the plantation community to be engaged in cultivations or other primary activities compels the unemployed and underemployed plantation youths to look for opportunities only in the plantation sector. As it is seen only 2.78% workers out of sample population can do farming to support themselves financially. Overall such conditions ensure abundant supply of labourers in the tea plantation sector of Assam. Casual workers hardly get land for farming (Figure 5.2) for

additional support. Still such permanent workers can be found who do tea plucking and farming simultaneously.

**Figure 5.2: Comparative Dependence of Permanent and Casual Workers in Financial Workers**

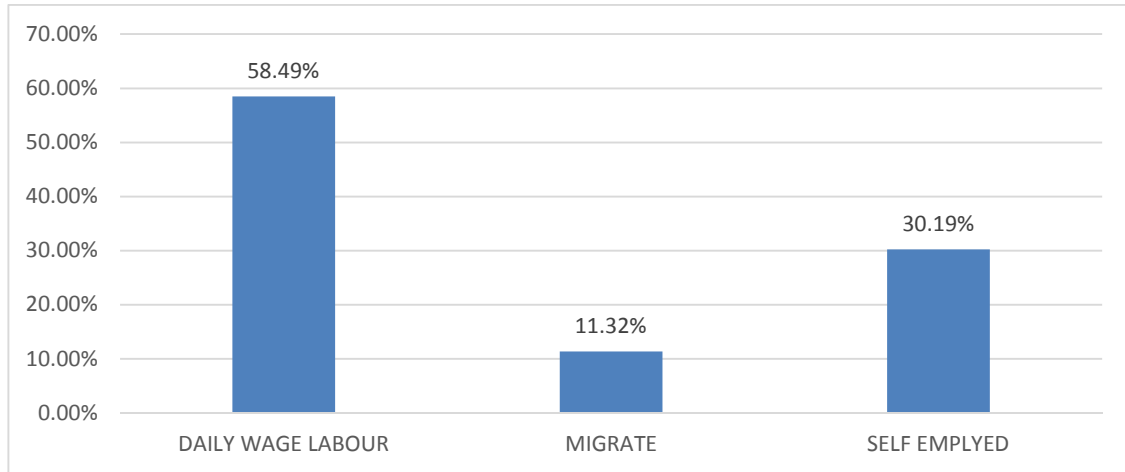


*Source:* Field Survey, 2014

The policy of tea estate owners regarding allotment of land is the main factor that historically facilitated or constrained the access of labourers to arable land. Now most tea gardens don't have any policy of surplus land to their workers, but in the past, there was a liberal attitude towards this. So many worker families got access to cultivate unutilized land within or outside the garden premise. The legal status of such lands may not be always clear but farming of this kind did provide sort of livelihood security to the workers.



**Figure5.3: Casual Worker's Occupation in off Period**



*Source: Field Survey,2014*

Few informants indicated that there has been a gradual alienation of land from tea garden workers to others through the process of debt-induced alienation of land. The present sample also showed high degree of indebt among workers. Though another source of land for tea garden works has been purchase through land market. There are instances when workers utilized their saving to buy land in the nearby villages and shift to cultivation totally after retirement. But casual workers hardly could have such quantum of saving to buy land.

### **5.3 Factors of Casualisation**

Tea being a labour based industry, employment relations is ought to be based on skill factors. Education, experience and training are the dominant factors for skill development of workers. There is no formal training for tea garden workers. Therefore education and experience has been taken as independent variables to analyse determining factors of employment relation in tea gardens. Moreover investment capacity of a tea estate is based on ownership of the tea estate. MNC owned gardens have higher capacity to invest, hence higher scope to deploy more permanent workers. So ownership of the

gardens is the third independent variable in this analysis. To know the effect of experience and education, type of employer on employment relation logit model has been used.

**The Empirical Model:**

$$D_1 = B_0 + B_1 X_1 + B_2 X_2 + B_3 D_1 + U_i$$

$D_1$ = Nature of employment is the Dependent variable.  $D_1=0$  if permanent worker,  $D_1= 1$  if Casual worker

$X_1$  is Experience

$X_2$  is Education in terms of completed years if schooling.

