CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Nepal is located in the southern part of the Great Himalayas, with China to its north and India to its south. According to Census Day (June 22, 2011), the population of Nepal is 26,494,504, including 12,849,041 males and 13,63,45 females. The country has an area of 147,181 square kilometers, mostly mountainous and hilly, with a low population density. Over the past ten years, population growth has been documented as 3,343,081, with a yearly average growth rate of 1.35 percent (Central Bureau of Statistics-CBS 2011). Over 86 percent of the people living in rural areas of Nepal are involved in agriculture, and about 65.6 percent of the total population depends on agriculture for their livelihood and employment (MoA, 2013)

Ilam is a hilly district in eastern Nepal, where agriculture is the mainstay of the economy. Most families in Ilam are involved in crop or livestock production, making agriculture a crucial sector for development and poverty alleviation. The agricultural sector contributes 36 percent of Nepal's GDP (MoA, 2013). Despite its importance, agriculture in Ilam faces numerous challenges, including limited land, high population density, high energy and transportation costs, and complex expansion needs for smallholder farmers. Additionally, because it is landlocked, the nation has tremendous energy and transportation expenditures than its neighbours in the region.

Large cardamom, ginger, and tea are major export products from Ilam, with tea being the most famous. Tea also provides smallholder farmers with a significant portion of their income. With about 85% of all families consuming tea, it is the most popular beverage in the country.

The national economy benefits significantly great from the tea sector. Firstly, the tea sector requires a lot of labour; second, it is primarily located in remote and underdeveloped places. Third, it supports the development of the tertiary sector in these areas; and fourth, it is environmentally beneficial and contributes to the national exchequer (Choudhary, 2000). Ilam tea cultivation began in 1863. Tea production in Ilam has steadily increased since its introduction, which was initially only exported.

The overall volume handled on the foreign market is believed to be around 1.4 million tons, and this export only represents a minor percentage. Hillsides at high altitudes are used to grow Ilam tea (between 1,900 and 2,500 m). There are about 1250 acres of planted land in this area. Tea plantations must be near a factory since the harvest needs to be processed soon after it is picked. Tea plantations are classified into four types based on ownership and management: public estates, private estates, tea growers' cooperatives, and smallholders.

The establishment of the Kanyam Tea Estate by NTDC in Ilam led to the growth of tea cultivation in nearby Village Development Committees (VDCs) by local farmers, as well as by both the public and private sectors. Around 40 small farmers have taken up tea cultivation in several VDCs in the Ilam district, including Sri Antu, Kanyam, Pashupatinagar, Fikkal, Panchakanya, Kolbung, Godak, and Luxmipur. NTDC's motivation and technical support have encouraged tea farming in other districts such as Terhathum, Panchthar, Jhapa, and Dhankuta. In 1982, the government recognized the potential of tea farming in the Eastern Region and designated five districts as "Tea Zones". It also implemented a supportive policy to encourage private-sector tea farmers.

For the first five years in the Terai region and seven years in the hills, tea producers were able to access soft credit from the Agricultural Development Bank

(ADB/N) with a 50 percent interest rate subsidy. Tea farming was exempt from land limitations and eligible for a 90 percent land tax rebate. Small farmer program offices were established in Fikkal, Jasbire, and Mangalbare in Ilam, Solma in Terhathum, Chilengden in Panchthar, and Hile in the Dhankuta district to provide technical support, improve planting and transportation facilities. These initiatives led to the creation of "Bought Leaf Factories," which facilitated the growth of tea cultivation. The first of these processing facilities opened its doors in Fikkal, Ilam district, in 1989.

In eleven districts of Nepal, including Ilam, Panchthar, Jhapa, Dhankuta, Sankhuwasabha, Terhathum, Dolakha, Ramechhap, Kaski, Nuwakot, and Sindhupalchok, about 16,700 hectares of land are currently used for farming both orthodox and CTC tea. The annual tea production is over 16.2 million kilograms (National Tea and Coffee Development Board [NTCDB], 2011). The land area used for tea cultivation is growing at a rate of approximately 11percent per year.

Currently, 85percent of tea is produced by 8100 small farmers who support 40,920 family members (with an average of five family members per family). In 2008, the per-capita tea consumption in Nepal was 0.35 kilograms (ibid). The tea sector in the Eastern Terai and the Hills has enormous growth potential. There is a great opportunity for organic tea farming in Nepal, as thousands of hectares of untouched land have not been exposed to artificial fertilizers. Tea is widely consumed in all countries, and similarly to Indian tea-growing areas such as Darjeeling, the Eastern Highlands of Nepal have similar agroclimatic conditions, allowing for the production of equally high-quality and flavorful tea.

Tea has become an integral part of daily life in Nepal, consumed by people from all walks of life. It is not only valued for its health benefits but also as a

profitable cash crop and a popular beverage. Tea plays a crucial role in fostering social connections and has several benefits, including generating foreign exchange, preserving the environment, providing employment, improving infrastructure, reducing migration, developing human resources, and boosting human health. Additionally, the tea industry drives the growth of supporting industries such as blending, packaging, and financial cooperatives. The proper implementation of the National Tea Policy 2000 could boost the growth of the tea industry and, in turn, contribute to the overall economic development of the nation.

In the last 25 years, the growth of Nepal's tea industry has been supported by the efforts of public, private, and small-scale tea producers. The National Tea and Coffee Development Board (NTCDB) reports that there are 128 tea estates and 45 factories involved in tea processing, with 20 organizations and industries focused on tea packaging. Nepal's tea industry development has been facilitated by the three diverse ownership and management frameworks public ownership, private ownership, and smallholders. All three categories of tea producers have significantly aided the expansion of tea cultivation. The efforts of government and private sector entrepreneurs and small farmers have fueled the expansion of tea planting in the highlands and Terai. In 2000, NTDC, the only enterprise run and owned by the government, was privatized. The establishment of NTDC, the outgrows program, the proclamation of a tea zone, and a policy package with amenities like lending money and subsidizing bank rates, exempting land from land tax and ceilings are only a few of the critical steps the government has made over the past 25 years. Besides, the government has also issued the National Tea Policy-2000 by forming the NTCDB in the last 25 years.

According to the government's various plans and policies, emphasis has been placed on promoting agricultural sectors such as tea and coffee. The Ninth Plan focused on growing high-value orthodox tea for export and prioritized the development of CTC tea for household consumption. During the plan period, it was estimated that the tea plantation area would be 6982.92 bighas (4564 hectares). The goal was to increase the total tea cultivation area by 1,000 hectares during the plan period, which was expected to increase tea production to 4,111 metric tons from 3,156 hectares.

At present, the tea industry has become an important sector in terms of the extent of land under cultivation, the amount of tea produced, and the number of people directly employed. It has a considerable impact on the national economy. In 2006-2007, there were 16,420 hectares of land used for tea farming and a total production of 15,167,743 kg of tea. The tea sector employs nearly 41,000 individuals, including company employees and self-employed small farmers.

The responsibility for the creation and dissemination of tea rests with all the various players in the industry, including factories, tea estates, small farmers, packagers, and marketers. A notable change in the tea industry in Nepal is the rising importance of small-scale producers. These are farmers who cultivate tea on their personal land, with a limited area of up to 25 Bighas in the Terai and up to 350 ropanies in the hills, and do not have their processing facilities. This definition of small growers is stated in the National Tea Policy 2000.

