

# **Chapter-1**

## Introduction

**1.0 Introduction:** Tea is popular as well as a famous non-alcoholic beverage in the world. The Tea industry in India starts its long journey since the 18th Century and a leading producer country of the world producing both ‘CTC’ (Cut, Tear & Curl) and ‘Orthodox’ types of tea. In India, tea plantations share 30.84 per cent of total area and produce 46.49 percent of total national plantation output. Most of the tea plantation concentrated in North & South India occupying 77.68 per cent and 22.32 per cent of total area where Assam and West Bengal of North India share 67.87 per cent and 27.84 per cent area under tea plantation (Marlin Joseph, 2002). In West Bengal, there are two districts namely Darjeeling and Jalpaiguri are important for producing tea and officially known as ‘**Tea Districts**’ of West Bengal where in hills areas (Darjeeling hill), Terai (Foothills of Darjeeling) and Western Dooars (Jalpaiguri) tea plantation has developed. The first tea garden was introduced in the hilly tracts of Darjeeling in 1839 and found as a commercial form in 1856 (Bhattacharya, 2007). Since it is a labour-intensive industry so found a gender-specific work where around 50.00 per cent employee shares women and engaged in different works of the tea plantation. Because they soften hands and nimble fingers are suitable for plucking with two leaves and one bud efficiently. Men and adolescents workers also engaged in various works of tea plantations such as harvesting, ploughing, weeding, spraying to control harmful pests and weeds, maintenance of irrigation in the plantation. Yet the condition of tea garden workers is much worst in terms of their social, economic and other related aspects of livelihood. According to PLA, 1951 workers were provisioned about welfare facilities of accommodation, electricity, daycare facilities, Children’s educational facilities, social securities (i.e. Gratuity, Provident fund, Annual bonus, Pension.) and maternity benefits. Due to meager wages, they are economically deplorable and extremely vulnerable in all forms of exploitation. Their existing social and economical aspects do not reflect a better standard of living. Because they are mostly illiterate and ignorant, their food habits and nutrient consumptions are very poor to health. Their awareness regarding socio-culture, economic, political & outer exposures is very narrow to live in present-day situations. On the other hand, the socio-economic condition of women in tea plantation is much worst compared to men. They are mostly backward, depressed and economically weaker of the society. Even exploited and dominated by males in domestic and occupational spheres. So, the position of women in tea gardens is assigned as a lower ladder in the social hierarchy of tea plantation. Even they have no knowledge about their rights and duties in the working world.

## **1.1 Review of Literatures:**

In view of the introductory background and the objectives of the study, a retrospective exploration and systematic review of available literature have done. The attempt has been made to scan the topical studies pertaining not only to the Indian subcontinent but also to other developing continents from the global perspective.

The authors S. N. Singh et al. in 2006 in their book named '*Socio-economic and political problems of tea garden workers*' have highlighted in details historical development of tea plantation in Cachar of Assam, the recruitment of labour in tea plantation, the role of women workers and Government impact on tea industry regarding economy of Cachar, the socio-economic profile of tea garden women workers. their languages, culture and religious festival, living condition literacy attainment, economic status, the political participation of tea workers, their voting behaviour and its impact on the politics of Cachar.

The study on '*Women workers of Tea plantation in India*' by Dr. Mita Bhadra in 1992 tried to investigate the condition of Tea plantation women workers of Chandmoni Tea estate of Terai region of Darjeeling district where she pointed out role of women as a Plantation workers, their occupation, recruitment in tea plantation, nature of women's work in tea plantation, type of work done by women workers, their wages pattern, beneficiaries & facilities, participation in trade union. The author also presented the family pattern, prevailing marriage system, family planning measures, decision making power and social interaction of women workers.

The authors Brijinder Singh and R.K Sud in 2013 studied on '*History of Tea in India*' where they highlighted briefly the historical background of Tea plantation in a different favourite part of India like Assam, Darjeeling, South India, Uttarakhand, and Kangra valley.

The author Dr. Khemraj Sharma in 2000 in his book entitle '*The Himalayan Tea plantation workers*' has focused on the tea plantation workers of Eastern Himalayan region especially hill areas of Darjeeling district of West Bengal. The author pointed out on the socio-economic condition of the workers related to caste, nature of family, types of household and marriage system as a social parlance while for portraying the economic condition he included the occupational structure of the workers, working for

population within and outsides of tea gardens, possession of land holdings and household items. He also highlighted the workers' participation in a trade union, welfare measures, history of recruitment, settle of workers and futurology of industry and workers.

The author S.R Molly Joseph in 2009 study on '*Women workers in Tea plantation-A brief appraisal*' in Assam to investigate the reason behind women worker's participation in tea plantation. He also highlighted the gender-specific work in tea plantation like preparing of tea beds, preparing seedling & maintaining nurseries, transplanting seedling & tipping, pruning & forking, weeding & digging, manuring & spraying, tea leaves plucking and carrying of plucked leaves.

The author Tushar Kanti Ghosh in 1987 on his book entitled '*Tea gardens of West Bengal (A critical study of Land management)*', has highlighted the history of tea gardens in India especially in West Bengal, land management policies of tea gardens, land revenue pattern and land management problems of sick and closed tea gardens.

The author Manas Dasgupta in 1999 studied on '*Labour in Tea Gardens*' portrayed the continuity and changing condition of tea garden Labours in Darjeeling, Duars and Terai region of West Bengal. He also highlighted the development of industry, immigration of labours in Darjeeling hill, Duars & Terai tea plantation areas, the condition of plantation labours in pre-independence days, the trade union movements in Darjeeling, Duars & Terai, and status of women workers in tea gardens and influences of productivity on wages of the labourers.

A study conducted by D. K. Dasgupta & I. A. Khan in 1983 on '*Impact of Tea plantation industry of the life of Tribal Labourers*' in some selected Tea estates (Chapar Tea estate of Goalpara district, Assam, Mogulkata Tea estate of Jalpaiguri and Rungeet Tea estate of Darjeeling district, West Bengal) across the state Assam and West Bengal to highlight the socio-economic condition of tea plantation labourers included work organization & labour force, the economic organization and demographics as well as social aspects like population composition, clan, marital status, literacy, family composition, and sizes. They also highlighted the Trade union movement, political organization, and maintenance of their ethnic boundary across the states.

The author Khemraj Sharma (2003) in his book named '*Tea plantation workers in a Himalayan region*' has presented the condition of tea plantation workers in the Himalayan region especially in Temi tea estate of Sikkim. He highlighted the economic life of workers where he pointed out the organizational settings, the composition of the workforce, various benefits and facilities, nature of work, landholding possession, traditional occupation, and livestock rearing. He also focused the impact of the tea industry on the social life of workers where he highlighted the changing trend of their prevailing caste system, place of birth, educational structure, marriage pattern, family composition, religious structure and practices of both traditional and modern health care.

The author Manas Dasgupta in 1984 studied on '*Socio-economic impact of Tea plantation on Agriculture in Darjeeling hill areas*' where he pointed out the river Teesta divides the economy into two categories of Darjeeling, its eastern side followed plantation comprises Darjeeling & Kurseong while the western side of agriculture comprises Kalimpong and Garubathan. He presented historically the interrelation of a dual economy, in pre-independence the leading and dynamics role of tea gardens led dynamic forward linkages of development on agriculture but in post-independence while tea gardens became sick and uneconomic that led the various backward linkages in agricultures.

The authors A. K. Das & H.N. Banerjee in 1964 studied on '*Impact of Tea industry on the life of the Tribals of West Bengal*' taking four major tea gardens namely Kadambini T.E, Mujnai T.E, Makrapara T.E and Cooch Bihar T.E of North Bengal considering 4.2% of the total families in tea gardens. They highlighted the tea industry's impact on the economic system of workers where they presented their immigration, occupation & income status of tribal and non-tribal workers; changes of intergenerational occupation; household income & expenditure patterns; debt and borrowings pattern and workers attitudes towards plantation jobs & production. They also presented the impact on social life included ethnic group-wise family structures, clan, marriage, inter-religious marriage, inter-tribal marriages, literacy, dialect, changes of social distances, religious festivals and medical facilities and in case of psychological impact the highlighted the worker's attitude towards industrial works, their routine life, family and interpersonal relationship and attitude towards children education and trade union.

