



# “The Socio-Economic Conditionn Of The Cinchona Plantation Workers Of Munsong: Sociological Study”

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**Abstract:** The topic “The socio-economic conditions of the cinchona plantation workers in Munsong: A sociological study”. Since it is the sociological work on the socio-economic of the workers, it aimed to study the study the socio-economic conditions of the plantation workers in Munsong, Kalimpong district of the West Bengal. The study is mainly focus on the labors of cinchona plantation industry of Munsong and on the series of events that happened during the past 10 years, it reflects how shutting down of the cinchona plantation impacted the lives of workers and their families and also to understand the problems of workers during pandemic, which has caused an inevitable economic crisis that has primarily affected the workers of the cinchona plantation. It also highlights the role of women in the cinchona plantation industry in the present scenario.

**Index Terms** - Component, formatting, style, styling, insert.

## INTRODUCTION

The emergence of Malaria, a disease caused by a mosquito borne parasite that plagued people across the world. It had killed between 150 to 300 million people across the world in the 20<sup>th</sup> century. To cure that disease the world’s first anti-malarial drug is made called as quinine, an alkaloid compound found in cinchona’s bark, can indeed kill the parasite that causes malaria. like every existence has its history so, does cinchona. There are tales about cinchona how it came to be known. Tales as “According to the historians malaria curing drug quinine was discovered as a malaria cure in 1631 when the Countess of Cinchona, a Spanish noblewoman married to the viceroy of Peru, fell ill with a high fever and severe chills – the classic symptoms of malaria. Desperate to heal her, the viceroy gave his wife a concoction prepared by Jesuit priests made with the bark of an Andean tree and mixed with clove and rose-leaf syrups and other dried plants. The countess soon recovered and the miraculous plant that cured her was named “cinchona” in her honor. Today, it’s the national tree of Peru and Ecuador. Therefore this how cinchona as medicinal plant came to be known. Gradually cinchona values soar during 19<sup>th</sup> century when malaria was one of the greatest threat faced by European troops. It is said that European soldier was able to survive in tropical colonies and win war because of that drug. Cinchona was used by Dutch in Indonesia, French in Algeria and mostly famously by the British in India, Jamaica and across South East Asia and West Africa. By the mid-1850s the

British had successfully established fever tree in India, cinchona factories were established at Nilgiris and in the hills of Darjeeling and Kalimpong.

In West Bengal it was first introduced by Dr Thomson in 1861. He was superintendent of the royal botanical garden Calcutta, after the death of Dr Thomson, the Darjeeling plantation was under the Dr Anderson successors. They are Mr. O.B Clarke and Dr George. The main government objective of establishing cinchona plantation was to supply those medicines to hospitals and to the people with a cheap remedy for malaria fever. This plantation was divided into four division in the hills of Darjeeling covering a total area of 26,181.50 acres.

- a) Mungpoo – established in 1862
- b) Munsong – established in 1901
- c) Rongo – established in 1938
- d) Latpanchor – established in 1943.

In this research I'm focusing on the plantation area of Munsong. Munsong is a small hamlet situated very close to the town of Kalimpong in West Bengal. Munsong is also famous for its tourism spots and its pleasant weather and scenic views Munsong is bio diverse place where in which various forms of vegetation can be encountered. Munsong is also widely known for its cinchona plantation since 1901. The climate condition of Munsong offers an ideal environment for the growth of cinchona plants. As we are aware of the fact that malaria curing drug quinine is derived from the bark of the cinchona plant. After the establishment of cinchona plantation in Munsong the local people were largely dependent on the plantation work. The plantation was the bread provider to almost 5,500 people in the hills of North Bengal which is now in dire strait. The factories producing cinchona has been shut down since 1995. The shutting down of the plantation has a relatively adverse effect on the economic condition of people associated with the plantation. Therefore this scenario has paved the way leading to unemployment, poverty and lack of basic amenities in the region. Socio-economic condition indicates the development of human life, the workers depend on the earnings from plantation, it helps them to run their family. This study focuses about socio economic conditions of the workers. This study explores the impact of covid 19 on the workers of cinchona plantation. Undoubtedly the lockdown has caused an inevitable economic crisis that has primarily affected the workers of the cinchona plantation. Despite this the workers are not provided proper health care facilities. Since the covid19 pandemic was imposed the situation for daily-wage workers in the plantation industry deteriorated. Innumerable and uncountable lives have been lost due to the lack of hospital beds, oxygen, medicines and basic health infrastructure. During pandemic the demand for hydroxychloroquine has increased in the drug industry, the drug is the product of quinine produced from cinchona barks and consequently the plantation saw rampant and increasing numbers of workers getting infected in the cinchona plantation of Darjeeling and kalimpong hills. With the pandemic and economic crisis, it is utterly inhuman to expect that the workers would work for the interest of the owners and risk their lives. The management is extremely reluctant to assume the responsibility for the safety of the workers.

Karl Marx one of the founding thinkers of sociology, for Marx society's contributions were predicted upon the idea of "base and superstructure". This term refers to the idea of the economic character form its base, upon which rest the culture and social institution, the superstructure. For Marx it is the base (economy) that determines what a society will be like and the idea is still relevant in this contemporary society. Therefore the low income, excessive working hours, widespread casualization, poor working and living conditions are the reality of the plantation workers. Taking into account, low wage cannot afford basic necessities. According to my recent studies the wages of the plantation workers per day is around Rs 294.00 which total per month will be Rs 7,651, even this amount is inadequate to support their family. In this 21<sup>st</sup> where everything seems expensive, with such low amount of salary it is truly a struggle to survive.

In my dissertation titled "**The socio-economic conditions of the cinchona plantation workers in Munsong**" I'm focusing on how the shutting down of the cinchona plantation has impacted on the lives of the workers and to also understand the effect of pandemic on the economic condition of people associated with the plantation.

## OBJECTIVES

There are three main objectives in my research work and they are:

- To understand the historical background of cinchona plantation for the past 10 years (2008 – 2023).
- To highlight the socio economic conditions of the women workers and their families
  - I. The wages of the plantation workers
  - II. Recruitment process of workers
  - III. Health profile of the workers
- Impact of Post lockdown on role of women in the cinchona plantation industry.

## RATIONALE

Human using plants as medicinal purpose can be tracked back in the earliest times. In India medicinal plants plays important role in healthcare as well as in the country's economic development. Besides producing raw materials for industries, it generates employment. Medicinal plants provide major source of molecules with medicinal properties due to presence of natural compound but increasing demand for medicinal plant and the growth of human population created a constant pressure on existing resources. So, conservation of medicinal plants has become increasingly important. This is why I choose this as my area of study.

Today India's only Cinchona plantation in Kalimpong district is facing a crisis. As we are aware of the fact that Malaria curing drug Quinine is derived from the bark of cinchona plants. The quinine made at Darjeeling saved countless lives during its Colonial time But now the Management has become dysfunctional and all the factories producing cinchona has been shut down since 1995 because due to the failure of government administration and also after synthetic drug captured the market, the plantation

started losing its relevance so, there was not much demand for quinine. But unfortunately the worst sufferers of the crisis in the cinchona plantation are the workers, who are struggling to survive, the bread provider to over 5,500 people in the hills of North Bengal is now in dire straits.