The growth of tea plantations has slowed in recent years due to the steep increase in land prices for tea cultivation. The ADB/N no longer offers loans to purchase land for tea farms, making it even harder. Farmers have also reported difficulties in obtaining loans from government-run banks due to bureaucratic red

tape. Furthermore, there is a lack of proper monitoring, which has allowed for importing subpar chemicals like fertilizers and pesticides from India. As a result, the small-scale tea growing industry is unable to meet its social, economic, and environmental obligations in terms of production and plantations. There is a lack of cohesion and cooperation among tea farmers. Political divides also exist within the workforce. Additionally, many young people in the country are seeking employment overseas, and the educated generation is becoming more urbanized and less focused on rural areas.

1.2 Statement of the Problem

Despite differences in the characteristics of tea grown in mountainous and low-lying regions, the Nepal government stated that Ilam tea is one of the best in the world. However, the yields are lower compared to those from other Asian countries. The challenge for small tea farmers in Ilam is to find ways to increase their production and receive fair prices for the excellant quality of green tea leaves they produce.

The role of the tea market situation must be evaluated, as well as how it can be improved, because the market system provides many benefits to producers, including a transparent and less expensive trading system. However, there has been criticism of collusion between factories (for Green leaves) and brokers to keep prices low. It is also crucial to study the rapid growth of small tea farmers and bought-leaf factories (BLFs) and their impact on the production system. Therefore, all efforts should be made to ensure that these three entities work together in conducting this research.

The Nepalese government is thinking about doing more to advance and advertise this industry on the global market because it is a significant component of the country's agricultural sector. The expansion of export and the globalization of its

market need the support of all stakeholders. To some extent, the study might help achieve these common objectives of small tea farmers. The study offers suggestions to improve the situation in this context as well as essential recommendations for reducing and removing the identified deviations. The government and all stakeholders may find the study's conclusions and suggestions helpful. Furthermore, the study should support national policymakers to be profitable and comply with laws and regulations.

From observations, the Nepalese tea industry is in a very critical position. Being an important foreign exchange earner and a major employer of the population of Ilam, it is imperative to examine the factors responsible for the development of this sector. As a result, this study aims to determine the driving forces behind the conversion of tea farming in the Ilam district to organic methods, cooperatives, and the expansion of tea farming, as well as the barriers and limitations to tea production and the market mechanism. On orthodox Ilam tea, numerous investigations have already been carried out. However, small tea farmers in the Ilam district have not yet been the subject of any investigation.

Thus, the following research questions are the primary emphasis of this study:

I. What are the current green-leaf tea production status and market mechanisms in Ilam?
II. What are the motivational factors for Small tea farmers engaged in orthodox (organic and non-organic) tea production?
III. Which are tea production's main prospects and constraints in the research area?
IV. How do organic and conventional tea productions and their market mechanism prevail?

It is clear from the preliminary analysis that there are numerous issues with Nepal's tea industry. Some of the issues are general, while others are more particular. The industry also faces difficulties from trade restrictions and inadequate technological advancements, leading to higher production costs. Competing in the global market is challenging, but the tea manufacturing and export market has substantial potential. Despite the various factors impacting the tea industry, Ilam possesses a favorable topography and climate.

1.3 Objectives

This study's primary goal is to examine tea production and market mechanism for tea, particularly in Ilam. However, the study has more confined to non-tea factory producers (farmers) of the Ilam district. The following objectives are more specific:

i. To analyse the orthodox tea, i.e.green-leaves product status of the Ilam district,
ii. To find out the motivational factors for the small tea farmers who are engaged in orthodox tea production and extension of tea farming,
iii. To assess the market mechanism of tea production,
iv. To identify some major prospects and constraints of tea production and market mechanism in the study area.

1.4 Justification of the Study

The tea industry is helping rural households to meet their daily needs and improve their livelihood. The study will examine how to increase rural income and employment while identifying factors contributing to tea production growth. Similarly, it analyzes the major problems relating to tea production and marketing and recommends viable solutions to overcome these problems.

The study's results and conclusion may not be directly applicable to the situations of other districts and zones. Still, they may help understand some

fundamental issues of rural households' employment and income generation through tea production. They may also be useful in developing future policies relating to the rural development of hill areas.

The position of the tea markets must also be examined, as well as how they may be improved. While the transparent and less expensive auction system offers many benefits to growers, it has also been criticized for alleged collusion between big buyers and brokers to maintain prices low. It is equally crucial to study the phenomenon of small tea producers and BLFs expanding quickly and their effects on the production system. These issues concern employees and the government. Every effort should be made to ensure that all three actors participate in this research. The study also explores the potential for growing connections between small tea farmers and other stakeholders, including big tea factories and companies.

The study's findings will benefit government agencies, trade unions, civil society organizations, regional organizations, and tea firms. The labour, social, environmental, and economic circumstances of the global tea industry will also be improved, which will boost the competitiveness of the tea sector as a whole and benefit countries that produce tea.

1.5 Scope and Limitations of the Study

Ilam district produces more than 80 percent of Nepal's orthodox tea production. Only two clusters of tea extension programs in the Ilam district were included in the study. This study made an effort to examine the supply and demand for green leaves on the market, the causes that led farmers in Ilam to convert to organic farming, and the expansion of the tea industry from 2011 to 2014.

The research does not deal with the technical problems of tea producers in the study area. The study did not include other aspects of production technology, farming,

agents, and mediators. The sample size of the sampling unit was adequate in number. However, it reflected the producers' accurate view and helped the researcher to generalize the findings. Most of the farmers and producers do not have written records, and they were able to give approximate figures only from their experience.

Farmers are unaware of the maintenance of financial records of tea leaf production, so they hesitate to provide information. Hence, the possibility of misinformation can be ruled out. Private manufacturing units are not ready to disclose their financial and other record information. Despite these limitations, every precaution has been taken to minimize its influence on the research results and conclusions.

1.6 Conceptual Framework

Combining different immaterial (plans, knowledge) and material (inputs) inputs to create something for consumption is called production (output). The method used in economics to turn particular inputs, like goods and services, into outputs, such as finished products. A competitive economy and efficient production of goods and services generally indicate high national productivity.

Factors of production: Land and other natural resources, labour, factories, structures, equipment, tools, raw materials, businesses, meteorological conditions, and tea quality are all manufacturing factors (Fig 1.1).