The author E. Kaniampady in 2003 studied on '*Status of women working in the tea plantation-A case study*' in Assam where she highlighted the daily activities of women tea plantation labours; role of women in their family and communalities activities; the factors related to socio-economic developments of women like education, wage earnings, employments, income & expenditures and the position of women workers in society. She also highlighted the general health of women workers related to age at marriage, fertility, and infant mortality performance and the implementation of social security and other benefits provided to tea plantation labours.

A study conducted by M. Bhadra in 1997 on '*Women workers in the organized sectors with special reference to the Tea plantation in India*' where she found the number of women workers gradually increased in Tea plantation industry of West Bengal which is a labour-intensive organized sector. She also observed that not only the men workers but also the women and children of above twelve-year take an important role in Tea plantation industry and found from the year of 1977-80, the number of plantation women workers are much higher in Darjeeling district than women workers in West Dinajpur and Cooch Bihar.

A study on '*Family welfare among Tea plantation workers of West Bengal*' by S. Chakravarty in 1997 to highlight the knowledge, attitude & practices among Tea gardens workers in family welfare. He pointed out several aspects like maternal & child health care practices; knowledge & adoption of family planning methods; the spacing of birth, preferences of children, and size of the family. He observed a positive attitude among Tea plantation workers with respect to modern concepts & methods of family welfare.

A Doctoral research work conducted by Sreerupa Bhattacharya in 2006 on the '*Tea industry and its associated problems in Terai of Darjeeling district*'. The major objectives of her work comprise for investigation of physical problem included flood, drought, siltation, soil erosion, deposition & its effect on tea plantation; historical background of tea gardens & its land-use pattern; the processing& marketing of tea industry & its consumption in national and international markets; evaluation of demographic & socio-economic aspects of Darjeeling-Terai; identification of problems & constraints of tea plantation and suggested the strategy for upliftment of socio-economic condition of the people of tea plantation.

The author S. Ghorai in 1999 studied '*The problems and future prospects associated with Tea gardens & Tea industry in Nagrakata & Banarhat Police Station of Jalpaiguri district in West Bengal*' for her Doctoral research work. The focus of her research work lies on investigation the problems that affect on the tea plantation, the historical profile of the tea industry; evaluation of the processing, marketing and consumption pattern in national & international markets; identification of the socio-economic problems and major constraints of tea plantation & Tea industry; suggestive measures for upliftment of the status of the tea plantation labours.

The author M. Bhadra in 1992 conducted her Ph.D. research work on '*Life and labour of plantation women workers-A study in Sociology of work*' in Chandmoni Tea estate of Terai of Darjeeling district. Her research work focused on the role of women in tea plantation regarding nature of work & participation in tea industry; women and family life; investigation of socio-economic condition workers included ethnic composition, household composition, and literacy, process of recruitment, working facilities & prospects and finally the role of women workers in Trade union activities.

The author Namrata Thapa in 2012 carried out a study on '*Employment status and human development of Tea plantation Workers in West Bengal*' to highlight the employment pattern of tea plantation workers; trend of labour employed in tea plantation; composition of workforce and the economic status of labour's households in light of their households assets. The author also presented the living standard in terms of education of worker's children, the health status of household members and basic amenities on housing condition & sanitation of permanent, casual and self-employed workers of tea plantation in Darjeeling district. She observed that the drop-out rate is more acute among STs Children of permanent workers compare to children of SCs & General category workers.

The author S. C. Majumder & S. C. Roy in 2012 carried out a study on '*Socio-economic Conditions of Tea Plantation Workers in Bangladesh: A Case Study on Sreemongal*' to highlight the working environment & living standard of the tea plantation workers; major problems & discrimination faced by workers and finally the role of Bangladesh Cha Sramik Union for solving concerned problems in tea plantation.

The author Shyamal Chandra Sarkar in 2013 in his research paper named '*The condition of Tea garden workers of Jalpaiguri district in colonial India*' has focused

the historical background of The tea industry in Jalpaiguri; the origin of tea gardens workers in district and condition of tea gardens workers. The author found that illiteracy, ignorance, poor housing conditions, low wages, long working hours, social discrimination and de facto restriction on their free movement deprived of many basic human needs and rights.

The Authors D. Bosumatari & P. Goyari in the year 2013 on their research paper on '*Educational Status of Tea Plantation Women Workers in Assam: An Empirical Analysis*' have highlighted the educational status of women workers of selected tea gardens and observed Economic backwardness, negligence of girls education, early marriages and non-availability of schools are factors responsible for low literacy of female workers. They statistically examined the significance of women's literacy on their children's education and observed the educated women are more inclined to send their children to schools than illiterate women workers.

The author G. Dasgupta in 2009 in his research paper on '*Whither Right to Food? Rights Institutions and Hungry Labour in Tea Plantations of North Bengal*' has highlighted the role of the State Mechanisms, Non-State Mechanisms/Facilitating Bodies and Interfaces with Rights to supply food security in closed tea gardens; status of Food for Work Programme Sampoorna Grameen Rojgar Yojna (SGRY) and Cash Distribution Programme of Government of India; Status of Situation of Health Care in Closed/Abandoned gardens in terms of healthcare entitlements like mobile medical by the Government of India; Status of Supplementary Nutrition Programme like ICDS, Mid-day meal for Pregnant and Lactating Mothers in Closed/Abandoned Tea Gardens; distribution of food grains in Closed/Abandoned Tea Gardens under SPL AAY.

A disguised author in chapter five entitled '*Work and leisure: living condition of the tea labourers*' of research work highlighted the living condition of the tea garden labourers relating to their work and leisure environments during the colonial period in Cachar province (covering present Cachar and Hailakandi district). Has been highlighted the living condition of the labours pertaining to their daily life such as socio-political & economic life include all facilities, difficulties, problems faced by the labourers during the time of their engagement in the tea gardens.

The author Sangeeta Saikia et. al. in 2013 in studied on '*Tea Garden Labours and Their Living Conditions: A study on Sarusarai Tea Garden of Jorhat District of Assam*'

and highlighted the living condition & welfare amenities of tea gardens workers regarding their wage structure, medical facilities, educational facilities, housing facilities, family size, fuels for cooking, provision of electricity, Public distribution system, sanitation and water supply. The author also pointed out the comparison of the wage structure of unskilled (tea garden workers) & skilled workers (working outside tea garden) and suggestive measures for upliftment of the conditions of the labours.

The author P. Dutta in 2015 studied on '*Women Tea Plantation Workers of North Bengal and the Politics of Wages and Other Entitlements*' and tried to investigate the politics behind the prevailing low wages of workers and the role of the state, planters' associations and trade unions behind the existence of almost starvation level of wages in tea industry where women are the primary wage earners. The pointed out in details the wage scenario of tea industry workers, it's some discernible trends and issues; Gender and Wage Politics under the Planter Raj; Gender & Post-colonial Wage Politics in West Bengal's Tea Industry; non-wage entitlements and Gender-based discrimination of Women Tea Plantations Workers like food ration entitlement.

A study on '*Socio-economic Condition and Income and Expenditure pattern of Plantation workers with special reference to Lepetkota Tea estate*' in Assam by A. K. Borah in 2013 highlights the demographic and social aspects of the workers include sex, age, marital status, type of family, children, nature of employment, living standard. The author also highlighted the household and individual income of respondents workers; extent of expenditure in food, education, clothing, entertainment, and medicas.