The existing old employees are now directed into other production like Cephalic ipecacuanha, Dioscorea composite, Cardamom, Rubber, Mulberry, Turmeric, Taxus, Citronella, Broom stick, Lemongrass, Orange etc. still the wages are very low. In addition to that the plantation labourers and their families usually get a quarter with just one room, no sanitation and a lack of basic facilities like drinking water. There are no medical facilities available, although Munsong cinchona plantation have a 16 bedded hospital but with no Doctors. In my recent visit for my research work to Munsong I found that the hospital is run by 1 Compounder, 4 Nurses, 2 Housekeepers and 2 Guards. The people of Munsong or the labourers are bound to go towns for the Dr check-up even in the Emergency, they have no option that's why most people especially women generally delay seeking healthcare which further leads to serious health issues. Therefore this condition has contributed to a lack of investment leading to serious negative health impact in workers living and their families. This made me think of exploring the health question of the workers there.

Another raising problem is regarding recruitment. Earlier, jobs have passed down to generations but now 1000's of people are jobless, some of them are associated with homestays but these homestays do not get loans from government as the people here do not have any land papers. This scenario has paved the way to unemployment, poverty and lack of basic amenities in the region. So far no NGOs, Government organization and local bodies has come forward to revive the cinchona plantation.

This is why I have chosen Munsong because it is my hometown which holds great historical moments in the past so, since I'm local it becomes easy for me to collect data for my research and also it is not possible to cover all the division.

## REGIONAL DESCRIPTION

The cinchona plantation in Darjeeling and Kalimpong hills, although has a history as old as tea plantation. its an evergreen tree growing to a height of 10cm to 12cm and belong to the family of Rubiaceae. This plantation covers 4 divisions:

- I. Munsong – established in 1901
- II. Rongo – established in 1938
- III. Latpanchor – established in 1943
- IV. For my research work I have Mungpoo – established in 1862

This peaceful village is located 20km away from Kalimpong town at an altitude of 500 ft in West Bengal. They are all located on the North West facing the slope of a large hill. Even Kalimpong town is located on the ridge of the same hill. As per 2009 stats, Shangse is the gram panchayat of Munsong cinchona plantation. Munsong can be seen with a large area of land being covered by cinchona trees. The total geographical area of village is 799.26 hectares. The climate condition of Munsong offers an ideal

environment for the growth of cinchona plants. It not only provides the raw materials for quinine but also enhances the scenic beauty of the place. Munsong is also famous for the great view of snowcapped entire Mt Kanchenjunga range, fascinating view of shimmering Teesta river , splendid sight of sunrise , Jalsa Bungalow (hidden sanctuary of Rabindranath Tagore ) and many other sightseeing destination .

## LITERATURE REVIEW

A Literature review is an essential part of any research; it's a survey on scholarly sources on a specific topic. Its provide an overview of current knowledge, allowing you to identify relevant theories, methods, and gaps in the existing research that you can later apply to your paper, thesis, or dissertation topic. A literature review may consist of simply a summary of key sources, but in the social sciences, a literature review usually has an organizational pattern and combines both summary and synthesis, often within specific conceptual categories . A summary is a recap of the important information of the source, but a synthesis is a re-organization, or a reshuffling, of that information in a way that informs how you are planning to investigate a research problem.

A good number of scholars have already studied plantation industry mostly based on economic perspective and it is to be noted that their works mostly focuses on the plantation areas of Mungpoo Darjeeling as it is the Headquarter of Cinchona plantation . In this Literature review I'm focusing on "the socio economic condition of the plantation workers from Past to Present, The impact of covid 19 on cinchona plantation industry and On socio economic conditions of women workers in plantation industry and the role of women in hills economy".

Firstly I'm focusing on Socio-Economic conditions of workers from Past to present

According to Khemraj Sharma in his study "Socio - economic life of cinchona plantation workers in Darjeeling published in 1994" pointed out that the socio -economic condition of the worker and their family is highly dependent on plantation. He identified that the Nepali society in the cinchona plantation is heterogeneous in nature having various castes and tribes. He further states that the plantation has dual characters of agriculture and industry with modern technological apparatus and scientific laboratories of its own. He also highlighted that the workers are mainly the migrant peasant background of Nepal and Sikkim to an industrial environment; He adds that the work in plantation is a continuous process of production relations and it involves certain rules and regulation which are obeyed by all. This is a changed situation of work culture from that of the past, the work in agrarian sector were mainly done for for consumption purpose of the families and did not observe any rules and regulation while plantation working hours are to be strictly followed as per the provisions of the plantation Labour Act 1951 so, that production process is continued through the year. This makes the workers permanent resident of the plantation industry. Economically a distinct occupational hierarchy has also been emerged among the plantation workers and lastly the traditional caste based occupation has been transformed into the industrial type, which resulted in the better living of the plantation workers.

The article "The cinchona land right call published on 2023" by Vivek Chettri wrote how the demand for land right is brewing in cinchona plantation of Darjeeling and Kalimpong hills following the State

Government Announcement to grant land right. He says the century old plantation in the country is employing around 6,000 workers and giving indirect livelihood to around 40,000 and more in Darjeeling hills unlike Tea garden leased out to the private management (planters) for 30 years, Cinchona plantation is run by its own Directorate under the State Government. He further highlighted that many plantation workers argue that it would be easier for the state Government to grant land right to cinchona workers as it possesses the entire land. One of his receiver said 'Despite staying on this land for generations, we too do not have land rights'. He pointed out that being the only plantation in the country, the industry is not faring well. The plantation is running at an annual loss of more than Rs 26 crore. Hence land ownership for the workers is a contentious issue between the Government and the workers.

According to **Bireswar Banerjee** in his article "**Cinchona plea to CM: Promote staff at plantations in Darjeeling hills published in 2022**" state that Anit Thapa, President of the Bharatiya Gorkha Prajatantrik Morcha, has written to Chief Minister Mamta Banerjee requesting her to resolve the stasis in promotions of workers at cinchona plantations in Darjeeling hills. Thapa has pointed out that most Group D post are lying vacant since 2011 as the senior daily wage workers who serve under the Directorate of cinchona and other medicinal plants (DCOMP) have not been promoted. Altogether 5,353 workers serve under DCOMP in its four divisions at Rango, Munsong, Latpanchar and Mungpoo. And around 600 Group D post are vacant at the plantation and more than 1500 workers who have been serving as helpers for 11 years or more are eligible for promotion. The workers have been protesting since April 28 to demand that they be elevated immediately. Thus, therefore this effect the socio economic life of the workers.

Similarly **Sandip Chakraborty**, in his article "**Labourers worst hit as India's only cinchona plantation in North Bengal plunges into crisis published on 2021**" wrote the cinchona plantation Directorate, one of the largest public sector units in hills of Bengal, is now controlled by the Gorkhaland Territorial Administration, He explain the unemployed youths are getting affected about 1000 of jobless youths are now associated with homestays and over 150 homestays have sprung in these plantation tracts. But these homestays do not get loans from government banks are not able to enjoy any scheme under West Bengal Tourism Department. As the people here do not have land paper, as the area falls under the Cinchona Directorate, he further pointed out that the region which has unique scenic beauty and when tourism is the second most important industry the people out there are crying for help but their cries have so far failed to reach the ears of one's who hold the power.