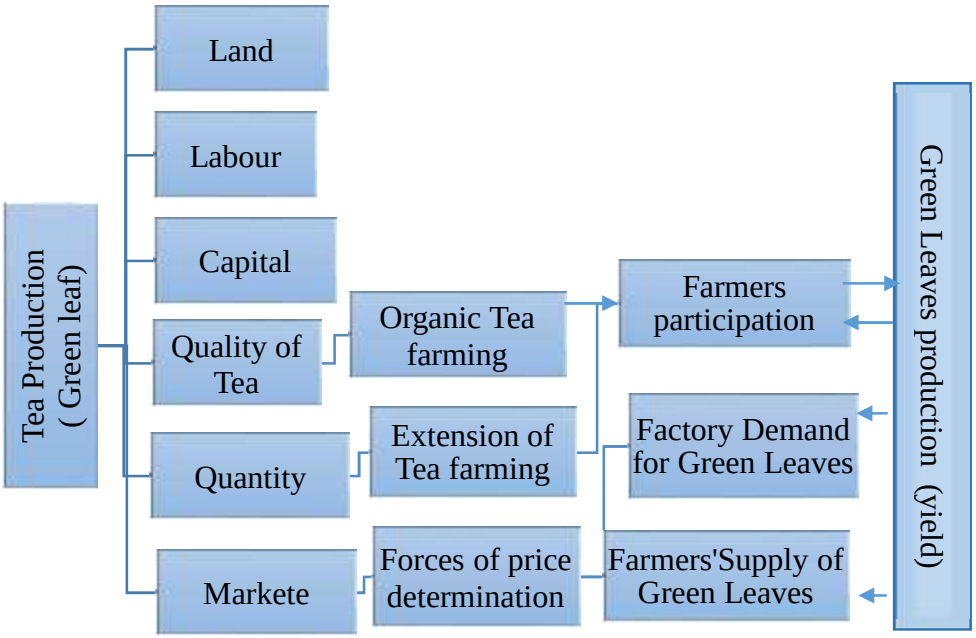
Productivity: Productivity in economics refers to the output of any component of production divided by the input. It measures how well a worker or machine produces things and services to generate income. Production can be calculated as per acre of land, labour productivity per hour, or annual percentage of capital. A competitive economy and efficient production of goods and services often indicate

high national productivity. It measures the ratio of output production to input effort in a business or industrial setting.

Productivity is a concept that describes productivity to other production aspects. The rate and amount of things produced, particularly in relation to the labour, resources, and costs required to generate them, are referred to as productivity in the Longman (2017) dictionary. This ratio is typically expressed as an average, which divides the total intake by the total output of some category of products. As an illustration, the components of production in the current scenario are tea production to *land, labour, and capital*. It is possible to determine the relative importance of one element compared to another by measuring production for each factor separately. In general, the productivity of a particular set of combined inputs can be used to calculate the combined productivity of labour and capital, or the productivity of all elements can be used to calculate the production function (Kudrik, 1961).

A conceptual framework is designed based on the literature's theoretical insights. The market mechanism and all relevant aspects of tea production were examined. The framework illustrates a connection between production factors, output, and pricing. The conceptual framework used in the study is as follows.

Figure 1.1 Contributing Factors of Productions



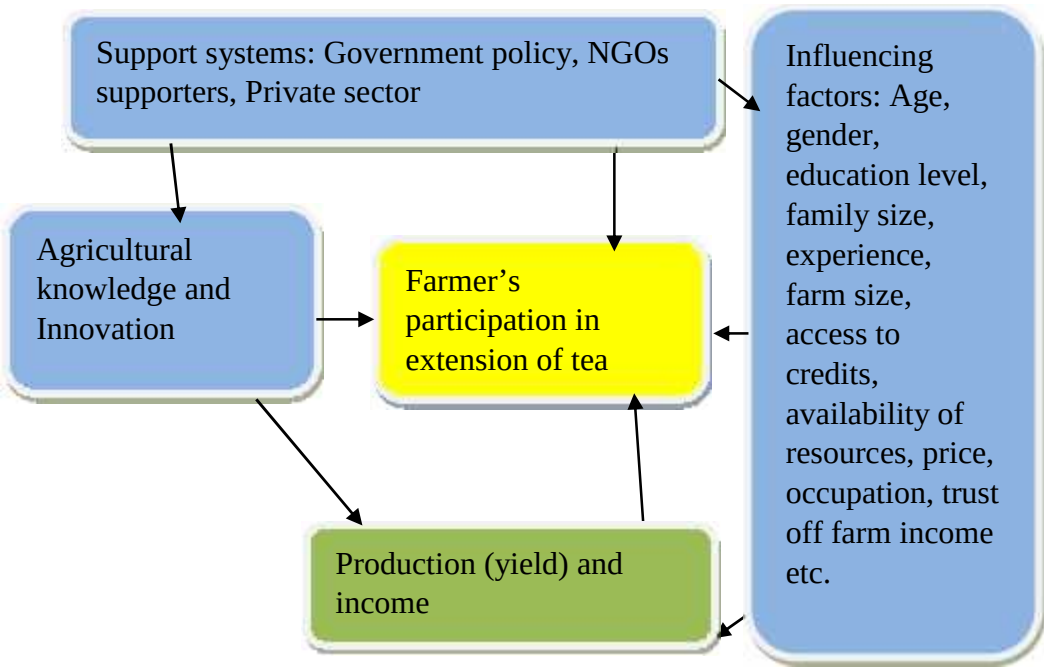
Source: Author

This study was intended to investigate farmers' involvement in agriculture extension, notably in tea, to determine factors that motivate farmers to engage in tea cultivation and organic conversion. According to the United States Department of Agriculture, cooperatives allow farmers to democratically own and manage a business entity to obtain their inputs (supply and services) and market their outputs (outputs). Instead of relying on the government, they band together voluntarily to aid themselves. They can choose goals, sources of funding, rules for conducting business, and ways to distribute rewards. Farmers can own and run a customer- or service-oriented business through a cooperative. Producers can choose services and operations that will enhpance their farming earnings rather than profits for the cooperative due to farmer ownership. Cooperatives boost agricultural income in a variety of ways, such as: Increasing the general price level for sold goods or lowering the level for supplies bought; assembling significant quantities to lower handling or

processing expenses per unit; giving farmers any net savings realized from handling, processing, and selling processes; improving the standard of the farms or suppliers used, and creating new markets for products(Fig 1.1).

Cooperatives can function more effectively and at a cheaper cost per unit than farmers can individually by pooling supply purchases, sales and handling costs, and selling expenses (United States Department of Agriculture, 1990). Therefore, this study aimed to identify the factors influencing Farmers' participation in expanding tea production. Farmers are influenced to increase tea cultivation by the respondents' educational level, primary occupation, the importance of belonging to a cooperative, access to financing, the importance of off-farm activities for income, and the amount of tea harvest (Figure 1.2). A farmer's decision to participate in tea cultivation expansion through cooperatives depends on several factors. Among them are farmer’s characteristics, elements in contracts offered to farmers, and location factors. Characteristics of farmers may be general (age, gender, education) or specific to the households (family size). Contractual elements include trust, expectations regarding the price, access to credit and other inputs, etc. It is significant to remember that membership in a cooperative affects decision-making indirectly through the access to and usage of production variables and transaction expenses. Production factors include the size of their tea plantation and access to inputs such as labour, fertilizers, etc.

Figure 1.2 Conceptual Framework on Tea Extension in Elaborate form



Source: Adopted and Modified from Rivera et al.(2005)

Rural actors (Government, NGO supporters, Private sector) are part of changing agents contributing to farmers' decisions to participate in new technologies. The predicted results of the farmer's labor, such as yield and a corresponding increase in net income, affect participation as well. The decision of the farmer to take part in the expansion of tea cultivation depends on agricultural knowledge and innovation because they are sustainable use of natural resources, food quality (tea), search for new markets, transact of new technology, and farming style that help to increase farmers' income.