A study by N. Borah in 2012 on '*The rights of women workers in the tea gardens of Assam*' where she highlighted the level of enjoyment of workers' rights namely the human rights within the tea industry by the women workers. The author also observed some problems of women workers within tea gardens like poor health care facilities, maternal mortality, problems of the epidemic, unsafe drinking water, early marriage, child labour, alcoholism, school drop-out, and superstitious belief.

In 2013, the author Subrata Roy et al. in their Research paper named '*Health: Cognition & Threshold among the Oraon Tea Garden Labourers of Jalpaiguri district, West Bengal*' have highlighted the degree of accessibility of Primary Health Care and health problems of Oraon Tea Garden Labourers in Birpara and Dalgaon Tea Gardens

of Jalpaiguri District. They pointed out the threshold situation in health problems of workers on the basis of some aspects like mortality data, subjective well-being, frequency of ailment symptoms, perceived health status and selected health practices. They also examined that the infant and adolescent mortality are relatively high among the mother of 45+ age group and low among mothers under the 25-34 age group.

The author T. Das in 2015 in his article named '*Socio-economic settings, health problems, causes and remedial measures of sick tea garden workers of Ramjora and Dheklapara Tea Estates in Birpara Block of West Bengal, India*' tried to investigate various occupational health problems faced by tea garden workers, impact of health problems on their social life and highlights suggestive remedial measures to mitigate the occupational health problems of the tea garden workers. The author observed a lack of affirmation of nutritional diet because of their low wages; spraying pesticides without proper protection; Intoxication due to illiteracy, lack of awareness are factors behind health vulnerability of tea garden workers.

The author M. H. Kabir et al. (2013) in their article named '*Tribal medicine in tribes who have lost their identities: Medicinal plants of tea garden workers in Sreemangal, Maulvibazar district, Bangladesh*' have pointed out the medicinal plants and its different parts for tribal medicine practiced by tribal practitioners to cure various ailments like jaundice, anemia, chest-pain, coughs, constipation, blood poisoning, diarrhea, eye problems, diabetes, delayed delivery of baby, leg infections, throat pain, tuberculosis, stomach ache, abscess, shrinking of pupil in eyes, swelling of ear lobes, burning sensation during urination, and pain in leg.

The author S. Roy & Md. A. Sattar in 2015 on their article '*Open and distance learning towards the eradication of illiteracy of the tea-garden workers in Bangladesh: Problems and Prospects*' highlighted socio-economic condition of tea gardens workers include age, sex composition, nature of employment and income; the major constrain for receiving the formal education; educational status of the workers; role of NGOs for education of the workers; finally they established the relationship statistically whether the constraints and status of workers significantly impact their way in restarting education.

The Authors Md. Kamruzzaman et. al (2015) in their article on '*Livelihood Improvement of Tea Garden Workers: A Scenario of Marginalized Women Group in*

*Bangladesh*' tried to investigate the livelihood improvement status of the Tea garden workers and relationship between Socio-economic characteristics of workers and their livelihood improvement status. They observed higher improvement in the social sphere of workers include membership in a different organization, participation in different social functions, casting of votes and lowest improvement in the financial sphere include salary structure to meet family demand, quality and amount of ration provided and scope of savings. Some socio-economic characteristics like formal education, monthly income and communication media exposure of the workers significantly affect their improvement of livelihood.

The authors S. Ahmed & S. R. Choudhury (2014) in their paper named '*The Rights of Tea workers of Bangladesh in the light of existing Labor laws and standards: A study on selected tea estates of Sylhet District*' tried to assess actual scenario of the implementation of the Labor Laws in tea gardens; social condition of the tea workers; knowledge about their human rights; the level of awareness among the tea workers to their basic rights and highlights some suggestive measures for improving living standard of the tea workers.

The author Md. I. Ali in 2009 carried out a study on '*Measurement of Plucking efficiency in the different age group of Permanent Tea garden workers of Duncan Brothers (DB) limited: a case study*' in Shumshernugger Tea Estate of Bangladesh where he highlighted the Quantities and qualitative plucking efficiency of the different age group of Permanent worker in tea gardens. The author observed the workers with the age group of 26-30 are more efficient in plucking efficiency.

The author P. Borgohain in 2013 in his article named '*Occupational health hazards of tea garden workers of Hajua and Marangi tea estates of Assam, India*' highlighted socio-economic condition of workers include literacy, nature of work, income, housing; existing health and sanitation facilities; occupational health hazards include physical, mechanical, biological, chemical & psychological; health problems faced by workers; Causes of vulnerability to occupational health hazards; effects of occupational health hazards on occupational & social lives workers and finally highlights some suggestive remedial measures for improving the occupational health in tea gardens workers.

A study conducted by P. Sarmah & H. Goowalla in 2014 on '*Financial inclusion on daily wage earners in Tea garden of Assam: Challenges and Remedial measures*' to

investigate impact of financial inclusion on Daily wage earner in Tea Garden; degree of accessibility of financial services in low-income groups and they observed most of the tea gardens workers have not awareness in minimum financial bank schemes.

The author P. Banik studied on '*Food security and migrant women workers: a study of tea estates in Assam*' in tea gardens workers of Tinsukia district, Assam. The author tried to find out the level of food security accessible and enjoyed by the migrant women workers. He also highlighted the wage differences among local and migrant's different categories of workers; different categories of ration card holders among workers; native places of immigrant workers; the living condition, sanitation & housing pattern and the occupational health hazards and problems faced by tea gardens workers.

The author Saraswati Kerketta in 2015 on her article '*Living in the Edge: Crisis in Indian Tea Industry and Social Deprivation of Tea Garden Workers in Dooars Region of India*' tried to assess the socio-cultural and demographic characteristics of the tea garden labourers; the social situation of workers in sick estates in Dooars region; the magnitude of deprivation the impact of economic crisis on abandoned and closed tea estates in the region.

The author Surjapada Paul and Sushma Rohatgi (2016) studied on '*Literacy pattern and level of development of the tea garden workers of Dooars region, West Bengal*' and they pointed out a vast number of people are illiterate and female literacy rate is decreased compare to male with advancement of educational hierarchical level.

The author Sushma Rohatgi studied on 'Alternative Strategies for Income Generation of Vulnerable Tea Gardens of Darjeeling Terai and Jalpaiguri Duars Region of West Bengal where she emphasised on community participation specially women in co-operative and Self Help Groups for upliftment their development.

The author Rohatgi (2013) studied on vulnerability of tea gardens of Jalpaiguri district of west Bengal and identified 30 per cent vulnerable tea gardens. for development suggested alternative income sources of tea gardens workers.

**1.2 Statement of the Problems:** The tea industry is one of the major sources of better livelihood and employment opportunities for the population. Generally, people of tea gardens are mostly tribes. They are the most disadvantaged, depressed and vulnerable