Secondly, here I'm focusing on how **The Covid 19 has affected in Cinchona plantation: The Chances of Revival**

In the Article "**Coronavirus: In Darjeeling, plantation with Hydroxychloroquine potential joints fight**" by **Joydeep Thakur and Pramod Giri** they states that India's only cinchona plantation prepared to join the big fight against the corona virus disease. The bark of cinchona is a source of quinine, used in anti-malarial medication that has held out hope of treating people infected by the virus. US President Donald Trump had been enthusiastic advocates of the use of anti-malarial medicine like hydroxychloroquine (HCQ) in the treatment of covid19 patients. Trump even thanked Indian Prime Minister Narendra Modi for removing restrictions on the export of HCQ and clearing a consignment ordered by the US. With the demand for HCQ

rising across the world, the West Bengal government is exploring how fast it can start producing the anti-malarial drug. As a result, workers in the state-owned, loss making cinchona plantation have got their hopes up. They further explained that the Kolkata based Bengal chemicals and pharmaceuticals limited, the only public sector unit that manufactures the anti-malarial drug in India, has also applied for a license from the drugs controller general of India to produce hydroxychloroquine. The company, founded by Acharya Prafulla Chandra Ray, had started HCQ production but stopped decade ago. They said they can supply the cinchona to the factories in North Bengal. They could also be supplied to Bengal Chemicals. There are few factories which used to make quinine in North Bengal but now they are closed. The Confederation of Indian Industry (CII) will submit a list of machinery needed to revive the factories. After synthetic drugs captured the market, the plantation started losing its relevance. The sick unit sells cinchona barks to a handful of medicine manufacturers both in the country and abroad. The plantation has 500 metric tons of cinchona bark in the stock waiting to be auctioned, said Samuel Rai Director of cinchona plantation. With West Bengal Chief Minister Mamta Banerjee taking a personal interest in how to boost HCQ production in the state, it has come as a ray of hope for the 5,000-odd plantation workers. After covid19 the plantation received bulk orders from two clients, including a pharmaceutical company based in Madhya Pradesh and Uttar Pradesh. Thirdly I review an Article on **“Socio Economic Conditions of Women Workers in Plantation Industry and The Role of Women in Hills Economy”**

In the Study of **“Socio Economic Conditions of women workers in plantation industry”** found out that the first enquiry for studying socio economic conditions of women workers was undertaken by Labour Bureau in the year 1953 and a report titled “The economic and social status of women workers in India” was brought out. Later on, the Labour Bureau and Planning Commission jointly prepared a study in 1958 titled “Women in Employment 1901-1956”. And another publication “Women in Industry” in the International women’s Year 1975 presented an objective assessment of the trend of women’s employment, their wages and earnings and laws and regulations governing their employment and working conditions. It says women workers have all along been an integral part of the labour force engaged in the plantation industry in India. A majority of the plantation laborers’ are women workers. The reason for this is that these plantations are historically linked with colonialism. The plantations are located in remote areas and were sparsely populated during colonial period. As a result, families were employed rather than individuals, thus absorbing women in the labour force. This work force does not possess any skills they are unskilled and mostly landless. In the overall economy of India, women workers constitute about one-fifth of the total work force, out of which only six percent are employed in the organized sector and Rest of the women are engaged in unorganized sector. In spite of mandatory legislative protective provisions, there are still cases where women workers are deprived of the benefits and amenities like equal pay, maternity benefits, proper child care services, etc. therefore several factors are responsible for their plight such as indifferent attitude of the employers towards women workers, and in many cases the women workers themselves being unaware of their rights.

**Kishan Sirswal**, in his Article **“The Role of Women in Darjeeling Hills Economy”** states that in Darjeeling sixty percent of workers are female. In Darjeeling hills area, forest, cinchona and tea garden covers 66 percent of the geographical area. The tea gardens as well as the cinchona plantation industries in the hills

have provided employment for many women. He explained how women in hills are involved in almost all activities that generate economy such as agriculture, tourism, trade and commerce and other allied activities of development. He says almost every family in the rural hills has taken up livestock rearing as secondary occupation and also women playing important role in this activity as well, in this context He also questioned about the conditions of women workers and the economy of hills, What if the plantation had not existed. The economy of hills cannot survive without plantation and tourism. Development refers to a multifaceted process of gradually improving the social, cultural, economic and human conditions of women in the hills economy and also empowering them. Investing in women's capabilities and empowering them is the surest way to contribute economic growth and overall development.

From all the above **bibliographic references** we can come to the conclusion that before the shutting down when the cinchona factory was functional, the workers were highly economically dependent on the plantation. There, was a shift of work culture from agrarian sector to industrial sector, because of that the workers became the permanent resident of plantation industry. Therefore this resulted in the better living of the plantation industry. On the contrary, after the shutting down of the plantation has a relatively adverse effect on the economic condition of people associated with the plantation not only that, the recruitment is also on halted for so many years even though there are post that are lying vacant, promotion are kept hold since 2011 which has affected the life of people. In the above articles we can see the workers deprivation in terms of owing land rights remain stark, to this day the workers do not have access to land they have worked in the plantation for generations, yet they do not have any land right to their ancestral land and the homes they live. Additionally local political parties promise to solve the issue related to industry and also vowed to grant land rights to the landless plantation workers but still no work have done.

Other aspects as mentioned above after synthetic drug captured the market, the plantation started losing its relevance so, there was not much demand for quinine. It was stagnant but after covid19 there was this little light of hope that triggered a sense of urgency to revive the plantation, when the world scrambles to find a medicine for covid19 the small villagers spinning hopes on revival of quinine, unfortunately due to the failure of government administration the cinchona plantation is still on halt.

In my third aspect as we have studied in the above article that in rural areas female workers are mostly engaged in unorganized sector, because women in rural area are mostly uneducated at that time. Before the establishment of cinchona plantation the rural women of all ages spend much of their day engaging her in domestic chores, including cleaning, collecting water and firework. However, after the establishment of cinchona plantation the traditional role for women slowly began to change. They started working in the plantation with her husband or families. Hence this plantation provides employment for many women. Unfortunately, After the shutting down of plantation it effect the socio economic condition of workers especially women. As my research cover the records of past 10 years, I found out that the women slowly move to other things to make money such as animal husbandry, farming etc. but now in my present studies after covid19 the women in the hills area are engaged in almost every activities of development such as agriculture, tourism, trade and commerce etc. Compared to the rest part of India, the women of the eastern part of India including Sikkim, Kalimpong and the Darjeeling hills are more liberated.

## RESEARCH METHODOLOGY

To understand Research methodology first we need to know what is research? A Research is the careful consideration of study regarding a particular concern or research problem using scientific methods. According to the American Sociologist **Earl Robert Babbie**, “Research is a systematic inquiry to describe, explain, predict, and control the observed phenomenon”. The main aim of research is not merely to gather information. Instead, it goes beyond that. The true goal of research is seek answer to previously unanswered questions to contribute to the body of knowledge in a discipline according to **Goddard and Melville**. But for your peers, and indeed the whole world, to recognize your newly discovered or created knowledge, you have to show evidences of its validity or truthfulness.

Methodology in research is defined as the systematic method to resolve a research problem through data gathering using various techniques, providing an interpretation of data gathered and drawing conclusion about the research data. Essentially, a research methodology is the blue print of a research or study. Determining the validity of your study is anchored on your research paper’s methodology. According to **Somekh and Lewin**, a research methodology is both “the collecting of methods or rules” you apply to your research, as well as the “principles, theories, and values” that support your research approach. A research paper’s methodology section must shed light on how you were able to collect or generate your research data and demonstrate how you analyze them

Therefore research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic.

## RESEARCH DESIGN

Research design is the method that a researcher selects to organize their research project or study. Research designs can provide instructions for collecting, analyzing and measuring data effectively. According to the definition of research design, it refers to the framework of research methods and techniques that are chosen by a researcher. The design that is chosen by the researchers allow them to utilize the methods that are suitable for the study and to set up their studies successfully in the future as well.