The small farmer and tea cooperatives are the source of green leaves supply. Bought leaf factory and Tea Estate demand green leaves to produce orthodox tea. Tea Estate manufactures its tea. Their supply of green leaves demands itself. Small farmers supply their handmade tea to the local area. Bought leaf factories and Tea Estate supply their made tea to the international market.

Production Process: A production method is a way of applying Resources used in the economy, such as labour, machinery, or land, to provide consumers with goods and services.

labour: Family and hired labour are used to evaluate human labour. The overall labour usage was computed using adult man-days and 8-hour workdays for adults. In the case of women, a ratio of 1 woman's labour to 0.66 men's labour has been taken into account when converting to the average man equivalent. The value of labour has been calculated, considering the local wage rate.

Cost Concepts Employed in the Studies: Various cost concepts have been used to evaluate the cost of small tea producers. Both paid-out costs (out-of-pocket charges) and imputed costs were included in the cost of tea cultivation. Imputed cost consists;

i. The cost of family labour.
ii. Family management input.
iii. Land rental costs.
iv. The interest from the farmer's own fixed capital, for which he incurs no costs.

Some of the materials used in the production process came from family sources.

Market mechanism: In the strictest sense, markets are locations where goods are bought and sold. The term "market" is used by economists to refer to all markets where goods are bought and sold. The term "market" refers to any area where buyers and sellers engage in such open interaction that prices for similar commodities tend to equalize rapidly and easily, regardless of the location where goods are bought and sold.

Around the world, numerous new market mechanisms are being developed. The concept of a "free" market is frequently used for market mechanisms. For the average

person, the word "free" suggests no restrictions when they visit a market; they can purchase as much as they want, sell as much as they want, or do nothing. Demand and supply forces are referred to as the market mechanism. These forces manifest themselves in the market as buyers and sellers. A market in economics is a phrase "Market," not any specific marketplace where goods are sold. A market mechanism is a system of market exchange in which the forces of supply and demand control the price and volume of products sold. The law of supply and demand guarantees the efficient allocation of resources. Supply and demand movements are important in bringing about market equilibrium. But occasionally, the government makes an effort to regulate the economy. The government may adopt regulations like price ceilings and floors. Such interventions prevent the functioning of the market process. The price acts as a signal for resource allocation in a market process. Although in relative terms, the law of supply and demand ensures efficient resource allocation.

Green Tea Leaf Marketing in the Study Area:

To sell their green tea leaves, small tea farmers use the two strategies listed below:

a. Direct Selling Method

b. Selling through Agents and cooperatives.

1.7 Tea Industry Expansion and Development in Ilam, Nepal

Tea was first grown in Nepal during the Rana era in the early 19th century, and the Ilam Tea Plantation was started in the Ilam district in 1863.

1.7.1 Origin of Tea

According to history, the Chinese monarch Shen Nung is credited with discovering tea which dates back to 2737 BC. He noticed the leaves from a branch of firewood falling into the boiling water imparted a sweet aroma. The leaves were from a wild tea tree (Muralidharan, 1991). Tea was first mentioned in a Chinese dictionary in 350 BC. The word 'tea' originates from 'the' (Amoy language), while 'cha' comes

from Cantonese. By the 12th century, when Japan began to grow tea plants, China was the sole supplier of tea products from China. People have been drinking tea for hundreds of years because of its medicinal properties.

During the Western Zhou Dynasty, tea was offered to the gods as a sacrifice. Tea plants were rare throughout the Han Dynasty (202 BC–220 AD) since only the wealthy drank tea for its taste and health benefits. Tea consumption grew more widespread among the populace as more tea plants were found during the Tang Dynasty (618–907). The Chinese government encouraged planting tea plants and even constructing tea shops so that everyone enjoyed drinking tea.

The actual age of tea in China is obscured by myth. Evidence from ancient times suggests that tea leaves were consumed in medicinal mixtures and possibly applied to treat wounds. Early Han periods are the first clear textual references to tea drinking as a beverage appear. This early use was correlated with the strengthening and purifying effects of tea's stimulating properties and water boiling during preparation. The emergence and growth of Buddhism in China during the third and fourth centuries were linked to the rise and ubiquity of tea drinking. For Buddhist monks, the caffeine in tea increased focus and facilitated meditation and scripture reading. In the fourth century, there was an excess demand for tea compared to the available quantity of leaves, which led to the first intentional cultivation of tea.

The first commercial, public tea houses emerged in the late Tang dynasty and remained important centers of Chinese social life until the Communist Revolution. Tea drinking had developed into a homey hobby in urban and some rural families by the Sung Dynasty. During the Tang and Song dynasties, population growth and the influence of widespread consumption and tastes greatly increased the tea trade inside China and generated a considerable increase in tea cultivation, invention, and variety.

Tea's movement as a trade product was enhanced by its drying, powdering, and bricking. The introduction of readily transportable, less expensive black teas and the preference for loose-leaf types during the Ming era increased tea consumption. They improved the brewing process, creating a great demand for beautiful teapots and tea sets (Greenwood, 1992). Believed for a long time to be the large tea growers in China, as opposed to small farmers, were Buddhist priests. The earliest reliable description of tea was written in the year 780 AD. Lo-YU describes the method for preparing and processing the leaves in the renowned tea book Coo Ching. The Chinese government implemented a tax on products that same year (Willson & Clifford, 1992; Brahmah, 1972; Pandey, 1988).

Japanese priests studying in China during the Tang Dynasty brought tea to Japan. The priests and wealthy initially consumed tea for its therapeutic benefits, similar to how the Chinese adopted itea was initially consumed priests the wealthy for its therapeutic benefits, similar to how the Chinese adopted tea. Because priests drank tea to remain awake and meditate, tea is frequently associated with Zen Buddhism in Japan. The Japanese Tea Ceremony was soon created by Buddhists to share tea respectfully and spiritually. To increase the availability of tea, the Emperor of Japan, who liked tea, brought tea seeds from China to Japan.

While tea consumption was mainly a luxury of the rich in Japan, it was also common in China. However, tea drinking had become considerably more widespread and socially accepted in Japan by the time of the Tokugawa. As a result of the arrival of less expensive Chinese loose-leaf tea types and the rising consumerism of early modernity in Japan, commercial tea houses and street vending of tea expanded during this time.

Many Afro-Eeurasia traded and drank Chinese tea during the post-classical era. The 'Tea-Horse Road' connected the southern Chinese tea farms with Lhasa in Tibet, where tea was exchanged for horses. From Tibet, tea spread to Nepal and the northern Indian region of Ladakh. In these cooler higher elevations where vegetables were rare, the warmth of the tea and its nutritious qualities when boiled with dairy products created a considerable demand. Additionally, Chinese tea was traded along the routes that grew between Yunnan and Burma, eventually making its way to other regions of Southeast Asia, where drinking tea initially began to be associated with Buddhist religious rituals. Along the Silk Roads, significant markets for Chinese brick tea were also developed in Central Asia. Tea was traded from growing regions in Southern China to Changan (Xian), bought by caravan traders, and transported by Bactrian camels to Central Asia and other destinations. As a result, tea emerged as the key commodity in exchange for strategically valuable horses from the Mongol and Turkic populations along China's western frontiers. As a result, tea drinking and tea shops grew in popularity along the Silk Roads in caravanserais and oasis cities (Roy, 2003).

The Dutch were responsible for popularizing tea as a beverage in Europe.