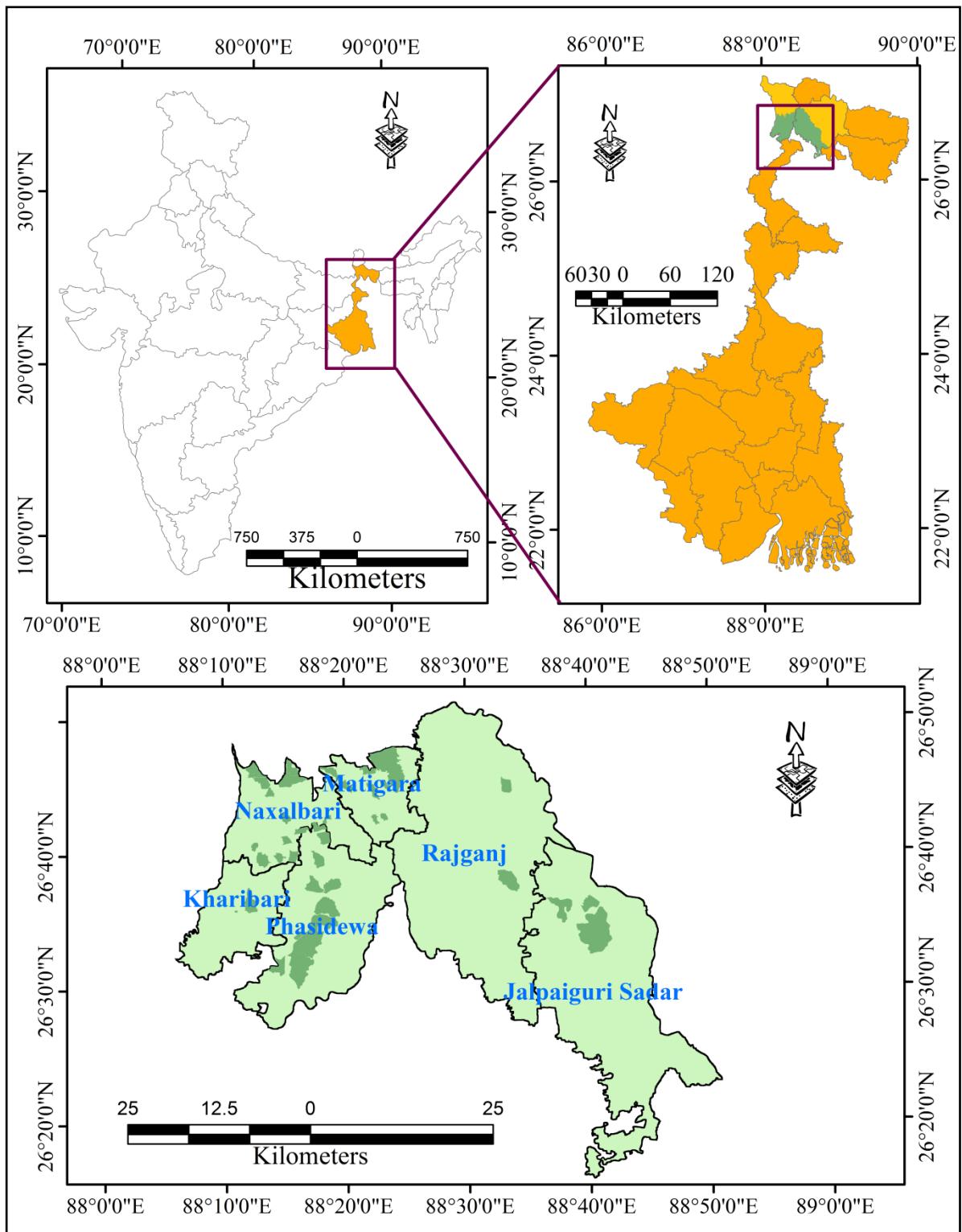
sections of society and known as ‘Tea tribes’. The socio-economic problems of Tea plantation women are pointed as below-

- ❖ Social problems: Unfortunately tea plantation women suffering from ignorance, illiteracy, starvation, malnutrition, ill-health, health care facilities especially during maternity, lack of social security, lack of knowledge and awareness in different aspects such as child labour, child marriage, superstitions, empowerment, intoxication, and low status. So, they are socially excluded, disconnected, deprived, and exploited sections of society and apart from mainstream society.
- ❖ Economic problems: the people of tea gardens working with nominal wages although permanent workers work throughout the year casual workers get the opportunity to work only in peak season. So they suffer from work frustration, the disparity in work, low wages, not paid in due time and deprived of different material supply i.e. P.F, Gratuity, fuelwood, repairing cost. So they fully deprived of the provision of PLA, 1951.
- ❖ Hazardous problems: During work in tea plantation workers suffered from natural, mechanical, biological and chemical hazards during plucking in the uneven terrain of the plantation.

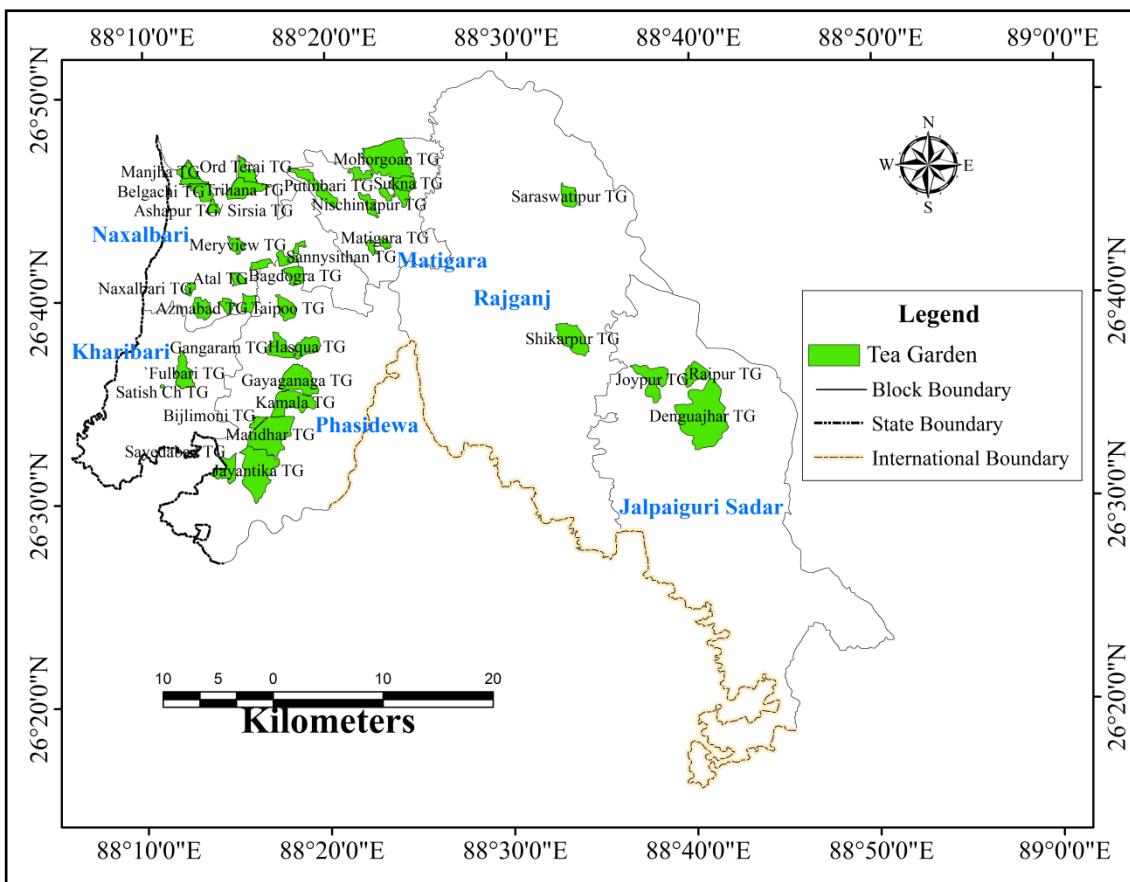
In previous, several studies had attempted to understand the existing situation of Tea gardens of North Bengal. But the study tried to reflect the socio-economic condition of tea plantation women of the Terai region of Darjeeling and Jalpaiguri districts of North Bengal which is a burning issue in present-day situations.

**1.3 Location of the study area:** In West Bengal, the tea gardens are concentrated in three geographic regions such as Darjeeling hills, Terai and Dooars of North Bengal (Bhattacharya, 2007). The study area of research is the Terai region of Darjeeling and Jalpaiguri Districts of West Bengal (Map 1.1). Although physically, the boundary of the study is vague to some extent where Terai of North Bengal is a part of foothills of Darjeeling and Bangladesh and Nepal are in south and west. Moreover, administratively, the Terai region covers foothills of Darjeeling namely the Siliguri subdivision of Darjeeling district (consists of four blocks: Phansidewa, Matigara, Naxalbari, and Kharibari) and right bank of river Teesta flowing over district Jalpaiguri (Comprises only two blocks: Rajganj and Jalpaiguri Sadar). Although Terai covers the Siliguri subdivision, Jalpaiguri and Coch Bihar comprises an area of 4800 square k.m.