There are basic three types of research designs : **Exploratory, descriptive** and **causal research** they are all important methods for uncovering information and understanding relationships

**Exploratory research** is used to gain a better understanding of a topic by exploring it in detail. It is typically conducted before any other type of research, such as descriptive or causal research. This type of research can take many forms, such as **interviews, surveys, focus groups, and observation**. Exploratory research can help uncover new insights and perspectives that may have been hidden or not obvious before. It can also help to generate new ideas or hypotheses about how something works or why something happens, which can then be tested in future research. Exploratory research can also be used to refine existing theories or models by exploring new areas that have not been studied before or by testing existing assumptions in new ways.

**Descriptive research** is used to describe a phenomenon in detail. It involves collecting and analyzing data about the population of interest. Descriptive research can include **surveys, interviews, case studies, and experiments**. The goal of this type of research is to gain an understanding of how something works or what factors are associated with a particular outcome.

**Causal research** seeks to identify cause-and-effect relationships between two or more variables. This type of research usually involves experiments where different conditions are tested in order to determine which causes the observed outcomes. Causal research allows researchers to make predictions about how changes in one variable will affect another variable. Causal research is often used to identify the most effective solutions for a problem. By understanding the causes behind an issue, researchers can create solutions that are more likely to deliver lasting results.

For my research I used exploratory research because it helps me to investigate the problems that are not clearly defined. Although there has been quite a good number of a study focusing on socio economic perspective of the cinchona plantation worker, it is to be noted that the fact that Researchers in the past only focused on other district of plantation. So, there is still a great deal of queries about the cinchona plantation workers mainly focusing on labours of Munsong.

On the basis of research designs there are three common methods in conducting a research and they are quantitative, qualitative, and mixed methods.

**QUANTITATIVE RESEARCH METHOD** - Quantitative research emerged around 1250 A.D. and was driven by investigators with the need to quantify data. Since then quantitative research has dominated the western cultural as the research method to create meaning and new knowledge. A quantitative research method involves a numeric or statistical approach to research design. Leedy and Ormrod (2001) alleged that quantitative research is specific in its surveying and experimentation, as it builds upon existing theories. The methodology of a quantitative research maintains the assumption of an empiricist paradigm (Creswell, 2003). The research itself is independent of the researcher. As a result, data is used to objectively measure reality. Quantitative research creates meaning through objectivity uncovered in the collected data.

**QUALITATIVE RESEARCH METHOD** - Qualitative research is research that involves analyzing and interpreting text and interviews and observations in order to discover meaningful patterns descriptive of a particular phenomenon. Qualitative method is used to understand people's beliefs, experiences, attitudes, behavior, and interactions. It generates non-numerical data. The integration of qualitative research into intervention studies is a research strategy that is gaining increased attention across disciplines. Qualitative research was initially used in psychological studies when researchers found it tedious to evaluate human behavior in numeric. Since then, qualitative research is used in other research fields as well. In clinical research, qualitative approach can help view the data more extensively. It strengthens clinical trials by enhancing user involvement in it.

**MIXED RESEARCH METHOD** - Mixed methods research combines elements of quantitative research and qualitative research in order to answer your research question. Mixed methods can help you gain a more complete picture than a standalone quantitative or qualitative study, as it integrates benefits of both methods. Mixed methods research is often used in the behavioral, health, and social sciences, especially in multidisciplinary settings and complex situational or societal research. This type of research uses surveys, interviews, and observation to collect data from multiple sources.

For my research work I have used Mixed Research Method because using this method will help in better understanding of problem the fact, that my research work covers the study of recent decade so, combining both quantitative and qualitative approaches can provide stronger and complete evidences.

## SAMPLING

Sampling is the process of selecting a representative group from the population under study. The aim of sampling is to approximate a larger population on characteristics relevant to the research question, to be representative so that researchers can make inferences about the larger population. It is often impossible to study every person in a large population of interest. Instead, researchers study a sample to make estimates about the total population. The sample is the set of data collected from the population of interest or target population. A sample is collected from a sampling frame, or the set of information about the accessible units in a sample. These units could be people, events, or other subjects of interest.

There are two major types of sampling: **Probability Sampling** and **Non Probability Sampling**

- I. **Probability Sampling** - are also known as Random selection techniques are used to select the sample. Probability Sampling Techniques are one of the important types of sampling techniques. Probability sampling allows every member of the population a chance to get selected. It is mainly used in quantitative research when you want to produce results representative of the whole population. Probability sampling include **Simple Random Sampling, Systematic Sampling, Stratified Sampling, Cluster Sampling**
  - **Simple Random Sampling** - In simple random sampling, the researcher selects the participants randomly. There are a number of data analytics tools like random number generators and random number tables used that are based entirely on chance.
  - **Systematic sampling** – In systematic sampling, every population is given a number as well like in simple random sampling. However, instead of randomly generating numbers, the samples are chosen at regular intervals.
  - **Stratified Sampling** - In stratified sampling, the population is subdivided into subgroups, called strata, based on some characteristics (age, gender, income, etc.). After forming a subgroup, you can then use random or systematic sampling to select a sample for each subgroup. This method allows you to draw more precise conclusions because it ensures that every subgroup is properly represented.
  - **Cluster Sampling** - In cluster sampling, the population is divided into subgroups, but each subgroup has similar characteristics to the whole sample. Instead of selecting a sample from each subgroup, you randomly select an entire subgroup. This method is helpful when dealing with large and diverse populations.

II. **Non-probability sampling** - Non-Probability Sampling Techniques is one of the important types of Sampling techniques it is also known as Non-random selection techniques based on certain criteria are used to select the sample are where the researcher deliberately picks items or individuals for the sample based on their research goals or knowledge.

- **Convenience Sampling** - In this sampling method, the researcher simply selects the individuals which are most easily accessible to them. This is an easy way to gather data, but there is no way to tell if the sample is representative of the entire population. The only criteria involved is that people are available and willing to participate.
- **Voluntary Response Sampling** - Voluntary response sampling is similar to convenience sampling, in the sense that the only criterion is people are willing to participate. However, instead of the researcher choosing the participants, the participants volunteer themselves.
- **Purposive Sampling** - In purposive sampling, the researcher uses their expertise and judgment to select a sample that they think is the best fit. It is often used when the population is very small and the researcher only wants to gain knowledge about a specific phenomenon rather than make statistical inferences.
- **Snowball Sampling** - In snowball sampling, the research participants recruit other participants for the study. It is used when participants required for the research are hard to find. It is called snowball sampling because like a snowball, it picks up more participants along the way and gets larger and larger.

For my research study I have used Non Probability sampling, under this I have used convenience and purposive sampling because this both sampling allow me to focuses on the participants as per my own convenience possessing characteristics associated with my research study.

## **DATA COLLECTION**

Data collection is a systematic process of gathering observations or measurements. Whether you are performing research for business, governmental or academic purposes, data collection allows you to gain first-hand knowledge and original insights into your research problem. Data collection methods are important, because how the information collected is used and what explanations it can generate are determined by the methodology and analytical approach applied by the researcher. Data collection methods can be divided into two categories:

**Primary methods of data collection** - Primary data is the type of data that has not been around before. Primary data or raw data is a type of information that is obtained directly from the first-hand source through experiments, surveys or observations.

**secondary methods of data collection** - Secondary data is a type of data that has already been published in books, newspapers, magazines, journals, online portals etc. One of the key advantages of secondary research is that it allows us to gain insights and draw conclusions without having to collect new data ourselves. This can save time and resources and also allow us to build upon existing knowledge and expertise.

In my research study I obtained my data through Primary methods of data collection . it helps me to go through latest issues. I have collected my data through face to face interview of 30 people.