In 1610 A.D., tea was brought to Europe through Dutch trade. Russian people tasted tea in about 1618, and the French in 1648 AD. Moreover, Americans also tasted tea in the middle of the seventeenth century. East European nations primarily drank coffee before learning about tea in 1650 AD (Swaminathan et al. 1990b).

King Charles II's marriage to Catherine of Braganza, a Portuguese princess, brought tea to England in the 17th century. The East India Company quickly started importing significant amounts of tea to Britain after the Queen made tea the drink of royalty.

It became common for aristocratic society to enjoy afternoon tea or tea parties. Although tea was frequently imported into Britain, the tariffs were so excessive that during the tea smuggling era, smugglers would collect and sell tea illegally for individuals who could not afford it in an attempt to earn money. The tea was then exported to America by the East India Company. The Boston Tea Party was provoked by the high taxes on American tea (Japanese Tea Organization, n.d.).

In 1669, the British East India Company took control of the Chinese tea trade and started importing tea to London. While tea imports were initially a lucrative component of company employees' trading activities in Asia, the growing profitability of tea led the company to ban this private commerce in 1686 out of concern that it would seriously damage official trading activities and shareholders' profit. In 1721, the government granted the East India Company a monopoly over all tea imports into Great Britain. Before the middle of the 19th century, tea was quite expensive. Early teapots came from China with tea and were all relatively small. No teapots were made in England around 1790 (Ashby, 1977).

By the 1920s, it is thought that 75percent of the tea consumed worldwide was produced within the boundaries of the British Empire and sold by British tea corporations. British tea businesses began establishing plantations in East Africa at the end of the nineteenth century, and after World War I, output grew dramatically in Kenya, Tanganyika, and Nyasaland. More British tea estates were in Kenya before the nation's independence in 1963. The third-largest producer and top exporter of tea worldwide right now is Kenya. Since independence, small-scale proprietors rather than huge estates have produced most of Kenya's tea due to land reforms and development agency activities.

This plant was introduced to Indonesia in the year 1600. It was believed that the Assamese hill tribes had been growing this plant for a very long period. However, large-scale tea production began in India in the nineteenth century (Muralidharan, 1991).

Mr. Robert Bruce, who oversaw a division of gunboats in Upper Assam during the first Burmese war, is commonly credited with the discovery of tea in Assam. In 1826, he was said to have brought down some shrubs and seeds of the native plant.

The Indian government established a tea committee in 1834 with 12 members—10 Europeans and 2 Indians—to investigate the viability of tea production in Assam. The following year, an experimental government plantation was developed in Lakhimpur.

But because the venture was a failure, the plants were transferred to Jaipur, where a garden was set up and sold to Assam company in 1840. Twelve tea boxes were despatched to London in December 1837, and another shipment of 95 chests was sent the following year (Roy, 2011).

The Bengal Association was formed in Calcutta in 1838 with European and Indian members to promote the production of Assam tea. A second organization with comparable objectives was then established in London. To avoid rivalry, the two decided to merge under Assam Tea Company, investing £500,000 in 100,000 shares worth £50 each. This business, India's first and biggest tea producer, was established in 1839. According to the Assam Tea Report for 1869, there were 110 gardens in the District at the time, 53 European assistants were in charge of them, and 13,399 imported and 790 native labourers were employed there. At the end of 1874, there were 22,573 acres of tea-growing land in the Sibasagar District, and 4,528,329 pounds

of tea were produced. At the end of 1874, 108,050 acres were allotted in Sibasagar under the Assam Waste Land Rules for tea cultivation (Roy, 2011).

In 1825, Sri Lanka began its plantation industry. It wasn't until the 1870s that Sri Lanka's tea plantation sector began to grow. Before that, farmers had been cultivating coffee, but the leaf rust fungus (Hemilia vastatrix), for which there was no known remedy, quickly destroyed the industry. Independent planters then began the tea. They had planted more than 1,20,000 hectares of land by 1895. In the early years of this century, large public corporations for tea production were founded on the island (Ashby, 1977).

Tea planting began in Java a little later than it did in India. It was a government monopoly until 1860, but it wasn't economical. In 1878, tea, like Assam, was introduced. While its export industry was thriving, the Second World War and its aftermath had a significant negative impact on it. Malawi was the first country in East Africa to start planting tea in 1891. Kenya soon followed between 1921 and 1925, Tanzania and Uganda in the early 1930s, and so on. Russia also began cultivating tea. Russia began importing brick tea in the early seventeenth century, but China kept up the supply. The new Indian and Ceylon teas were so well appreciated by tea consumers worldwide that by 1900, China's tea exports had drastically decreased (Willson & Clifford, 1992).

1.7.2 History and the Evolution of Tea Cultivation in Nepal

The Ilam Tea Plantation was established in the high areas of the Ilam district in 1863, marking the formal start of tea cultivation in Nepal under the Rana reign. The first tea bush in Nepal, it is said, was grown from seeds sent as a gift by the Chinese emperor to Jung Bahadur Rana, who was the country's de facto ruler at the time and the prime minister.

It is thought that tea cultivation in Nepal began at the same time as it did in India's Darjeeling hills. In the history of Nepali tea, Mr. Gajraj Singh Thapa is a well-known personality. In the Ilam area of Nepal, he cultivated tea for the first time (NTCDB, n.d.). A second tea plantation, the Soktim Tea Estate of Ilam, was constructed in the same district in 1965 to enhance Nepal's tea business. Tea plantations were also established in Darjeeling, India, during the same decade.

However, Nepal's early tea industry could not grow. The Darjeeling tea industry began performing very well in the international trade market at a time when the Nepali tea industry was unable even to supply it for internal consumption. The Rana dynasty's civil unrest and the era's economic policies were largely to blame for the downfall of Nepal's young tea industry.

After the democratic revolution of 1950, the door was opened for investment in the industrial sector. As a result, governmental and private investment entered the dormant tea sector. The Terai region's first privately owned tea plantation, Bhudhakaran Tea Estate, was established in 1959. (Adhikari, Regmi, Gautam, Thapa, & Joshi, 2017).

To support the tea industry's expansion, the Nepal government established NTDC in 1966. Previously, companies in Darjeeling purchased tea leaves grown in Nepal. The first plant for processing tea leaves was established in the Ilam area in 1978, and a second factory was established at Soktim within the same district a few years later.

To encourage small and marginal farmers to grow tea as a commercial crop, the NTDC launched several projects between 1978 and the 1990s. The dead tea industry slowly evolved into a fully commercialized industry, assisting the nation's socioeconomic and economic growth. In 1982, the Nepalese government realized that

tea had the potential to be a successful crop and an exportable good. As a result, it designated five eastern districts as "Tea Zones": Ilam, Jhapa, Panchthar, Tehrathum, and Dhankuta. Since then, the government has taken other actions by the government to support tea growers and processors (Poudel, 2010).

Larger government-run tea plantations dominated the industry in the early 1990s. After the economic liberalization began in 1991, the tea industry expanded and prospered, and the private sector and small farmers actively participated in commercial tea production. The National Tea Development Board, later known as the National Tea and Coffee Development Board, was established in 1992 when the government recognized the need to promote tea development in Nepal (NTCDB).