(Ghosh, M, 2014.) and bounded by Sikkim in the north, Nepal in west and Bhutan in the northeast.



Map 1.1: Location map of the study area



Map. 1.2: Samples Tea Gardens

#### *Sample Tea Gardens:*

1. Ashapur, 2. Atal, 3. Azmabad, 4. Bagdogra, 5. Belgachi, 6. Bijlimoni, 7A. Daga Pur, 7B. Dagapur TG Annex, 8. Fulbari 9. Denguajhar, 10. Gangaram, 11. Gayaganga, 12. Hansqua, 13. Jayantika, 14. Joypur, 15. Kamla, 16. Kamalpur, 17. Kiran Chandra, 18. Manjha, 19. Marapur, 20. Motidhar, 21A. Matigara, 21B. Matigara TG Annex, 22. Vijaynagar 23. Meryview, 24. Mohargaon and Gulma, 25. Naxalbari, 26. New Chamta, 27. Nischintapur, 28. Ord Terai, 29. Paharghumia, 30. Kutinbari, 31. Raipur, 32. Sonnasisthan, 33. Saraswatipur, 34. Satish Chandra, 35. Sayedabad, 36. Sikarpur, 37. Singhajhora, 38. Sukna, 39. Taipo, 40. Trihana

**1.4 Hypotheses:** Generally a hypothesis is an assumption for showing relations between variables and tentative explanation of problems related to research. On the other hand, the hypothesis shows clear implications for testing a stated relationship (Ahuja, 2011). Another way, the hypothesis is a proposition or set of propositions for explaining in some occurred specified- phenomena which is asserted as a provisional conjecture to guide investigation and highly probable for established facts (Kothari & Garg, 2016). According to Theodorson and Theodorson (1969:191), “A hypothesis is a tentative statement asserting a relationship between certain facts. Kerlinger (1973:8),

“A conjectural statement of the relationship between two or more variables”. Black and & Champion (1976:126), The following hypothesis (APPENDIX-I) has been tentatively tested to study the Socio-economic condition of women in Tea Gardens of Terai of the district Darjeeling and Jalpaiguri of West Bengal.

### **Hypothesis 1: Most of the families are nuclear**

**Rationale:** During the investigation, four types of the family have been reported such as Broken, Joint, Nuclear, and Single-family in the study areas. Most of the family is nuclear (50.20 percent) reported in the tea gardens of Jalpaiguri and Darjeeling 49.60 percent and 50.29 percent respectively. Due to job opportunity, getting welfare facilities (i.e. housing, child education, medical benefit) and fragmentation of extended family or joint family are mostly the reason behind the formation of a nuclear family in tea gardens whereas 39.60 percent families are joint family and 8.60 percent & 1.60 percent is broken and single-family. In precisely, more than 62.45 per cent nuclear families found in 15.00 percent (6 in number) of the TGs named Joypur TG, Atal TG, Bagdogra TG, Gayaganga TG, Kamala TG, Sayedabad TG. 50.20-62.45 per cent nuclear family reported in 30.00 percent (12 in number) tea gardens. In 16 tea gardens (40.00 per cent), 37.95-50.20 per cent nuclear families are reported and finally <37.95 per cent nuclear family reported in 15.00 percent (6 in number) of tea gardens of the study area.

### **Hypothesis 2: Most of women are engaged in Tea leaves plucking**

**Rationale:** Since the tea industry is a labour-intensive industry and regular a large employed for working and both males and females are recruited in the tea gardens. Male labourers are engaged in hand and heavy work like, factory, car drive, irrigation, spraying, weeding, ploughing and field observation whereas female is engaged for tea leaves plucking because their nimble and soft finger hands are suitable for plucking tea leaves during lean season, permanent women workers are also engaged in weeding and pruning besides plucking. Where more than fifty per cent (53.00 per cent) women involved in tea leaves plucking which is found in tea garden of Jalpaiguri and Darjeeling is 46.40 per cent and 53.94 per cent respectively and mostly reported in tea gardens of Saraswatipur TG (80.00 per cent), Joypur TG (48.00 per cent) and Denguajhar TG (40.00 per cent) of Jalpaiguri and Dagapur TG (88.00 per cent), Nishchintapur TG (60.00 per cent), Atal TG (84.00 per cent), Belgachi TG (76.00 per

cent), Kiran Ch TG (88.00 per cent), Marapur TG (88.00 per cent), Ord Terai TG (76.00 per cent), Trihana TG (72.00 per cent), Bijlimoni TG (76.00 per cent), Hansqua TG (76.00 per cent), Jayantika TG (60.00 per cent), Sayaedabad TG (84.00 per cent). The permanent workers throughout the year, they not only plucked tea leaves but also involved in weeding, pruning managing in the plantation. Where 22.50 per cent women also involved in plucking and weeding reported in Sikarpur TG (36.00 percent), Joyur TG (32.00 per cent), Raipur TG (32.00 per cent) of Jalpaiguri and Satish Chanda TG (60.00 per cent), Matigara TG (56.00 per cent), Putinbari TG (52.00 per cent), Kamalpur TG (40.00 per cent), Gangaram TG (32.00 per cent) and Taipoo TG (48.00 per cent). Another 5.70 per cent women engaged in plucking and pruning reported in Joypur TG (16.00 per cent), Denguajhar TG (12.00 per cent) of Jalpaiguri and Mohorgaon and Gulma TG (16.00 per cent), Sukna TG (16.00 per cent), Kamalpur TG (16.00 per cent), Naxalabari TG (16.00 per cent) and Motidhar TG (16.00 per cent).

### **Hypothesis: 3. Women get married even before 18 years.**

**Rationale:** Since most of the tea garden peoples belong to the tribal community and they are mostly illiterate and ignorant from the modern lifestyle. During the survey, it is observed the women getting marriage before legal age (18 years) which is 27.00 per cent (although it is less at present than earlier due to consciousness about children marriage which is a punishable offense) reported 42.50 per cent tea gardens (17 in number) 27.38 per cent women got marriage before 18 years although in 32.50 per cent tea gardens (13 in number) 16.42-27.00 percent women married before legal age. It worth maintaining that more than 37.58 per cent women getting marriage before 18 years found in Saraswatipur TG, Fulbari TG, Dagapur TG, Matigara TG, Kiran Chandra TG whereas less than 16.42 per cent getting marriage before 18 years found in 12.50 per cent tea gardens (5 in numbers) named Ashapur TG, Paharghomia TG, Bagdogra TG, Taipoo TG, Jayantika TG of the study area.

### **Hypothesis 4: The literate women are more aware of family planning**

**Rationale:** During the survey, it has been observed that due to ignorance and illiteracy the awareness in family planning is very poor among the tea garden women due to their illiteracy, ignorance and isolate from the mainstream of society. But now, regular door to door visit of ASHA and health workers, they are much awareness in family planning. Although family planning awareness and its measures mostly observed in literate

women and found more among highly qualified women (**Chi-Square,  $X^2$ : 119.661; P: 0.000**). So 52.60 per cent women are illiterate, among them only 21.10 per cent are aware of family planning. But among literate women (47.40 per cent) 33.20 per cent are conscious in family planning. Regarding consciousness and awareness of family planning, at primary level, 7.70 per cent women are aware out of 13.40 per cent; at upper primary level (12.80 per cent) women are aware out of 19.60 per cent women. Although at the secondary level, 9.40 per cent are aware out of 1.70 per cent women and at the higher secondary level, 2.90 per cent women are conscious out of 3.30 per cent women, while all the graduate women are aware in family planning.