## METHOD OF DATA COLLECTION

The face-to-face interview, also called an in-person interview, is probably the most popular and oldest form of survey data collection. It has continued to be the best form of data collection. In a face-to-face interview, respondents have more time to consider their answers and the interviewer can gain a deeper understanding of the validity of a response. Sometimes interviewers need to show advertisements, logos, headlines or samples and this is plainly suited to personal situations. The format for face-to-face interviews typically falls into three categories: structured, unstructured and semi-structured.

- **Structured interviews** - Also known as standardised interviews, pose the same questions to a group of people to attain their replies. This interview process requires an interviewer to pre-plan questions for you. The questions are in a form much like you see in a questionnaire. It intends to gather short, simple answers. The questions are direct and limit your answers.
- **Unstructured interview** - Also called non-directive interview, refers to an interview concept without any set format in which questions are nor predetermined so the lack of structure enables the interviewer to ask questions which come to his/her mind on the spot. This type of interview process resembles an open minded, informal, friendly conversation.
- **Semi-Structured interviews** - Semi-structured interviews are a blend of structured and unstructured types of interviews. In a semi-structured interview, an interviewer asks many open-ended questions that you can prepare for in advance. In this format, you both exchange information in a more conversational tone. There's some structure to the topics the interviewer chooses and they may encourage you to expand on the information shared. The semi-structured interview is useful when someone wants to gain a sense of your thoughts, feelings and attitude about certain topics. It's a way for someone to encourage you to express your thoughts and it helps your interviewer in getting to know you better.

There are certain tools in collecting data I have used interview scheduled as a tool in my research work. In this study I did face to face interview followed by semi structured interview method because semi structured interview encourages two way communications and also give opportunity to identify new issues. In this research I have collected 30 participants. The participants ranged in age from 25-65 age group, mostly given attention to female labours.

## TYPES OF QUESTION IN INTERVIEW SCHEDULED

**Open – ended questions** - An open-ended question allows the audience to respond to the question based on their understanding and experience. Unlike closed-ended questions, the respondent are not provided with a list of options to choose from, nor is it a yes/no type of question. The detailed and elaborate information received from the audience creates room for further discussion and improvement. An open-ended question creates a scope for learning for the researcher as well as for the responder.

This question type allows you to ask “why” and “how” to your audience. This opens a platform for conversation and helps a researcher to understand the thought process of the responder. The answers to these questions vary for every individual. Hence, this gives an array of unique perspectives and a chance for the researcher to probe.

**Close – ended questions** - Close-ended questions have a more specific response. The respondent is required to answer the question with a simple "yes" or "no," a scale of how strongly the respondent feels about the question, a rating of an item or a single word response.

In this research work I kept open ended questions because it does not allow simple yes or no answer, it develops critical thinking as well as creativity it let the respondent choose how to answer the questions.

## SAMPLE SIZE

Sample size is an important part of research design. Sample size is the number of completed responses your survey receives. I took total 30 data for my research study; all findings are based on those 30 respondents. Out of 30 respondents 20 are females.

For this study secondary data has been collected. From the website of KSE the monthly stock prices for the sample firms are obtained from Jan 2010 to Dec 2014. And from the website of SBP the data for the macroeconomic variables are collected for the period of five years. The time series monthly data is collected on stock prices for sample firms and relative macroeconomic variables for the period of 5 years. The data collection period is ranging from January 2010 to Dec 2014. Monthly prices of KSE -100 Index is taken from yahoo finance.

## GAINING ENTRY

Gaining entry to a research site involves a combination of planning, perseverance and luck (Kothari, 1995). Researchers have to bear many factors in mind when choosing a study site and planning to connect with prospective research participants for a qualitative study. To gain access to the participant's knowledge and experience, one needs to build respectful, open and trusting relationship with the participant.

I choose this site (Munsong) because as I lived there, it was easy to gather data from the participants and also I'm familiar with the problems facing by the cinchona workers. While the fact that I'm a local that helped me to access participants successfully and maintain co-operative relationship with them until the study completed.

## RAPPORT BUILDING

Rapport building has become one of the important aspects in research study. The term 'rapport' means sound relationship or friendly relationship with someone in which people understand each other very well. Therefore it is crucial for researcher to have a good relationship with their participants. The purpose of establishing rapport between researcher and participant to both generate rich data at the same time ensuring respect is maintained between researcher and participant (Guillent and Heggen 2009).

As I have already mentioned that I'm a local there, rapport building was easy for me it happened naturally as i belong to same locality. Firstly, I planned to do face to face interview because it was the most convenient for my participants and also for me. Secondly, I narrow my research focus only to labours (both Male and female) and youths of Munsong. Thirdly, communication is powerful tools that make the research data possible and we also happen to share common mother tongue so, I communicated in Nepali language. Fourthly, I had to check the participant's availability right up to the start of interview because of their work shift. This is how I try to made rapport with my respondents.

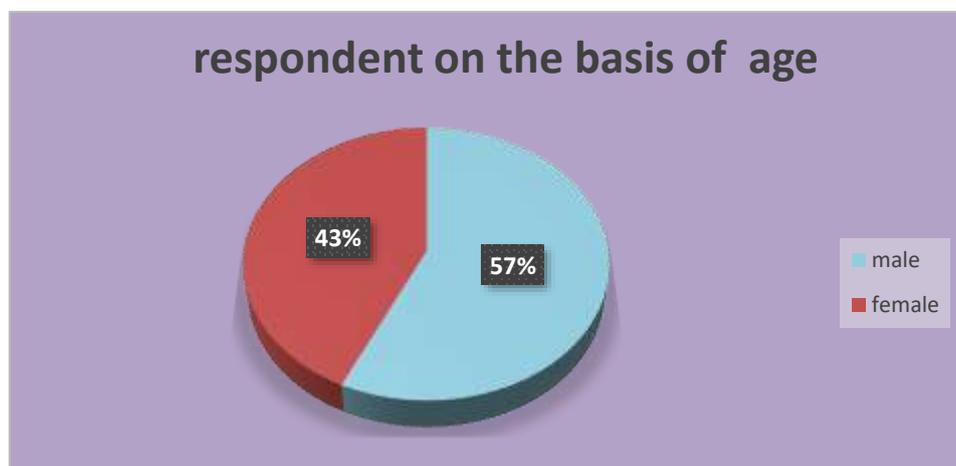
## FIELD SITE

A field site is a place where field work is being carried out. Here, I have chosen Munsong which comes under Kalimpong district for my research work entitled, "Cinchona Plantation and the socio economic conditions of the cinchona plantation workers in Munsong".

## TABLE AND DATA ANALYSIS

Figure 1: Distribution of the 30 respondent on the basis of their age

Age group	female	male
25-35	2	8
36-45	6	6
46-60	5	3
total	13	17

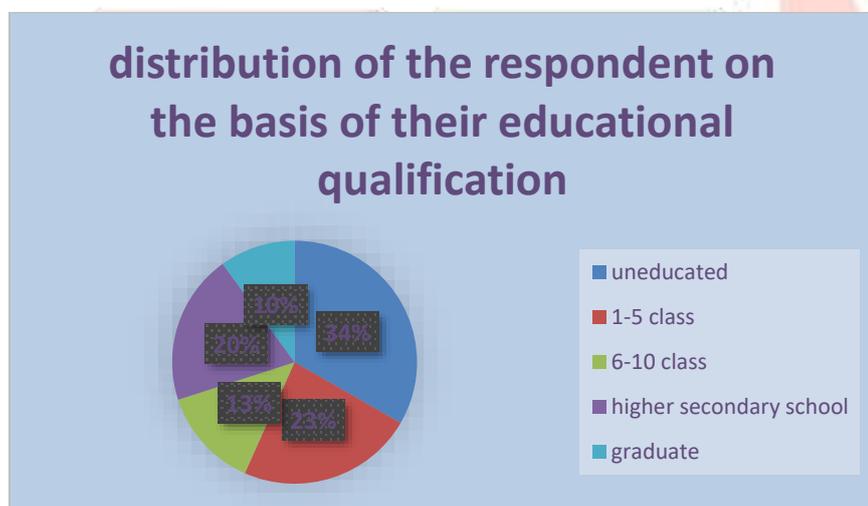


**ANALYSIS**

Refer to figure 1, shows although both sexes of workers are involved, but among 30 respondents percentage of male respondent (57%) is more than female respondent (43%) belong to the age group of 25-60.