$i$  is no of Respondent, that is  $i=1,2,3,\dots,112$

$D_2$ = Nature of owner of the garden;  $D_2$ =if owned by MNC.  $D_2=1$  if owned by individual owner

$U_i$ = Well behaved error term

**Regression Result**

**Table 5.5: Descriptive Statistics of Factors of Casualisation**

Variable N=113	Mean	Standard deviation	Minimum	maximum
Experience	14.31858	6.457644	2	30
Education	3.946903	3.435219	0	12

**Table 5.6: Regression result of Factors of Casualisation**

Logistic regression	No of observation 112	Pseudo R2 = 0.1701	
Variables	Coefficient	P value	Marginal effect
Experience	-0.18406 (0.0428)	0.000	-0.044
Education	-0.0759 (0.0678)	0.263	-0.0183
Types of employer	0.2483 (0.0466)	0.594	0.059

(Figures in bracket are Standard Error)

Even though pseudo  $R^2$  is low results can be still interpreted because in binary regression models goodness of fit measures are of secondary importance. More important is the expected signs of the regression coefficients. The results shows that education does not have a significant impact in deciding employment relation. And experience in work rather have a significant impact and higher the experience higher is the probability of a worker to be permanent. So employment relation is significantly determined by experience rather than education. Therefore it can be inferred that experience is big factor in determining employment relation of a workers rather education. That is also the reason why tea garden workers are so less interested in sending their children to school. The most important factor that contribute to lack of interest in schooling is the availability of jobs within the garden premises as non-adult worker. It suits both parents and management but limits the scope of upward mobility and occupational diversification of the workers. This is one of the main factor that retained enclave nature of tea garden

economy. Children starts to supplement family income at an early age to lessen the burden of parents. From the management's point of view such a situation creates a captive labour force whose opportunity cost of being employed otherwise is near Zero. Mean year of schooling for all worker is abysmally low, which is 3.9 years of completed schooling. Which also justified because as per the Census reports Literacy rate in Assam is 64% whereas literacy rate among tea garden workers is only 27%. In terms of enrollment ratio the educational condition of tea garden workers is second lowest among any social group in India (Fernandes, Barbara, & Bharali, 2003). A survey commissioned by the Assam Sarva Shiksha Abhiyan Mission (ASSAM) during 2002 has shown that 25 per cent of the children in the age group of 6-14 years are out of school in the entire state of Assam, while the corresponding figure for children in the tea gardens is about 43 per cent (Assam D. o., 2012).

While there is the provision for schooling in most of the gardens, more of these schools offer education only up to primary or upper primary levels. For anything higher these children have to travel a long distance. The problems are critical as most of the gardens are located in the isolated places with a very poor connectivity to nearby urban centers and villages. Even when the schools are available there is virtually public transport available for the children. The young children are very often not able to cover a distance around two km on foot to reach school. This difficulty increase during the rainy season, when the road is bad and slushy. While conducting the interviews on the issues of education, a good number of people stated that the authorities of the garden hardly provide even the minimum facilities for education. As a general convention, a plantation, by and large, has provision only for an L P. school within its jurisdiction. But here the

minimum infrastructural facilities are not available, which stands as the most important reason for children not attending school. During the field investigation many parents in fact demanded that their children be allowed to work in the gardens. Most of the teachers worked only half time. In most cases a literate labourer is appointed as a teacher.

This is the reason of very less vertical mobility among them which created the (Sharma, 2012). 'Crowding in' effect in tea gardens as mentioned in literature review. This is evident as seen in Figure 2, more than half of the casual workers in our sample get only daily wage labourers in off season. Marginal effect of experience in the probability of being permanently employed as per results if the experience of a worker increases by one year there will be only 6.78% less probability of remained as casually employed. The types of employer that is whether the workers are working in garden owned by MNC or by private individual does not have significant impact. So the ownership of the gardens is not an important determinant of Informalisation. So whether a garden is owned by MNC or private owners nor the education determine the nature employment. Only thing that matters is experience. This only shows high intensity of casualisation in the tea industry as a whole. We are interested to know how this process is effecting labour productivity of workers. The types of employer that is whether the workers are working in garden owned by MNC or by private individual does not have significant impact. So the ownership of the gardens is not an important determinant of Informalisation.