#### **Hypothesis 5: Most women are aware of Government Health facilities.**

**Rationale:** In the study area most of tea gardens (32.50 per cent and 13 in Numbers) 34.80-51.00 per cent women Respondents take medical facilities during maternity (immunization, health check-up, measures of family planning and so on) from health centre (Upa Sastha Kendya) where Auxiliary Nursing Midwifery (ANM) and Accredited Social Health Activist (ASHA) are employed for providing services. Another in 30 per cent tea gardens (12 in number), 51.00-67.20 per cent women take facilities from health centers. Although more than 67.20 per cent women enjoyed medical facilities provided from health centres reported in 20 per cent tea gardens (8 in numbers) named Nishchintapur TG, Atal TG, Kamalpur TG, Manjha TG, Ord Terai TG, Sannyasithan TG, Trihana TG, Singhajhora TG women are highly aware because of easy accessibility of health centres and co-operation of centres-staffs wherein 17.50 per cent tea gardens (7 in numbers), below 34.80 percent women benefitted from govt health centers reported in Fulbari TG, Matigara TG, Vijoynagar TG, Bijlimoni TG, Gayaganga TG, Motidha TG, Sayedabad TG. Women enjoyed facilities from another government hospital (Matigara hospital), lack of awareness and inaccessibility of health centers. Women received many facilities after institutional deliveries at the stage of prenatal to postnatal stages after institutional deliveries (where ASHA takes a vital role from anti-natal care of the pregnant mother to perform- deliveries).

#### **Hypothesis: 6. The Christian tribal women possess better social conditions.**

**Rationale:** There are different religious social groups (Hindu, Christian, Muslim, Buddhist) working in tea gardens of the study area. During the investigation, it is found that social conditions of Christian tribal women are comparatively better than non-

Christian women because of the religious transformation into Christianity, their literate children; regularly visit in Church, interaction of local people at periodic *hat* are responsible for promoting the social condition only 31.01 per cent Christian and 32.96 per cent non Christian women possess poor social conditions. The moderate social condition reported among Christian and Non-Christian women in 62.37 per cent and 62.69 per cent respectively. Where 6.62 per cent Christian and 4.3 per cent non Christian women possess high social conditions (**Chi-square, X<sup>2</sup>: 2.357, P: 0.308**).

#### **Hypothesis 7: Political awareness is more among the literate women**

**Rationale:** Since, tea garden people are mostly busy with work and mostly illiterate, ignorant and they have no time even not interested in gossiping about politics. Unfortunately, they don't know even the name of their panchayat members. About 52.60 per cent women are illiterate; most of them (26.90 per cent) possess low political awareness and 1.40 per cent secures high political awareness. Among 47.40 per cent literate women, 28.70 per cent secures moderate political awareness and 7.90 per cent possess high political awareness. It is noticeable that the political awareness among literate women gradually increasing with increasing their educational attainment (**Chi-square, X<sup>2</sup>: 235.634, P: 0.000**). At the primary level (13.40 per cent), only 0.70 per cent and 4.80 per cent women possess high political awareness and low political awareness. At the secondary level (10.70 per cent), 3.40 per cent and 5.90 per cent women have high and moderate political awareness. Although at the higher secondary level (3.30 per cent), 1.70 per cent and 1.60 per cent secure high and moderate political awareness. All graduate women also possess high and moderate political awareness.

#### **1.5 Objectives:**

- I. To investigate the livelihood condition of the Tea garden Women of Terai region of Darjeeling and Jalpaiguri districts of North Bengal.
- II. To find out the Social condition of Women in Tea gardens of Terai region of Darjeeling and Jalpaiguri districts of North Bengal.
- III. To investigate the Economic condition of Women in Tea gardens of Terai region of Darjeeling and Jalpaiguri districts of North Bengal.
- IV. To find out the Problems of Tea garden Women.
- V. To suggest the strategies for the upliftment of the Socio-economic condition of Tea garden Women of the study area.

## **1.6 Methodology:**

To study the socio-economic condition of women in tea gardens of Terai of Darjeeling and Jalpaiguri districts, following materials and methods have been incorporated in the following ways:

- ❖ **Sampling and survey process:** The stratified Random Sampling method has been adopted to fulfill the study. 75 per cent Register tea gardens of the study area have been taken as a sample tea gardens i.e. 75 per cent of 53 register tea gardens. thus 40 tea gardens have been taken into consideration as sample tea gardens of the study area (Map 1.2). Since the study area located in two administrative units i.e. Darjeeling and Jalpaiguri district so again 75 per cent tea gardens has been taken from each administrative unit. From Darjeeling district, 75 per cent of 46 tea gardens have been selected i.e 35 tea gardens and from Jalpaiguri district, 75 per cent of 7 tea gardens i.e. 5 tea gardens have been selected. For surveying, tea gardens have been selected adopting purposive sampling and finally, 25 households have been selected randomly from each tea gardens adopting Simple Random Sampling without Replacement (SRSWR) sampling method.
- ❖ **Households Schedules:** For collecting the primary data regarding the socio-economic aspects of women in tea gardens a schedule has been used.
- ❖ **Household Quality of Living Index (HQLI):** To assess the household quality of living of women in the tea gardens the Household Quality of Living Index (HQLI) has been followed using 29 variables under three heads. HQLI is a combined score of QHI, BAI, and AI. The selected 29 variables fall under three domains where QHI consists of 7 variables, BAI consists of 5 variables and AI consists of 17 variables. The percentage of availability in HHs of each variable has been considered in each tea garden under three domains. After that, the value of each variable is normalized (Dimension Index= (Actual- Minimum)/(Maximum-Minimum)). Finally, each domain value of tea gardens is extracted by taking average normalized values of selected variables under each domain where value near to 1 indicates good facilities or amenities and near to 0 indicates poor facility or amenities. Finally, HQLI is constructed by adding the value of each domain in each tea garden. After getting the value of HQLI, it is divided into four categories based on quartile i.e. Low Household Quality of Living (<0.44), Moderately Low

Household Quality of Living (0.44-0.55) and Moderate Household Quality of Living (0.50-0.56) and Moderately high Household Quality of Living (>0.56).

<b>List of Selected Variables</b>
<b><i>Quality of Housing Index (QHI)</i></b>
HHs living in Company built Houses
HHs Occupying at least 3.5 Katha in Size
Repairing benefits enjoying from Company
HHs having Semi-pucca houses
HHs having at least two dwelling rooms
Dwelling room having at least two windows
HHs having separated kitchen room
<b><i>Basic Amenity Index (BAI)</i></b>
Drinking water within the premises
Electricity connection
LPG for cooking
Sanitary latrine within premises
Drainage facility for water outlet
<b><i>Asset Index (AI)</i></b>
Television
Fan
Light
Electric Press
Refrigerator
Cycle
Motor Bike
Clock
Electric Mixture
Radio
Mobile
Laptop/Computer
Pressure Cooker
Chair
Table
Showcase
Cot

- ❖ **Standard of Living Index:** For constructing the Standard of Living Index, the Simple Average Method (SAM) has been followed using 18 variables under 6 domains such as Standard of Health, Social Security Schemes, Material Wellbeing, Households' Economy, Household Size, and Standard of Education (Banger, 2007).