**Figure 2:** Distribution of 30 respondent on the basis of their educational qualification.

Educational qualification	No of respondent
uneducated	10
1-5 class	7
6-10 class	4
Higher secondary school	6
graduate	3

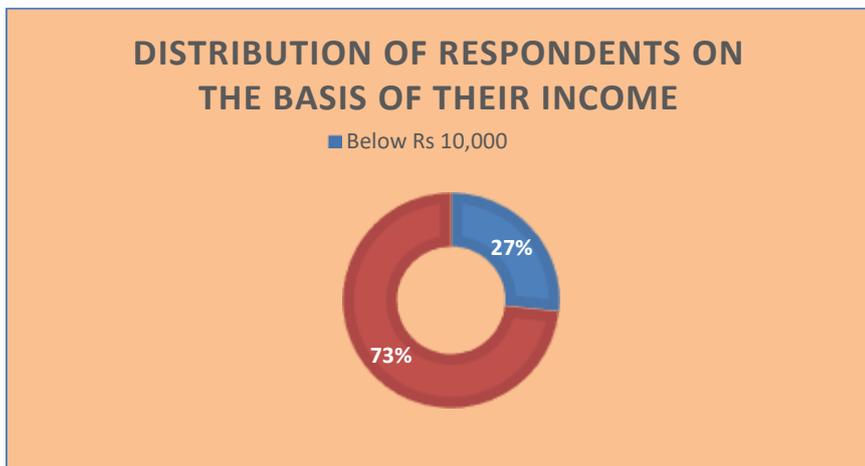


**ANALYSIS**

Refer to figure 2, the data shows that most of the workers are uneducated (34%) but are able to read write in Nepali language. Other workers have attained some parts of educational qualification as 1-5 class (23%), 6-10 class (13%), only (20%) of workers have complete higher secondary school and graduate (10%).

**Figure 3:** Distribution of 30 respondent on the basis of their monthly income

Monthly income	No of respondent
Below Rs 10,000	8
above Rs 10,000	22
total	30

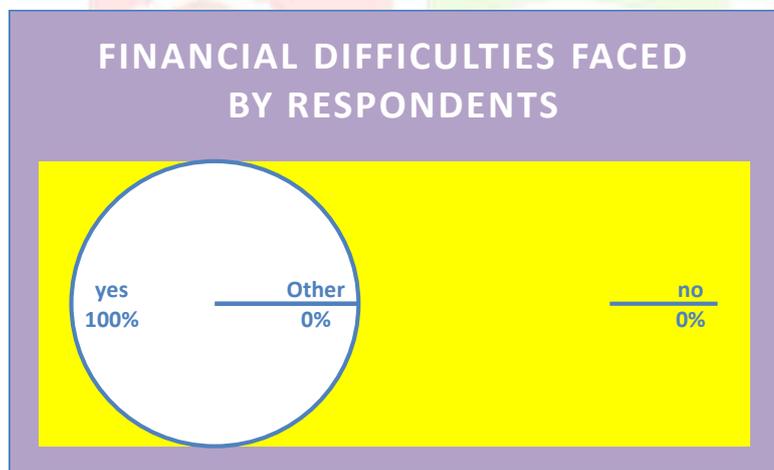


**ANALYSIS**

Figure 3, it represent the distribution of respondent on the basis of monthly income i.e. 27% of the workers have below Rs 10,000 monthly income and the rest 73% earn above Rs 10,000 per month. It is to be noted that the workers earing above Rs 10,000 have other earning sources such as small life stock farming business ( include cow, buffalo, beef, pig, chicken, goat etc.) , small family farm, plantation of tiger grass, homestays etc.

**Figure 4: Opinion on does they faced financial crisis**

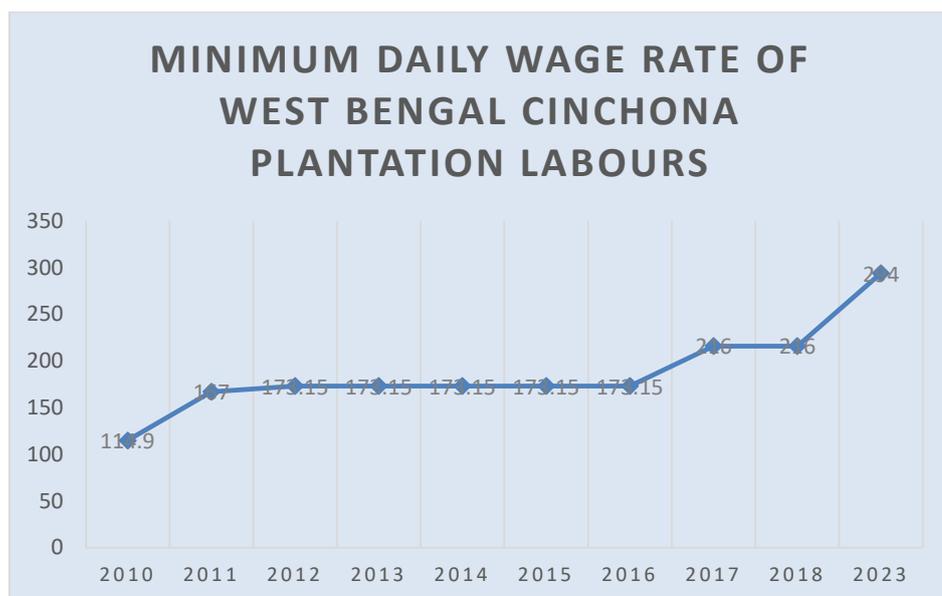
opinion	No of respondent	of percentage
yes	30	100%
No	0	0



**ANALYSIS**

Refer to figure 4, this data represent that all 30 (100%) respondents faced financial hardship due to low income.

**FIGURE 5: West Bengal minimum daily wage rate of cinchona plantation labours.**

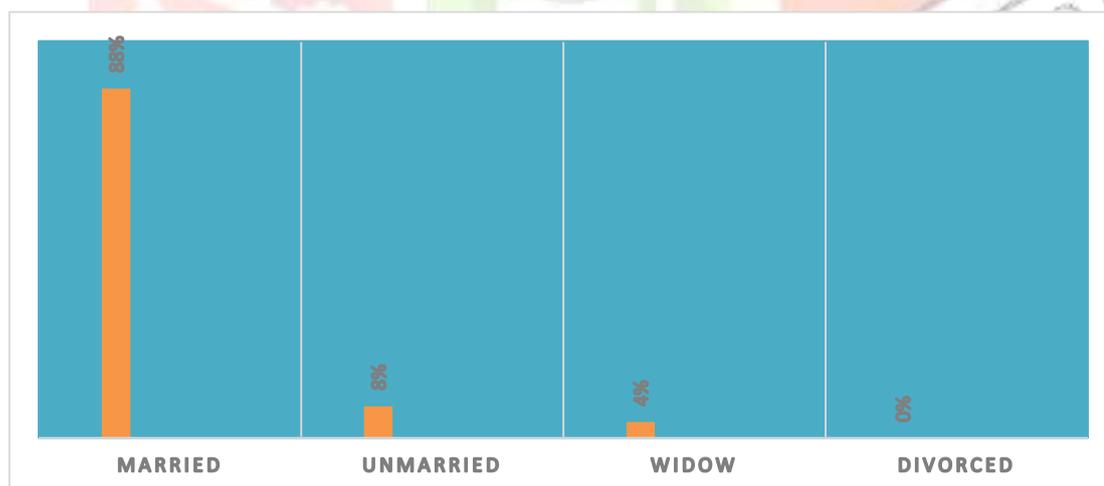


**ANALYSIS**

Refer to figure 5, the data shows yearly wage rate of cinchona plantation’s worker from 2010 to latest 1/1/ 2023. The data reached an all time high of 294 INR in 2023 and a record low of 114.9 INR in 2010.