#### **5.4 Labour Productivity Differential in Three Category of Gardens**

One way ANOVA has been used to determine if the mean labour productivity is different in Large, Medium And Small sized tea gardens [1= large 2= medium 3=small]

**Table 5.7: Descriptive Statistics of ANOVA**

	No of workers	Mean (kg per Hour)	Std. Deviation	Std. Error	Minimum	Maximum
Large	26	5.12019	1.119978	.219646	3.500	7.500
Medium	57	6.90351	1.081247	.143215	4.375	8.750
Small	29	5.04741	1.211650	.224998	3.125	7.500
Total	112	6.00893	1.442275	.136282	3.125	8.750

$H_0$  = Large=Medium=Small garden in terms of Labour productivity

$H_1$  = All the three categories of garden are not equal in terms of Labour productivity

A one way between subjects ANOVA was conducted to compare the effect of size of the garden on Labour Productivity of workers in Large, Medium and Small conditions. Significance level shows  $H_0$  can be rejected. There was significant of size of the gardens on labour productivity at 99% confidence interval for all three categories [F(2,12)= 36.731P=0.000]

**Table 5.8: Result of one way ANOVA test**

	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance
Between Groups	92.963	2	46.481	36.731	.000
Total	230.897	111			

But simple one way ANOVA results only shows the existence of difference in means. To know which group is statistically different a Post Hoc test, Tukey Homogeneous Group test has been done.

$H_0 = \text{Large and Small garden} = \text{Medium Garden}$

$H_1 = \text{Large and Small} \neq \text{Medium}$ .

**Table 5.9: Tukey Homogeneous Subset Test**

Means for groups in homogeneous subsets are displayed.

category	No of worker	Subset for alpha = 0.05	
		1	2
Small	29	5.04741	6.90351
Large	26	5.12019	
Medium	57		

The results shows that mean labour productivity of Medium Sized garden is significantly different from other two. So null hypothesis is rejected. Which is evident because mean labour productivity in medium sized garden is 6.9 kg per worker/hour. And that of large sized garden is 5, 2 kg per worker/hour and 5.0 per worker/hour. Table 5.4 shows that in this sample permanent workers are proportionately higher in medium sized gardens. So higher the permanent workers higher is the average labour productivity.

## 5.5 Social Security and Labour Productivity

To know the impact of social securities a regression analysis has been done taking labour productivity as dependent variable and the Social Security Score as independent variable. It is a conglomeration of 16 different aspects is as defined in methodology.

Since tea leaf plucking requires unskilled labour only it is experience that matter more than education. That's why experience has been taken as another independent variable Experience is also a proxy of age since all workers join the almost at the same early age. Following this a multistage regression also has been done to know the aspects among social securities those matters most in determining the labour productivity. Wage have not been taken as independent variable nor included in social security score. Many times money that permanent workers receive is marginally lower than casual workers. Because permanent workers very often take loans from garden authorities which is taken off at the time of payment. Moreover casual workers are more prone to overtime work, so finally receive more money. So inclusion of wage could give us misleading result.

### **Empirical Analysis**

Regression model:

$$Y_i = B_0 + B_1 X_1 + B_2 X_2 + B_3 D_1 + B_4 D_2 + U_i$$

$Y_i$  is Labour Productivity

$X_1$  is Social Security Score

$X_2$  is Experience in years worked as plucking worker

$i$  is no of Respondent, that is  $i=1,2,3,\dots,62$

$U_i$  = Well behaved error term

This model has been used for all three category of worker



## 5.5.1 Small Garden

**Table 5.10: Descriptive Statistics of Regression for Small Gardens**

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
Labour productivity	29	5.068966	1.250262	3.125	7.5
Social Security Score	29	7.758621	3.661139	2	15
Experience	29	13.16667	6.475861	2	30

**Table 5.11 Regression Result for Small Gardens**

Dependent variable: labor productivity

Variable	Coefficient
Constant	3.399*** (0.520)
Experience	0.057 (.03)
Social Security Score	0.117* (.064)
<b>N</b>	29
<b>R<sup>2</sup></b>	0.3170
<b>F-value</b>	6.03

\*\*\* Significant at 99% confidence level,\* Significant at 90% confidence level  
(Figures in

The regression results shows, contrary to anticipation, experience hardly have any significant impact on labour productivity. But Social Security have significant impact on labour productivity. For any increase in social security score labour productivity goes up by 0.12 kg per worker/hour.