<b>Standard of Living Index (SLI)</b>	<b>List of Selected Variables</b>
	<b><i>Standard of Health</i></b>
	Percentage of HHs having Sanitary Larine
	Percentage of HHs having Drinking Water in Premises
	Percentage of HHs having Drainage System
	Percentage of HHs uses Disposal of Waste at the dumping of a particular place
	<b><i>Social Security Schemes</i></b>
	Percentage of Respondents having a Ration card
	Percentage of HHs benefitted from Khadyasathi Prokalpo
	Percentage of Respondents Working in NREGA Scheme
	Percentage of Respondents enjoyed Pension Scheme
	Percentage of Respondents enjoyed Security Scheme
	Percentage of Respondents having Bank account
	<b><i>Material Well Being</i></b>
	Percentage of HHs having T.V
	Percentage of Respondents access Mobile
	<b><i>Households Economy</i></b>
	Per capita income
	Per capita consumption
	<b><i>Household Size</i></b>
	Number of members in HHs
	<b><i>Standard of Education</i></b>
	Percentage of Net Primary Enrolment
	Percentage of Effective Literacy rate
	Percentage of Adult Literacy rate

The facility available in HHs (%) of each variable has been considered in each Tea garden under seven domains. Then, the value of each variable of each tea gardens are normalized (Dimension Index= (Actual-Minimum)/(Maximum-Minimum)). Finally, the average value of 6 domains is extracted where value near to 1 indicates the good condition and near to 0 indicates the poor condition and divided into four categories based on quartile i.e. Low Standard of Living (<0.47), moderately low Standard of Living (0.47-0.52) and Moderate Standard of Living (0.52-0.62). Moderately high Standard of Living (>0.62).

❖ **Composite Index for Decadal Livelihood Change:** To investigate the decadal livelihood status, ‘**Composite Index**’ in livelihood has been executed by taking two economic i.e. annual income, economic condition and eleven social parameter i.e. social condition, mobility, cultural interaction, family education status, housing condition, exposure to mass media, livestock rearing, protein intake, expenditure on

clothing, sanitation condition and drinking water facility. Where women are asked about these variable in this way that their condition is increased/improved or decreased/deteriorated or remain unchanged/same in last one decade. After that, on the basis of their responses, '+1' weight is given for 'increased/improved' and '-1' weight is given for 'decreased/deteriorated' and finally '0' weight is given for 'unchanged/same'. After weight, they are summed up and divided by a number of households to get the average score value of each variable. Finally, to get finally score value, the average score value of all variables is summed up where positive (+) score value indicates positive livelihood change and the Negative (-) score value indicates Negative livelihood change.

❖ **Hygienic Condition:** For the assessment of the hygienic conditions of women, a composite Index has calculated. Where respondents are asked 10 questions which is related to hygienic spheres such as follow prescription of traditional doctors, visit health centres regularly during illness, wash face and fresh daily, cutting nail regularly, changes clothes daily, washcloths daily, wash hand after latrine daily, drink boil water for body protection, using mosquito during sleeping daily, use soap daily. All the questions are assigned 'one' for 'yes' and 'zero' for 'No'. All the assigned value of each question is summed up for obtaining the score value of each question. Finally, all scores of all questions are summed up to get the total score value of each garden.

They are normalized by using the following formula--**(Actual score/Maximum score) x100**. After that, they are classified into four categories using the Mean-Standard deviation Method--Moderately Low Hygienic Condition (score: below 77.46), Moderate Hygienic Condition (score: 77.46-85.00), Moderate High Hygienic Condition (score: 85.00-92.54), High Hygienic Condition (score: above 92.54).

❖ **Political Awareness:** For the assessment of Political awareness of women in tea gardens of Terai of Darjeeling and Jalpaiguri district. Women of each tea Garden are asked eleven questions such as women's reservation in Panchayat politics, the name of Panchayat members, Prodhan, M.L.A, M.P, Chief Minister, Prime Minister, President of India, the Chief Minister and Prime Minister belong to a political party, participate in Gram Sabha program. The entire question is coded 'Yes' for '1' and 'No' for '0'. All the coded value of each question is summed up to get the score value of each question. Finally, all the scores of all questions are added to obtain the

total score value of each garden. They are normalized by using the following formula: **(Actual score/Maximum score) x100.**

After that, they are classified into four categories based on quartile- Low Political Awareness (score: below 73.17), Moderate Political Awareness (score: 73.17-77.13), Moderate High Political Awareness (Score: 77.13-88.57) High Political Awareness (score: above 88.57).

❖ **Decision-making Status:** For the assessment of decision-making status, Decision Making Index (DMI) has been calculated with the help of sixteen activities under six categories i.e. Agriculture, Livestock, Households, Economic, Human capital and Political sphere. Where the score is assigned on the basis of a decision taken. A score ‘three’ is given to women who take decisions independently. Score ‘two’ is given to women who participate in decision making jointly with other members of the family while score ‘one’ is given to women where the decision taken by male/husband entirely. Finally score zero is given to women where they do not participate in decision making. All the assigned value is summed up to get a total score under each category. Then scores of each category are added for getting total decision scores and finally normalized by using the following formula: **(Actual decision score of women/Maximum decision score obtained by Women) x100.**

Then scores of Decision Making Index are categorized into four groups based on quartile--Low Decision Making Status (score: below 79.75), Moderate Decision Making Status (score: 79.75-82.99), Moderate High Decision Making Status (Score: 82.99-89.77) and High Decision-Making Status (score: above 89.77).

❖ **Visiting status:** For assessing the visiting intensity of tea gardens women in essential places of their daily life, the visiting score has been worked out by considering parameters of their visited places. The weightage has been assigned in each parameter on the basis of their visiting frequency like weightage of ‘0 ‘ assigned for never visited, ‘5’ for weekly visited, ‘4’ for fortnightly, ‘3’ for monthly, ‘2’ for Quarterly and ‘1’ for Yearly. After assigning weightage, they are summed up and obtained the total score of each selected parameter. Then the total scores of each parameter also summing up for getting the final score of the visiting a score of each tea gardens. After that, they are normalized by using the following formula: **(Actual score/Maximum score) x100.**

After that, they are classified into four categories based quartile-Low Visiting Status (score: below 66.67), Moderate Visiting Status (score: 66.67-74.36), Moderate High Visiting Status (score: 74.36-82.55). High Visiting Status (score: above 82.55).

❖ **Occupational Health Hazards Index:** The occupational health hazards have been calculated by considering multiple responses related to various health problems (i.e. heat, cold, injuries, sprain, insect bite, the peril of leech, dermatitis, Eczema) under four occupational hazards such as Physical hazard, Mechanical Hazard, Chemical Hazard and Biological Hazard. The responses in the different problems under each hazard are summed up. Finally, responses of all occupational hazards are added and they are normalized using this ‘(Actual responses/ Highest responses)  $\times 100$ ’ formula. Finally they are categorized into four based on quartile—Less Occupational Health hazard (score: below 61.20), Moderately Occupational Health Hazard (score: 61.20-72.41), High Occupational Health Hazard (score: 72.41-78.77), Very High Occupational Health Hazard (score above 78.77).

❖ **Occupational Health Problems:** To find out health problems, Respondents' responses regarding various different health problems (i.e. Body pain, Anaemia, High Blood Pressure, Headache, Chest pain, respiratory disease, cough, Abdominal disorder, fever, Tuberculosis, Diarrhoea) of each Tea Garden are summed up. After that response to health problems are normalized as the following formula—{(Actual/Highest)  $\times 100$ }. Then the responses of each Tea Garden are classified into four categories based on quartile—Less Occupational Health Problems (score: below 65.5070), Moderate Occupational Health Problems (score: 65.50-70.93), Moderate High Occupational Health Problems (score: 70.93-81.78), Very High Occupational Health Problems (score: above 81.78).

❖ **Severity of Problems of Tea Gardens:** To find out the Severity of Problems of Tea gardens, the weighted score method has been followed. At first the nature of problems in tea gardens has been identified such as Infra-structural Problems, the House-holds Infra-structural Problems, Economic Problems, Social problems and Environmental problems. Then each problem that is identified under categorized is weighted based on their acuteness of problems in each tea garden. After that the average weight is calculated. On the basis of the calculated value, they are classified into four groups based on the Mean-Standard deviation method- less severe

problems (<15.56), Moderate severe problems (15.56-18.00), High severe problems (18.00-20.44) and Very high severe problems (>20.44).