**Figure 6: Distribution of 30 respondent on the basis of their marital status.**

Marital status	No of respondent
married	23
unmarried	5
widow	2
divorced	0

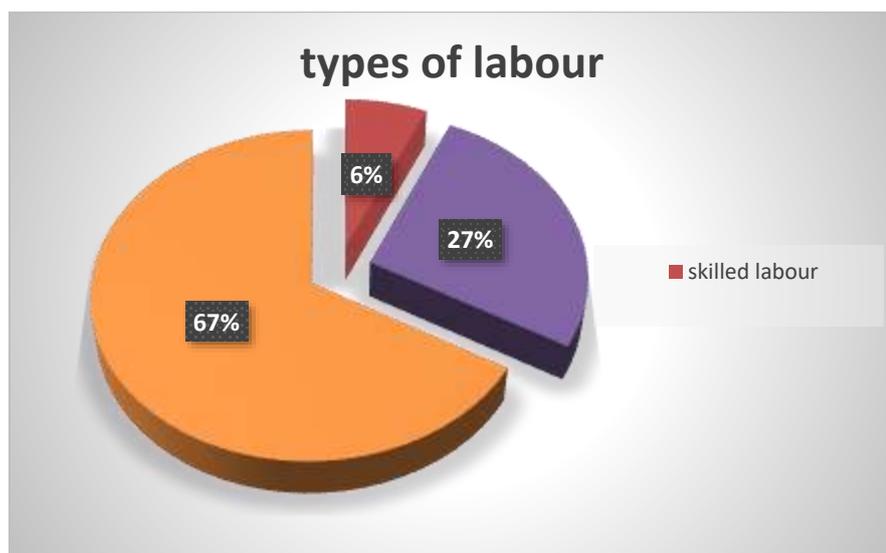


**ANALYSIS**

Refer to figure 6, it shows data of 30 respondent regarding their marital status. The data here reveal that 88% of respondent are married, 8% are unmarried, are widow and 0% is divorce.

**Figure 7:** Distribution of types of labour used by 30 respondents.

Types of labour	No of respondent
Skilled labour	2
Unskilled/occasional labour	8
Semi skilled labour	20
total	30

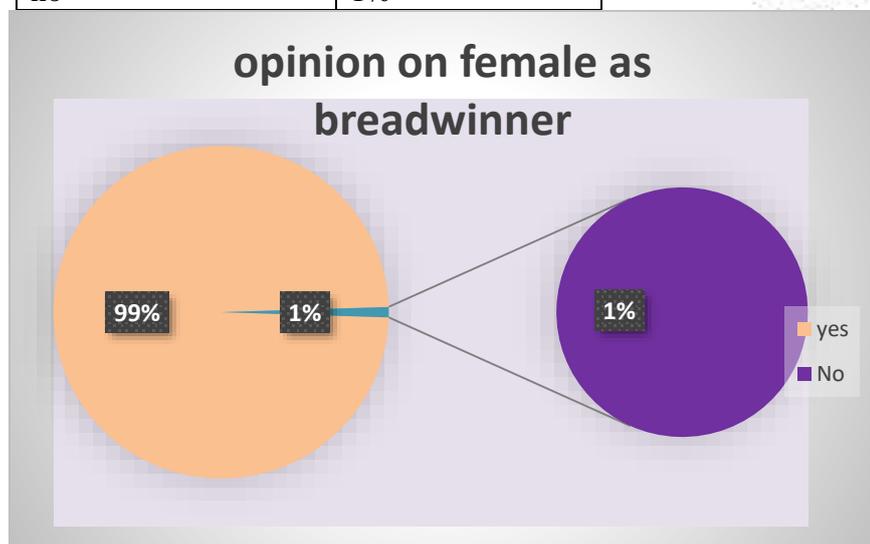


**ANALYSIS**

Refer 7, this data shows distribution of types of labour used by 30 respondents in the cinchona plantation industry i.e. 67% of respondent are engaged in semi skilled labour, 27% are in unskilled/ occasional labour, and 6% are engaged in skilled labour.

**Figure 8:** Opinion on female as breadwinners in the family.

Opinion	percentage
yes	99%
no	1%



## ANALYSIS

Refer to figure 10, this data based on 30 respondent of cinchona plantation industry. As Kalimpong, the only district in Bengal where women are heading in self empowerment. Hence rise of female breadwinner and women who earn the same as their male partners has potentially rise . As we can see here, 99% of women are accepted as breadwinner.

## MAIN FINDINGS

- To find the socio-economic condition of the worker and their families.

It is important to determine the socio-economic condition of my respondents because it helps me understand the true underlying causes of my respondents and their families in the cinchona plantation sector of Munsong.

In this study all my respondents are from cinchona plantation background of Munsong so, the finding shows that the workers are not getting adequate living wages, and their working conditions are harsh and physically arduous. According to the recent studies the wages of the plantation workers per day is around Rs 294.00 which the total per month will be 7,651.00 which automatically leads to economic crisis. According to my respondents the workers and their families have adversely affected by the shutting down of the plantation. As my research study covers recent studies (2008-2023) due to pandemic and the political strikes which happened in between has maximized their economic problems.



- To understand the health status of cinchona plantation workers.

According to the Plantation Labour Act (PLA), 1951, which regulated the working and living conditions of workers. Which contain sufficient requirement to ensure a minimum standard of health, safety and housing conditions for plantation workers.

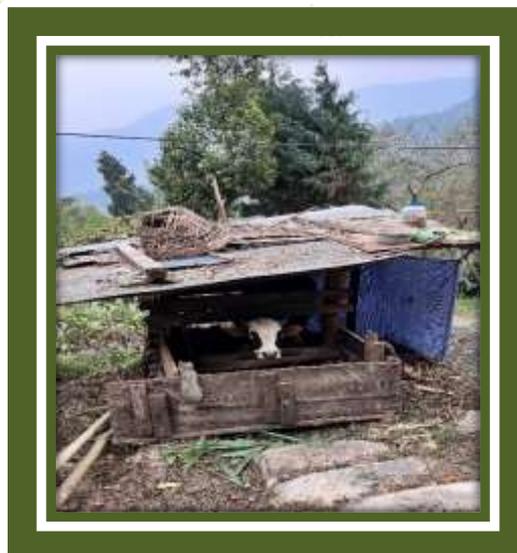
According to my respondents I found that earlier the workers are usually provided a quarter with just one room, no sanitation, lack of basic facilities like drinking water. There are no medical facilities available the worker health profile is very low. In my visit to Munsong for my field work I found that the hospital is run by 1 compounder, 4 nurses, 2 guard and 2 house keeper. Without a doctor one cannot imagine the hospital. It was 16 bedded hospitals with no ICU and emergency room. Recently local party builds a one room isolation unit for covid patient. According to my respondents during covid 19 they suffered a lot because of medical facilities was not appropriate. There was no special room for covid patient, because of that many people lost their loved ones even if they move to town they don't have enough money to rent a house for the caretaker of patient because others are not allow to stay at the hospital and the transportation cost was also high. The people of Munsong are bound to go town for doctors checkup even in the emergency they have no option. Due to such reasons women generally hesitate to visit healthcare which later causes serious diseases. Hence health profile of workers heavily neglected.