## 5.5.2 Medium Garden

**Table 5.12: Descriptive Statistics of Regression for Medium Garden**

Variable	mean	S.D	min	max
Labor Productivity	6.77	1.15	4.3	8.7
Experience	15.57	6.78	2	30
Social Security Score	8.49	3.14	4	14

**Table 5.13: Regression Result for Medium Gardens**

Dependent variable: labor productivity

Variable	Coefficient
Constant	5.22*** (.405)
Social Security Score	.106** (.05)
Experience	.034* (.022)
<b>N</b>	57
<b>R<sup>2</sup></b>	0.1951
<b>F-value</b>	6.55

\*\*\* Significant at 99% confidence level, \* Significant at 90% confidence level  
(Figures in bracket are Standard Error)

But in Medium sized gardens experience is also have significant impact on labour productivity but its effect is less than social security. Another notable point is R<sup>2</sup> of the regression result. As we moved from small gardens to medium gardens the R<sup>2</sup> became smaller. That will became further less in large gardens.

### 5.5.3 Large Gardens

**Table 5.14: Descriptive Statistics of Regression for Large Gardens:**

Variable	mean	S.D	min	max
Labour productivity	4.97	1.03	3.5	7.5
Experience	12.88	5.2	5	30
Social Security Score	9.05	2.91	5	15

**Table 5.15: Regression result for Large Gardens**

**Dependent variable: labour productivity**

Variable	Coefficient
Constant	4.57*** (.74)
Social Security Score	0.005 (.092)
Experience	.026 (0.05)
<b>N</b>	26
<b>R<sup>2</sup></b>	0.021
<b>F-value</b>	0.25

\*\*\* Significant at 99% confidence level

(Figures in bracket are Standard Error)

In case of large garden our previous results and conceptual anticipations became reverse. There is no significant effect of social security on labour productivity. Large tea gardens in the study also have some other peculiarities also. All three large gardens are owned by Multinational companies. That may be the reason average Social Security Score in Large garden category is highest. They have better supervisory system. Their location is also not so remote. But why this result is different for them and what are other factors that made the results is a matter of further research. Moreover in terms of total

area coverage, no of workers engaged and capital deployed our sample for large garden is quite small.

**Table 5.16: Mean Social Security Score in Three Category of Gardens**

Garden Category	Mean Social Security Score
Large	9.5
Medium	8.49
Small	7.75

### 5.5.4 Combined Multiple Regression

To overcome the limitations in case of large gardens and to grasp overall picture a multiple regression can be done introducing three categories of gardens as a dummy variable. For this multiple regression data for labour productivity, Social Security score and experience for all three category of gardens are combined.

**Regression model:**

$$Y_i = B_0 + B_1 X_1 + B_2 X_2 + B_3 D_j + U_i$$

$Y_i$  is Labour Productivity

$X_1$  is Social Security Score

$X_2$  is Experience in years worked as plucking worker

$D_j$  is Category of Gardens, where  $j=1,2,3$ ,

$D_1$ =Large Garden,  $D_2$ =Medium Gardens,  $D_3$ =Small gardens

$i$  is no of Respondent, that is  $i=1,2,3,\dots,112$

$U_i$  = Well behaved error term.

**Table 5.17: Descriptive Statistics for Multiple Regression**

Variable	Mean	S.D	min	max
Labor Productivity	5.91	1.44	3.12	8.75
Experience	14.33	6.48	2	30
Social Security Score	8.53	3.26	2	15

**Table 5.18: Regression Result of Combined Multiple Regression**

<b>Variable</b>	<b>coefficient</b>
Constant	3.551 <sup>***</sup> (0.371)
Social Security Score	0.924 <sup>**</sup> (0.035)
Experience	0.042 <sup>**</sup> (0.017)
D <sub>2</sub>	1.781 <sup>***</sup> (0.260)
D <sub>3</sub>	0.240 (0.293)
<b>N</b>	112
<b>R<sup>2</sup></b>	0.4827
<b>F-value</b>	24.96

\*\*\* Significant at 99% confidence level, \*\* Significant at 95% confidence level  
(Figures in bracket are Standard Error)

With a combined large sample Social Security Score, Experience and Category of Garden these all three important independent variables have significant impact on Labour Productivity of tea garden workers. There is 99% probability that with one unit increase in Social Security Score, labour productivity will increase by 0.9 KG per worker/hour, this categorically solve the basic objective of the study. And with one additional year of experience labour productivity could increase by 0.04 KG per worker/ hour.