The Government of Nepal passed the Nepal Tea and Coffee Development Act in 1992, which opened the stage for the 1993 founding of NTCDB. The state-owned National Tea Development Corporation (NTDC) was privatized in 1993, and the Ministry of Agriculture of Nepal assumed responsibility for its regulatory duties with the NTCDB. At the time, the NTCDB served to coordinate the production of high-quality goods, control the export and import of goods, and promote the formation of policies for market management. In 1996/97, the government designated the 15th of Baisak as **National Tea Day** to stimulate the industry. In addition, the government implemented the national tea policy after selling its NTDC holdings to a private company at the end of 2000. The policy expanded human capacity, created more significant opportunities for export promotion, and made it simpler for tea growers to obtain financing and cultivate the land. The priority for the type of tea processing that should be promoted was also clearly defined. The first green tea processing factory was constructed in Pashupatinagar utilizing Japanese technology; the Himalayan Orthodox Tea Producers Association (HOTPA) was established in 1998 with

financing from USAID under AEC/FNCCI. In order to promote Nepalese tea on the global market, NTCDB created the National Tea Logo in 2002. In August 2006, HOTPA created a code of conduct (CoC) and standards for high-quality production. NTCDB also created a strategic plan for the growth of the tea industry for the years 2010 to 2014 (Shrestha, 2014).

Since the beginning of the industry, Nepal's tea production has been planned on plantations, which has benefitted the local economy. Nepalese tea has gradually risen in area, production, yield, and export. Information on area development, output, yield, and export of tea from 1973 to 2015/16 is provided in Table 1.1. At that time, the export share of Nepalese tea seems to be increasing (Table 1.1, Figure 1.3 and 1.4).

Table 1.1 Growth Pattern of Area, Production, Yield, and Export of Nepalese Tea.

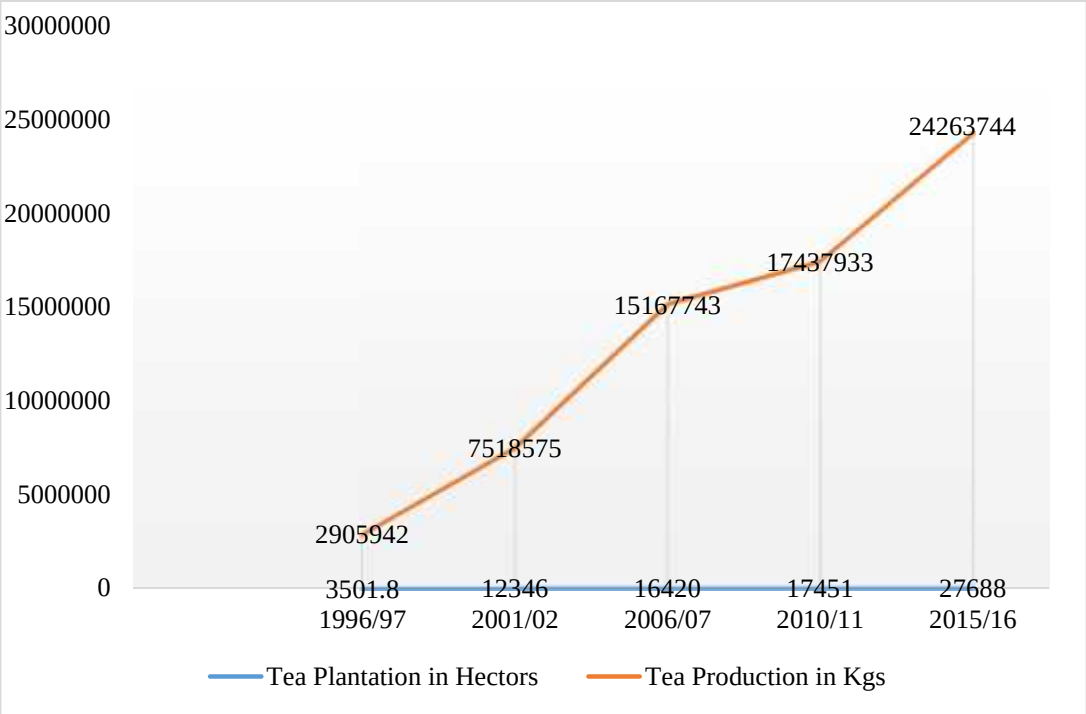
F. Years in AD	Tea Plantation in Hactores	Tea production in Kgs	Yield (In kg.ha.)	Total Overseas Export (Rs)
1973	160	281.3#	-	135051319
1978	200	423.18#	-	601328693
1983	520	723.92#	-	289691885
1988	750	1184#		
1992/93	880	1614000	-	-
1996/97	3508	2905942	80	22617000
2001/02	1236	7518575	68	27987000
2006/07	1640	1516773	94	734285000
2010/11	1741	17437933	99	1549891000
2015/16	27688	24263744	86	2400119000