➤ To understand the recruitment problem and to find out the extra source of income

According to my respondents they are finding a lot of problems regarding new recruitments to cinchona plantations. Earlier jobs were passed to generation to generation but now no new recruitment is happening. I found that due to low educational qualification they were not able to get good jobs. Some of them are associated with homestays but they do not get any loans from government as they don't have the land paper, and are unable to avail benefits of any schemes under West Bengal tourism department as they do not have any land papers. They are facing multiple of difficulties as they said they younger generation are also not getting opportunity to earn respectful living in the tourism business. Therefore the lives of young people are affected both mentally and physically.

The wages of plantation are so low that they cannot solely depend on that plantation so the majority of workers have other earning sources as small livestock farming business including cow, buffalo, beef, pig, chicken, goat etc. some are involve in flower nursery, plantation of tiger grass which is very common there, homestays . Already they were facing neglected healthcare system. During lockdown they face economic losses due to not being able to sell their product; the extra income they made also got halt due to pandemic. Many people earn money one day and then using the same money to buy food for their family. They do not have savings and rely on this income for survival for next but now they are slowly recovering from the losses they had been.



➤ To understand the role of women in the cinchona plantation

Women in the rural areas are mostly uneducated and belong to the category of plantation workers in tea, cinchona garden and agricultural communities. In my research study I found that earlier rural women of all ages spend much of their day engaging her in domestic chores including cleaning, collecting water and firewood or do various unpaid work for her family. But after the industrialization the traditional role began to change, women started doing works in plantation industry. Their role in the cinchona plantation used to be carrying the manure to the field, transplanting, harvesting, cutting the barks of cinchona tree, drying the barks of cinchona tree but now the cinchona plantation is on halt the existing workers are occupied in other production where the women workers are sowing of seeds, harvesting, threshing, cutting, transplanting etc. As my research study covers the recent events (2008-2023) where women are not valued same as men in the workplace and were often paid less than men but surprisingly women in the cinchona plantation earn equal to men. Along with the plantation work women are now engaged in making local liquors, handicrafts production, and other home based activities such as knitting and weaving. Almost every family in Munsong has taken up livestock rearing as a secondary occupation and women play an important role in this activity as well.



### LIMITATIONS OF THE STUDY

- Firstly, the research study is limited only to Munsong, a small part of cinchona plantation industry due to lack of time I was not able to study the other parts of the cinchona plantation industry.
- Secondly, I could not study this research in depth because of time constraint.
- Thirdly, since my research study covers the recent events (2008-2023) which is a new issue, no books on this topic are available there are hardly 1 or 2 online article that talked about covid 19 impact on the workers of cinchona plantation. Therefore I had to rely on my respondents or on those few online articles to get information.

### CONCLUSION

The socio-economic conditions of the cinchona plantation workers appears to be very unsatisfactory as their level of income is very low and also lack of basic facilities. The purpose of my research is to study the socio-economic conditions of the workers of the cinchona plantation and to investigate what are their problems and how they are dealing with the problems in their day to day life and also to understand the role of women in the plantation industry.

The workers of the cinchona plantation are largely uneducated or less educated therefore I found that due to ignorance and illiteracy the workers are not suitable for other works outside the plantation but due to low wage and in order to survive they solely cannot depend on the plantation so hence, they are also engaging

themselves in small livestock business and farming. But unfortunately due to pandemic and the political strikes which happened in between has maximized their economic problems.

Women's involvement in plantation Industry is complex and diverse. Unlike their male counterpart, women are involved in wide range of activities as well as at home. However the spectrum of women's participation is now changing. Along with the plantation work women are now engaged in making local liquors, handicrafts production, and other home based activities such as knitting and weaving for extra financial support.

Workers are trying to improve their lives, but are more worried about their children future. Most of my respondents said that "the sons and daughters of cinchona plantation workers are not being provided jobs and simultaneously the opportunity for the younger generation to earn a respectful living in the tourism business is also being denied. We want our children to have bright future and want to educate them and send them away from plantation works otherwise they will also die in poverty.

Therefore all government bodies, NGOs and other local bodies should come forward in reviving the industry. If the revival becomes possible it will lead to the overall socio-economic development of the region.

## BIBLIOGRAPHY

- Socio-economic life of Cinchona plantation workers in India Author: Khemraj Sharma
- <https://economictimes.indiatimes.com/news/economy/agriculture/cinchona-plantation-in-darjeeling-is-in-shambles/articleshow/25380933.cms?from=mdr>
- <https://thedarjeelingchronicle.com/hydroxychloroquine-and-our-cinchona/>
- <https://www.telegraphindia.com/west-bengal/cinchona-land-rights-call/cid/1918310>
- <https://www.newsclick.in/labourers-worst-hit-india-cinchona-plantation-north-bengal-plunges-crisis>
- <https://www.jstor.org/stable/4375248> From Peasants and Tribesmen to Plantation Workers: Colonial Capitalism, Reproduction of Labour Power and Proletarianisation in North East India, 1850s to 1947Ranjit Das Gupta
- <https://www.telegraphindia.com/west-bengal/cinchona-land-rights-call/cid/1918310>
- <https://kalimpongonline.com/2022/05/cinchona-plea-to-cm-promote-staff-at.html>
- <https://www.hindustantimes.com/india-news/in-darjeeling-plantation-with-hcq-potential-joints-fight/story-MQHY> Coronavirus: In Darjeeling, plantation with hydroxychloroquine potential joints fight Hindustan Times, Kolkata / Siliguri | By Joydeep Thakur and Pramod Giri
- <https://www.thehindu.com/sci-tech/health/why-is-quinine-being-discussed-in-covid-19-times/article31429882.ece> As hydroxychloroquine, a modification of quinine is being used to treat COVID -19, the ancient malarial drug is back in the spotlight. April 25 is World Malaria Day
- <https://www.groundxero.in/2021/06/22/the-pandemic-in-north-bengal-covid-19-and-plantation-worker>
- <https://www.rediff.com/news/special/covid-19-indias-only-quinine-factory-being-revived/20200416.htm>
- <https://darjeelingheritage.com/the-role-of-women-in-darjeeling-hill-economy/>
- [https://labourbureau.gov.in/assets/images/pdf/SECOWW\\_Plantation\\_200809.pdf](https://labourbureau.gov.in/assets/images/pdf/SECOWW_Plantation_200809.pdf)
- <https://feminisminindia.com/2022/07/27/women-in-the-tea-industry-gender-roles-unequal-pay-female-labourers/>
- [https://www.researchgate.net/publication/328941832\\_Gender\\_Women\\_and\\_Work\\_in\\_the\\_Tea\\_Plantation\\_A\\_Case\\_Study\\_of\\_Darjeeling\\_Hills](https://www.researchgate.net/publication/328941832_Gender_Women_and_Work_in_the_Tea_Plantation_A_Case_Study_of_Darjeeling_Hills).