**Observation:** A spatial observation of the tea garden workers bring out many more non empirical things. Whether permanent or casual, these section of workers are living in dire deplorable condition. In mattock tea garden there is no electricity for last five years. The Gardens owned by MNCs have relatively little better facilities

**CHAPTER 6**  
**CONCLUSION AND RECOMMENDATION**

# CONCLUSION AND RECOMMENDATION

## 6.1 Conclusion

Globalisation *inter alia* informalisation of workforce have negative impact on livelihood of workforce which also lessening the productivity. Growing casualisation in tea sector is deteriorating living condition of tea garden workers. This destitution is clearly policy draw back rather than a supply side phenomenon from the side of workers. This impoverishment is also negatively effecting labour productivity of them. In small and medium size garden permanent workers who have higher social securities are more productive clearly showing that Social Security have a significant positive effect on labour productivity of workers. This result confirms the anticipation by ILO (2005).

So providing social security to marginalized workforce like tea garden workers, which is clubbed in enclave situation not only important for human development and from redistributive perspective but also useful from market perspective also because it can improve their labour productivity and hence can help to create a malleable situation for tea sector too in a increasingly competitive economy.

Because of the growing process of casualization which not only deteriorated economic life of the people who are working in the tea gardens but also creating cohesions in their quotidian social life. This section of people are still living in the slave like condition inside the tea garden. In a society where social hierarchy is very strong. A batter social life for the bottom section not only neglected by denied sometimes. Still ongoing isolated and socially and economic destitute life of the tea garden workers

reflects that. The present evidentially shows the destitution which is increasing more among the casual workers not only made them poorer but also lessen their productivity. It is largely the limited job opportunities in the other sectors along with resourcelessness of the poor Adivasi tea garden workers assured unlimited supply of labourers in plantation jobs and this labour force is perceived as ubiquitous.

## **6.2 Recommendation**

In such an enclave situations unless there are some initiations from the social agencies like trade unions or by the state through the regulation those are prevalent in welfare state, a rise in development of Adivasi workers cannot be expected. The way out of the disequilibrium in this lower-end labour market is to invest in human development to raise productivity; establishment of an institutional structure to ensure human development in tea plantations is urgent. The state also needs to help provide opportunities for higher education and skills development among plantation youth so that they can explore opportunities offered by our expanding economy. This will also break the asymmetry of surplus labour, underemployment and casualisation in plantation estates.

## **6.3 Limitations**

1. In constructing Social Security Score all the aspects has given equal weightages. Which may not be scientific.
2. Tea plucking is almost totally a manual work. So differentiating productivities on the basis of social securities health concerns should get overwhelming importance.



3. Permanent workers are also already in a bottom condition of livelihood. It would have been better to take such a sector employment relations matter more on the life of employers.
4. Since tea is a agro-industry Labour productivity of workers may also some other non-economic factors such as age of the gardens, soil, maintenance of tea bushes etc.