Source: NTDC, FAOSTATA-2017, NTCDB, 2069, NTCDB, 2015/16

Note: * NTDC has been leased out to Triveni group since 1995/96

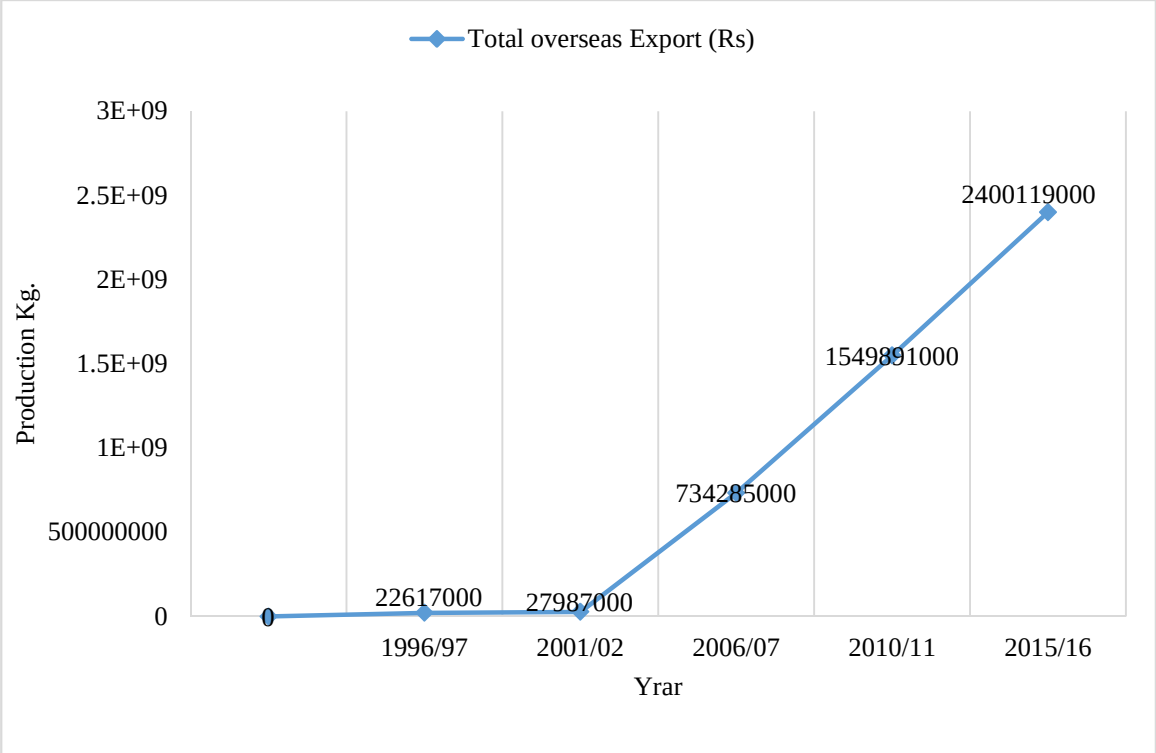
- Not available, # metric tone

Figure 1.3 Growth Pattern of Area and Production



Source: Table 1.1

Figure 1.4 Total Overseas Tea Export



Source: Table 1.1

From 1973 until 2015/16, in five-year intervals, Table 1.1 (Figure 1.3)presents a complete picture of the Nepalese tea area, output, and yield rate. More land was covered with tea, from 1236 ha in 2001/2002 to 27688 ha in 2014/2015. Similarly, from 2001/2002 to 2014/2015, output increased from 7518575 kg to 24263744 kg. The export share of tea increased from 27987 kilograms in 2001/2002 to 2400119 kilograms in 2014/2015. The table above depicts the global export of tea from 1973 to 2014/15 (Table 1.1, Figure 1.4).

While the highland of Ilam, Dhankuta, Panchthar, and Terathum are the leading producers of orthodox tea in Nepal, CTC is primarily manufactured in Jhapa. New tea-producing districts include Sankhuwasabha, Bhojpur, Taplejung, Sindhupalchok, Kaski, Nuwakot, Morang, Dolakha, Ramechhap, Solukhumbu, Udaipur. However, the volume of production in these districts is relatively low. The graphic depicts the plantation area and orthodox tea production in Nepal. Presently, there are 20 tea factories with gardens in Nepal. Among them, 16 Cooperatives with Mini Tea Processing Units operate there. Fifteen bought-leaf factories are exclusively relying on green tea leaf supplies by small tea farmers, all of which are established in Ilam (NTCDB, 2069). All tea estate-owned tea factories purchase green tea leaves from local tea farmers in the neighbourhood, except NTDC Ltd. in Kanyam.

CHAPTER TWO

REVIEW OF THE LITERATURE

The previous studies on this subject will be reviewed in this section. One of the initial steps in the research process is a review of the associated literature. It is a summary of the findings of previous research on directly and indirectly relevant topics. This review informs researchers about what is already known and what needs to be tested about the research topic. It guides the researcher to avoid duplication and provides valuable suggestions for further research. As a result, reviewing the literature is essential to all research. There is a lot of literature on tea cultivation because Nepalese and foreigners have conducted studies on tea.

Many studies on Ilam's orthodox tea have previously been undertaken. It helps the researcher to specify the intellectual tradition derived from the study of the topic. This literature review aims to identify research gaps and focus on the subject. Therefore, this chapter reviews the research about the tea industry that many academics have done both in Nepal and outside.

Two sections have been created for the literature review: Conceptual review and Empirical review. Under conceptual review, related books, dissertations, reports, and journal articles have been reviewed and discussed with specific remarks. Similarly, various types of research carried out on the tea plantation, production, and its processing mechanisms from the national and international contexts have been briefly reviewed as the empirical review of the study.

2.1 Conceptual Review

One of the most consumed beverages worldwide is tea. It has a refreshing, slightly bitter, and astringent flavour. A member of the Theaceae family and the Camellia genus, the tea plant (Camellia Sinesis) is a perennial plant. Camellia species

are found throughout East Asia, extending from Nepal to Taiwan and Japan (Origin of Tea, n.d.) Tea is the most extensively distributed of these varieties. Its wild variant covers 2400 km in width (east to west) and 2000 km in length (from north to south). The Camellia genus contains 82 recognized species and 16 more whose status is incompletely known. Twelve sections were generated from the identified species (Sealy, 1958). The tea plant and four other species were included in the section (C. aliensis, C. pubicosta, C. irrawadiensis, and C. gracilipes). There is only one species of the tea plant, C. Sinensis. Two types of C. Sinensis exist Sinensis and Assamica. C. Sinensis VR. Sinesis is the Chinese type, with tiny leaves and a bushy appearance. With towering trees and large foliage, Assamica is known as the Assame type. Despite alterations, these species still have the same number of chromosomes (2n=20), and there is a slight variation in the chromosomes' nuclear kinds (karyotypes). A cross between species that results in seeds is simple to achieve in this species (Japanese Tea Organization, n.d.).

The technical aspects of tea processing are reviewed by Strauss (2016) in his study “A tea and caffeine”. He described the various ways green tea leaves can be processed and how the processing method affects the quality of the resulting beverage. He also examined the issue of tea consumption concerning caffeine content. Caffeine in 200 to 300 milligrams per day is generally not dangerous. Caffeine in big doses might make you irritated, anxious, and restless. Another important facet of caffeine is that it is passed from mother to baby through breast milk. Per cup, black tea has 30 to 60 mg of caffeine. The "decaffeination method" removes caffeine from tea leaves. According to the author, the ideal method is carbon dioxide (CO2) decaffeination because it preserves the integrity of the tea leaf.

In his essay "The Marketing of Indian Tea," George looked into the evolution of the Indian tea marketing system. He also examined the features of domestic demand and export performance as part of this research. Manufactured tea exports are the foundation of the industry. The two leading exporters are India and Sri Lanka. India is also the country that consumes the most tea worldwide. In George's opinion, the two phases of tea marketing are primary and retail. The primary marketing channels are as follows:

1. A forward contract or direct export,
2. Ex-garden sale,
3. Auction method.

The ability to disseminate significant volumes, increased competition, and improved grading make the auction system the most important of these three channels. The British were significant Indian tea consumers, and George's analysis of the decline of Indian tea auction prices shows that they were a major factor in price setting. He noted that once Kenya and Sri Lanka gained their independence, British attention turned to other African nations, and as a result, auction prices in India decreased.

In his paper titled "Tea Exports Regaining Lost Markets," Krishnan (2017) concluded that tea has become less competitive in the export market due to changes in consumption patterns, rising production costs, and higher prices. Two strategies to increase Indian exports include tea importation for re-export and tea blending with imported tea. The Tea Board of India has been involved in this effort.

Krishna (2015b) argues with the Tea Board's policy of purchasing inferior tea for local use while exporting superior Indian tea in his essay "Tea Import Affects Small Growers." The tea board has been implementing several strategies to increase

tea production. Input optimization and enhanced agricultural techniques are two short-term strategies. Medium-term techniques include irrigation and drainage, rejuvenation, pruning (removing dead or overgrown branches or stems from a tree or bush), and infilling. Replanting and extension planting are long-term solutions.

The method of manufacture is traditionally used to classify tea.

Yellow tea: Tea that has been allowed to oxidize and turn yellow. Unflavoured and oxidized

Green tea: The oxidation process is terminated after a minimal amount of oxidation, although heat is still used in the production of green tea.

Oolong tea: Yellow, brushed, and somewhat oxidized. Oolong tea undergoes oxidation for two to three days, making it a semi-fermented tea.

Black tea/Red tea: This variety has been fully oxidized and crushed. In order to produce black tea, tea leaves must oxidize. In South Asia, black tea is the most popular variety.