❖ **Composite Index for Social Condition:** For the assessment of Social condition of women in the tea gardens the Composite Index has been framed separately (Das, 2018).

$$CI = \frac{X_1 * \frac{\bar{X}}{\sigma} + X_2 * \frac{\bar{X}}{\sigma} + X_3 * \frac{\bar{X}}{\sigma} + X_4 * \frac{\bar{X}}{\sigma} + X_5 * \frac{\bar{X}}{\sigma} + X_6 * \frac{\bar{X}}{\sigma} + \dots \dots \dots X_n}{W_1 + W_2 + W_3 + W_4 + W_5 + W_6 \dots \dots \dots W_n}$$

Where,

CI= Composite Index

X1, X2, X3, X4, X5, X6 ... .... .... Xn is the selected variables

$\bar{X}$ = Mean value of each variable

$\sigma$  = Standard deviation of each variable

W= Weightage (Mean/SD)

After calculating the Composite Index of all tea gardens, the Composite Indices have been calculated by the following equation

$$\text{Composite Indices} = \frac{\text{Composite Index of any garden}}{\text{Average Composite Index}} * 100$$

Variable Code	Name of Variables
X1:	Number of Nuclear Family to Total family
X2:	Average family size
X3:	Number of Hindu family
X4:	Number of Christian families
X5:	Number of Muslim family
X6:	Number of Buddhist families
X7:	Number of General Caste households
X8:	Number of Scheduled Caste households
X9:	Number of Scheduled Tribes households
X10:	Number of Other Backward Class households
X11:	Numbers of respondents who know Sadri language
X12:	Numbers of respondents who know Oraw language
X13:	Numbers of respondents who know the Bengali language
X14:	Numbers of respondents who know the Bhojpuri language
X15:	Numbers of respondents who know the Nepali language
X16:	Numbers of respondents who know Rajbanshi language

<b>Variable Code</b>	<b>Name of Variables</b>
X17:	Numbers of respondents who know the Hindi language
X18:	Numbers of respondents who know Santhal language
X19:	Numbers of respondents who know Sadri and Bengali language
X20:	Percentage of literate respondents
X21:	Percentage of respondents enjoyed facilities during education
X22:	Percentage of respondents interested for further education
X23:	Percentage of respondents preferring in govt schools for child education
X24:	Percentage of respondents family where 5+ year children go to school
X25:	Percentage of respondents preferring higher study for their son
X26:	Percentage of respondents preferring higher study for their daughter
X27:	Percentage of respondents preferring job other than tea garden for son
X28:	Percentage of respondents preferring job other than tea garden for daughter
X29:	Percentage of respondents aware of material facilities for child education
X30:	Percentage of respondents aware of the Plantation Labour Act,1951
X31:	Percentage of respondents strictly follow the religious rule in life
X32:	Percentage of respondents having separate worship places at home
X33:	Average time (hour) spent in household chores
X34:	Percentage of respondents getting marriage after legal age
X35:	Percentage of respondents select spouse their own choice (love marriage)
X36:	Percentage of respondents preferring inter-caste marriage
X37:	Percentage of respondents preferring widow marriage
X38:	Percentage of respondents preferring dowry
X39:	Percentage of respondents believe in witchcraft
X40:	Percentage of respondents believe in traditional treatment
X41:	Percentage of respondents habit in drink
X42:	Percentage of respondents go to the doctor at illness
X43:	Percentage of respondents enjoy medical facilities during pregnancy
X44:	Percentage of respondents enjoy tea garden Ambulance and Matriyan facilities at last delivery
X45:	Percentage of respondents enjoy at last delivery in an institution
X46:	Percentage of respondents enjoyed financial benefit (Rs.) at post-delivery in an institution
X47:	Percentage of respondents aware of modern family planning
X48:	Percentage of respondents aware of women reservation in panchayet
X49:	Percentage of respondents cast their vote regularly
X50:	Percentage of respondents dine with higher caste outside tea garden

❖ **Composite Index for Economic Condition:** For the assessment of Economic condition of women in the tea gardens the Composite Index has been framed separately.

$$CI = \frac{X_1 * \frac{\bar{X}}{\sigma} + X_2 * \frac{\bar{X}}{\sigma} + X_3 * \frac{\bar{X}}{\sigma} + X_4 * \frac{\bar{X}}{\sigma} + X_5 * \frac{\bar{X}}{\sigma} + X_6 * \frac{\bar{X}}{\sigma} + \dots \dots \dots X_n}{W_1 + W_2 + W_3 + W_4 + W_5 + W_6 \dots \dots \dots W_n}$$

Where,

CI= Composite Index

$X_1, X_2, X_3, X_4, X_5, X_6 \dots \dots \dots X_n$  is the selected variables

$\bar{X}$ = Mean value of each variables

$\sigma$  = Standard deviation of each variable

W= Weightage (Mean/SD)

After calculating the Composite Index of all tea gardens, the Composite Indices have been calculated by the following equation

$$\text{Composite Indices} = \frac{\text{Composite Index of any garden}}{\text{Average Composite Index}} * 100$$

Variable Code	Name of Variable
X1	Percentage of Respondent handling cash earning in family
X2	Per capita Income of Family
X3	Per capita Expenditure of Family
X4	Percentage of Earning member of family
X5	Average Homestead land of family
X6	Average agricultural land of family
X7	Percentage of households possess mobile phone
X8	Percentage of Respondents access mobile phone
X9	Percentage of respondents want to change their present profession
X10	Percentage of respondents want to purchase land in outside TG
X11	Percentage of respondents having NREGA job card
X12	Percentage of respondents participate in NREGA work
X13	Percentage of respondents enjoying loan
X14	Percentage of respondents have savings for future
X15	Average tea leaves plucking of Respondents in Lean season
X16	Average tea leaves plucking of Respondents in peak season
X17	Percentage of Respondents not engaged in Tea gardens work
X18	Percentage of Respondents Satisfied with their earnings
X19	Average year of experience in their occupation (work)
X20	Percentage of Respondents engaged in Job after marriage
X21	Percentage of Respondents engaged in Job before marriage
X22	Percentage of child labour engaged in Tea gardens work
X23	Percentage of Respondents benefitted from the Tea gardens facilities(triple, umbrella)
X24	Average income from livestock

- ❖ **Composite Index for Socio-Economic Condition:** For the assessment of Socio-Economic Condition of women in tea gardens, the Average Composite Indices of the Composite Indices of Social and Economic condition of women has been incorporated.
- ❖ **Chi-Square Analysis:** The Chi-square analysis has been used to find out the association between literate women and awareness in family planning; Christian women and social condition; literate women and political awareness.
- ❖ **Cartographic techniques:** To represent the socio-economic data diagrammatically various cartographic techniques such as Bar graph, Pie graph, Line graph have been used. To show the spatial distribution of various socio-economic variables the Choropleth method has been used. Finally, Maps have been prepared using GIS tools.

**1.7 Data Sources:** The study based on both Primary and Secondary data. The primary data has been collected through a prepared Schedule. The Secondary data was collected from:

- a) Various Publications of Census of India.
- b) Data from different Government and on government institutions, organizations association: TIPA, Matigara; TBITA, Bengdubi; TAI, Siliguri branch; Tea Board of India, Siliguri branch; Tea Board of India, Calcutta; Siliguri Tea Auction Committee, Siliguri; State Labour Institution, Dagapur; State Labour Welfare Board, Dagapur; Regional Labour Office, North Bengal Zone, Siliguri.
- c) Various Reports on Tea statistics.
- d) Government Health Centres (Upa Sashtha Kenda)
- e) Tea gardens population, educational Institution data from ASHA and ICDS Centres.

**1.8 Conclusion:** The women in tea gardens of Terai region of Darjeeling and Jalpaiguri district facing a lots of acute problems such as social, economical and hazardous problems because of their illiteracy, ignorances and unawareness about their working rights. Even many women worked still in hazardous working spheres. To trace out the socio-economic condition of women in Terai, total 75 per cent register tea gardens have been surveyed where highlighted their households quality of living, standard of living, socio-economic conditions and finally their livelihood changes in last decades.

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