## BIBLIOGRAPHY

- Ananthanarayanan, S. (2008,). Struggle of tea garden workers in assam. 13.
- Assam, D. o. (2011). *Dibrugarh district: Census 2011 data*. Retrieved February 8, 2014, from Census 2011: <http://www.census2011.co.in/census/district/149-dibrugarh.htm>
- Assam, D. o. (2011). *Dibrugarh District: Census 2011 data*. Retrieved February 8, 2014, from Census 2011: <http://www.dibrugarh.gov.in/glance.html>
- Assam, D. o. (2012). *Assam State: Census 2011 data*. Retrieved February 6, 2014, from Census 2011: <http://www.census2011.co.in/census/state/assam.html>
- Baran, P. (1967). *The Political Economy of Growth*. New York.
- Baruah, P. (2002). *Chitra-Bichitra Asom*. Guwahati: Jyoti Prashashan.
- Baruah, P. (2008). *The Tea Industry of Assam: Origin and Development*. Assam: Eastern Book House Publishers.
- Bhowmik, S. (1997). *Industrial Relations in Tea Plantation in Eastern India*.
- Bhusnurmath, M. (2012). Informal Labour Market: growing informalisation may have its plus points. *The Economic Times*, July 14.
- Borgohain, P. (2013). Occupational health hazards of tea garden workers of Hajua and Marangi tea estates of Assam, India. *The Clarion*, 2(1), 129-140.
- Bosumatari, D. (2013). Educational Status of Tea Plantation Women Workers in Assam: An Empirical Analysis. *Asian Journal of Multidisciplinary Studies*, 1(3), 4-6.

- Das, K. (2012). Labour Contract and Work Agreement in Tea Plantation in Assam. *Indian Journal of Labour Economics*, 55(4), 10-13.
- Duara, M., & Mallick, S. (2012). Tea Industry in Assam: Issues of Migration and Gender Discrimination. *International Proceeding of Economics Development and Research*, 1-5.
- Duggal, R. (2006). Need to Universalise Social Security. *Economic and Political Weekly*, 41(32), 3495-3497.
- Fernandes, W., Barbara, S., & Bharali, G. (2003). *Children of The Plantation Labourers And Their Right To Education*. Guwahati: North Eastern Social Research Centre.
- Floro, M., & Beneria, L. (2003). Labour Market Informalisation and Social Policy. *VEssar collage Economics Working Paper*, 27.
- Gait, E. (2013). *A History of Assam*. Guwahati: EBH Publishers.
- Goldberg, P., & Pavnik, N. (2003). The Response of the informal sector to trade liberalization. *Journal of Development Economics*, 72(3), 463-496.
- Gothoskar, S. (2012). This Chay is bitter. *Economic and political weekly*, XLVII(50), 33-35.
- Guardian, T. (2007). Hundreds of Tea Workers Dies As India's Tea Industry suffers Crisis. *The Guardian*. Retrieved December 16, 2011
- Guha, A. (2006). *Planter Raj to Swaraj*. New Delhi: Tulika Books.
- Gupta, R. D. (1985). From Peasants and Tribesmen to Plantation Workers: Colonial Captialism, Reproduction of. *21*(4), 2-10. Retrieved from <http://www.jstor.org/stable/4375248>

- ILO. (2001). *Social security: Issues, challenges and prospects*. Geneva: ILO. Retrieved from <http://www.ilo.org/public/english/standards/relm/ilc/ilc89/rep-vi.htm>
- ILO. (2005). *Social protection as a productive factor*. Geneva: ILO.
- Jayaraman, R., & Ray, D. (2014). Productivity Response to a Contract Change. *CESifo Behavioral Economics Conference, University of Namur*, (p. 3).
- Jhabvala, R. (1998). Social Security for Unorganised Sector. *Economic and Political Weekly*, 33(22), L7-L11.
- Joseph, K. J. (2012). In Search of Spaces of Social Exclusion in Innovation System: The Case of Plantation Agriculture In India. *International Seminar on Innovation Systems and Inclusive Innovation*. Rio-De-Jenerio: Federal University of Brazil.
- Kabra, K. N. (2003). The Unorganised Sector in India: Some Issues Bearing on the Search For Alternatives. *Social Scientist*, 31(11).
- Liang, Z. (2006). *The Sociology of Migration*. Albany: State University of New York.
- Marjit, S., Ghosh, S., & Biswas, A. (2007). Informality corruption and trade reform. *European Journal of Political Economy*, 23(3), 777-789.
- Marjit, S., Kar, S., & Beladi, H. (2007). Trade reform and Informal wage. *II*, 331-320.
- Marjit, S., Kar, S., & Maiti, D. (2009). Labor market reform and poverty { the. In B. Dutta, T. Ray, & E. Somanathan, *New And Enduring Themes In Development Economics*. New York: World Scientific. Retrieved from <http://mpira.ub.uni-muenchen.de/23999/>
- Mehrotra, S. (2012, may). creating employment in twelve five year plan. *XLVII* (19), 3-7.
- Misra, S. R. (1986). *Tea Industry in India*. New Delhi: British Publishing House.

- Misra, U. (2000). *The Periphery Strikes Back*. Shimla: Indian Institute of Advance Studies.
- Hirst, P. (1997). The Global Economy: Myths and Realities. *The International Affairs*, 73(3), 409-25.
- Parthasarathy, G. (1996, july). Unorganised Sector and Structural Adjustment. *Economic and political weekly*, 31(98), 1859-1861+1863-1869.
- Patnaik, P. (2013). Growth versus Redistribution. *People's Democracy*, xxxvii(30), 3. Retrieved 2014, from [http://www.networkideas.org/news/aug2013/Growth\\_Redistribution.pdf](http://www.networkideas.org/news/aug2013/Growth_Redistribution.pdf)
- Patnaik, P. (2014, April 12). Neo-liberalism and Democracy. *Economic & Political Weekly*, XLIX(15), 39-45.
- Ramadurai, N. (2002, August 12). FDI in Tea Sector. *The Hindu*.
- Roy, S. (2005). Effect of skill on work productivity and physical body dimensions of the Oraon tea garden. *Anthropologischer Anzeiger*, 63(4), 453. Retrieved from <http://www.jstor.org/stable/29542691>
- Saikia, B. (2008). Development of the Tea garden Community and Adivasi politics in Assam. *The Indian Journal of Labour Economics*, Vol 51, No. 2, 307-322.
- Sarma, J. (2012). *Empires Garden*. New Delhi: Parmanent Books. Retrieved 2014
- Sharma, A., Mishra, D. K., & Upadhay, V. (2012). *Unfolding Crisis in Assam Tea Plantation*. Delhi: Routledge. Retrieved 2014
- Skonieczny, A. (2010). Interrupting Inevitability: Globalisation and Resistance. *Alternatives: Global, Local, Political*, 35(1), 25.

Sweezy, P. (1997). More on Globalization. *Monthly Review*, 49(4), 1-2.

Yasuharu, U. (2011). Did Social Security Improve Labor Productivity? *Springer japan*,  
58.

## Annexure-1:

### Tea-garden Workers' Interview Schedule

Name of the District	Name of the Block	Name of Hamlet	Sl. No. of Household Schedule	Sl. No of Worker Schedule

1.	Name of the respondent	
2.	Since when have you been working as tea garden worker (mention the year)?	
3.	What job were you pursuing prior to the current one?	
4.	Educational Qualification	
5.	Married	Unmarried
6.	Why left school/collage	
7.	How many family members are working	

8. Please give the following details ( *put the number* )

Seasons	For whom do you mostly work during these seasons?	Specify the type of work undertaken during these seasons (multiple responses are likely)	9. Commodities provided by employer/govt
	1) Local farmer 2) Contractors 3) Govt tea company 4) Estate Owner 5) Private tea estate 6) Any other, specify	1) Ploughing and levelling the land 2) Clearing bushes 3) plucking 4) Transplanting 5) Tractor-driver 6) Other works, specify	<b>1.Rice</b>
			<b>2.wheat</b>
			<b>3.cereals</b>
Monsoon			<b>4. Kerosene</b>
Winter			<b>5. Sugar</b>

Summe r			<b>6. Any other</b>
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<b>10.</b>	<b>Nature of employment</b>	<b>Pattern of wages</b>	<b>Remuneration (in Rs.)</b>	<b>Which of the following items did your employer/s provide you by way of additional benefits in the last one year?*</b>
	1) Casual 2) Attached 3) permanent 4) voucher 5) Any other, specify	1) Daily 2) Weekly 3) Monthly 4) Weight wise 5) Any other, specify		1) food 2) Clothing 3) Housing 4) Transport Allowance 5) Bonus 6) Any other, specify

*\* mention the amount in Rs.*

11.	Do you take any children from your household to the work site?	1) Yes 2) No
12.	If yes, specify the reasons for the same.	1) Helpful in finishing the work 2) Helpful in earning additional income 3) Cannot be left alone at home 4) Any other, specify: _____
13.	Do you have any convenient place to keep children at workplace?	

14.	In the last one year, were you not involved in tea- garden work during any of the seasons?	1) Yes 2) No
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15. If yes, give the following details.

Seasons	Number of months in the last one year	Severity of non-work 1) Less than 10 days 2) 10-20 days 3) More than 20 days	15.2 Time of work in the last week		Reasons for not working 1) End of season 2) End of contract 3) Rains 4) Health problems 5) Lack of skills 6) Any other, specify
			Day	Half day	
Monsoon (June - Sept)					
Winter (Oct – Feb)					
Summer (March – May)					

16.	Was the total income that you obtained in the last year sufficient to meet your basic needs (food, clothing, health, etc)?	1) Yes 2) No
17.	If no, how did you manage the basic household expenditure?	
18.	Have you been seeking extra employment than working in tea-garden during the last year?	1) Yes 2) No
19.	If yes, what attempts have you made in this direction in the last one year?	1) Migration 2) Wage employment Programmes( say, MNREGA) 3) Income generating activities 4) No attempts have been made 5) Any other, specify:_____
20.	Did you face any work-related risks in the last one year?	1) Yes 2) No

21.	If yes, what are the risks that you faced?	1) Accident while using implements 2) Health problems related to chemicals used (fertilisers, pesticides, etc) 3) Prolonged illness 4) Any other, specify	
22.	What was the total expenditure incurred on this health crisis?		
23.	Give the details on the ways by which you met the expenditure.	<b>Source</b>	<b>Amount (in Rs.)</b>
		1) Employer covered hospital / medical expenditure	
		2) Insurance policy	
		3) Assistance from family and friends	
		4) Falling back on savings	
		5) Borrowing	
		6) Sale of assets	
		7) Any other, specify	
24.	In case of medical need where prefers to go	1)garden health centre 2)Other govt hospital 3)private medical institute 4) resort to traditional medicine	
25.	How far the garden health centre from residence		

26. Please indicate the following details on savings that you have made.

<b>Source of savings</b>	<b>Do you have savings in any of the following?</b> 1) Yes 2) No 3) Yes on HH members name	<b>Since when?</b>	<b>Reasons for saving</b> 1) Household crisis 2) Purchasing assets 3) Financing wedding, etc 4) Children's school fees, etc 5) Any other, specify	<b>Current Status of Account</b> 1) Active 2) Inactive (If not saved money in the last one year)	<b>If not saved, what are the reasons</b> 1) Inconvenient 2) Lack of privacy 3) Not safe 4) Long distance 5) Never with surplus funds 6) Any other, specify	<b>27. Items you possess as assets</b>
Banks						1) Animals
Post Office						2) Jewellery
With employer/s						3) Bicycle
Chit fund						4) Two wheeler
Any other, specify						5) Land

<b>28.1</b> Do you have any kind of insurances	1) Yes 2) NO 3) 3) Yes, contributing to HH members insurance	<b>28.3.</b> Amount of premium you pay	Do you have any kind of debt?	<b>29.1</b> How much tea leaves you pluck in a day	<b>29.2</b> How many hours you work in a day	
					<b>Full day</b>	<b>Half day</b>

28.2 If Yes what kind of	1) Health 2) Old age 3) Life					
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30. Give your ranking on the following social security needs.

Sl. No	Social Security towards	Rank
1.	Health	
2.	Maternity	
3.	Employment Injury	
4.	Unemployment	
5.	Old Age	
6.	Death	

Interviewer's name =

## Annexure- 2

### Interview Schedule for garden Authority

	2011	2012	2013	Health Centre	1.Yes 2.no
Total no workers in the peak season				Average daily attendant	
No of permanent workers				facilities	1. Doctor 2. Nurse 3. Compounder 4. medicine

SI No	Educational facility in the estate	Attendance	Remarks
1.	Anganwadi centre		
2.	Lower primary School		
3.	High School		
4	Any other , specify		

#### FOR LINE MAN

How many workers under him			
Average daily pluck			
Who plucked more	1. male 2. female	1.parmanent workers 2. casual workers	1. residential workers 2. recruited from outside

### Annexure 3: Map of Study Area