Post-Fermentation: This type of green tea has undergone post-fermentation fermentation and composting.

White Tea: Tea that hasn't been oxidized or wilted is known as white tea. White tea can be more expensive than tea from the same plant but processed differently since it is produced in fewer quantities than most other types. Fewer people are familiar with it outside of China.

The production and selling of tea directly by tea estates, factories, small producers, packagers, and marketers are included in the tea industry. The National Tea Policy of 2000 specifies that tea cultivation, industry registration, and ownership of a processing plant on the property for which a land concession has been given are all essential components of the tea industry. Despite having a more than 150-year

history, Nepal's tea growing truly only started to take off in the 1960s with the establishment of NTDC Ltd.

Two different teas are generally produced in Nepal. One type of tea made in the mountainous region is orthodox tea. Comparably, tea produced in the Terai (plain region), particularly in the Jhapa district, is referred to as CTC tea. Traditional leaf tea with a pleasant scent and a mild liquid is known as orthodox tea. Orthodox tea is a Chinese variety of tea. The majority of tea drinkers all around the world frequently use CTC, which is curled-leaf tea that produces a strong brew with no aroma. The Plain area of Jhapa is the only district in Nepal that produces CTC tea. Several traditional teas may be in Nepal, including STGFOP I, FTGFOP I, TGFOP, GFOP, FOP, OP, BOP, and P.

2.2 Historical Review

The Chinese Emperor, Shen Nung, is credited with discovering tea in 2737 BC. He noticed the leaves from a branch of firewood falling into the boiling water imparted a sweet aroma. The leaves were from a wild tea tree (Muralidharan, 1991).

Sealy (1958) estimated that the tea plant originated in the Chinese Yunnan province, although this has yet to be proved.

It was first discovered in India in 1835 and later in Thailand and Burma that the variant Assamica of C. Sinensinenesis exists in a wild form. The history of tea began around 5,000 years ago, before the Christian period, in ancient China. Shen Nong was a former monarch who was also a scholar, a herbalist, and, in his later years, God's Agriculture. According to legend, Nong prepared drinking water for the evening meal while sitting under a tree on a warm day. Tree leaves that dropped into the kettle and turned brown. The new liquid attracted the Emperor's interest, and he drank some. He found it to be wonderfully refreshing, and thus tea was born. This information was

passed down from person to person. According to Indian legend, Buddha was the first man to consume tea. When Buddha became tired after seven years of restless thought, he selected a few leaves from a nearby bush, clicked them, and felt his fatigue vanish. The plant in the bush was a wild tea plant.

The first book on tea service, "Dooyau," was written in Emperor Senperio's (59 B.C.) old Kamera. Kien Lung, who detailed the medical function of the tea plant and its preparation in the fourth century, wrote the first reference to tea. Later, Buddhists spread tea to both Japan and European nations through traders. And today, tea has become the most popular beverage in the entire world. Scientific studies on the health benefits of green tea have recently attracted attention.

Tea was first mentioned in a Chinese dictionary in 350 BC. The word 'tea' comes from the Amoy language, whereas cha comes from Cantonese. China was the sole source of tea until the 12th century when Japan began to cultivate tea plants obtained from China. In 1600 AD, this plant was introduced into Indonesia. The hill tribes of Assam (India) were believed to have cultivated this plant for a long time. Meanwhile, large-scale tea planting began in India in the nineteenth century (Muralidharan, 1991).

In 1863, Mr. Gajaraj Thapa, the Chief District Administrator of Ilam District, the "Badahakim" of Ilam, started the first tea plantation in Nepal. Thapa utilized the seedlings of tea which were gifted to him from China (Federation of Nepal Chamber of Commerce and Industry [FNCCI], 2005). The taste and the enthralling beauty of Darjeeling's tea estates are said to have wholly swept him away. He then compelled villagers to labour on the tea crop while bringing in technicians from Darjeeling. His work was continued in 1865 with tea planting in Ilam and Soktim.

As a result, Ilam was the first area where the government planted tea. Contrarily, the tea industry did not see continuous growth and stayed unchanged for more than a century. It didn't really begin to take off until the NTDC was founded in 1966. The NTDC initiated the out-growers (small farmers) tea plantation scheme in 1978 with the ODA (Overseas Development Administration) assistance, putting many small farmers to work. The private sector began growing tea at the beginning of the 1960s. The first was Budhkaran Tea Estate in Jhapa (1960). Tea plantations in the highlands by the private sector began only in the mid-1980s. The government in Nepal largely controlled the tea industry until the early 1990s. Three new plantations were built, and seven factories were run between 1985 and 1999, a substantial expansion in this industry. In 1985, the HMG/N designated tea zones. Additionally, HMG/N made an effort to divest its tea fields and factories from the government-run NTDC in 1997.

NTDC, the only government-owned firm, has had substantial financial and administrative issues while contributing considerably to the tea crop's development. As a result, NTDC was later leased to the private sector in 2000. Triveni Group was granted control of NTDC for 50 years in exchange for keeping all employees in their current positions and terminating all employees under a voluntary retirement program in exchange for an additional two months' income as a golden handshake (NTCDB,2067).

In addition to these governmental and commercial plantations, when the NTDC created the Kanyam Tea Estate, local farmers started cultivating tea in the neighbouring villages of Kanyam and Ilam. Tea cultivation at the small farmer level gradually increased in additional districts, including Panchthar, Jhapa, Terhathum, and Dhankuta, due to NTDC's encouragement and technical assistance. Due to the

Eastern Region's strong possibilities for tea production, the government named these five districts 'Tea Zones' in 1982 and set up a favourable policy to encourage tea producers in the commercial sector. The program's features were a simple loan from the Agricultural Development Bank of Nepal (ADB/N) with a 50 percent interest subsidy for the first five years in Terai and seven years in hills, an exemption from the land ceiling for growing tea, and a 90percent refund on land tax.

Small farmers' offices were built under NTDC in the districts of Ilam (Fikkal, Manglabare, and Jasbire); Panchathar (Chilingden); Terhathum (Solma), and Dhankuta (Hile). All of these efforts aided in expanding tea cultivation, giving rise to the notion of BLFs. The first such processing centre was created in 1989 in Fikkal, Ilam district. BLFs play an important function in controlling the mechanism of price determination and tea quality. BLFs do not have tea plantations and rely on local farmers for green leaves to make tea. Several BLFs have jumped up in Eastern Nepal.

Currently, tea is grown on over 16700 hectares of land to produce Orthodox and CTC tea in Nepal. About 8100 small tea growers work on Nepal's 134 tea estates. More than 16.2 million kg of tea is processed in 15 orthodox and 25 CTC tea factories (NTCDB, 2011). Approximately 11percent more land is being used for tea growing per year. Eighty-five percent of tea is currently produced by 8100 small farmers who provide a living for their 40920 (each family has five members) family members. In 2008, Nepal had a 0.35 kilogram per capita tea consumption (NTCDB, 2011). In Eastern Terai and the Hills, the tea industry has an enormous opportunity to expand. Nepal has a huge potential for organic tea farming at the same time. Thousands of hectares of virgin soil haven't been contaminated by chemical fertilizers and are ideal for growing tea.

We can cultivate tea of comparable quality and flavour because the Eastern Himalayas of Nepal have agro-climatic features similar to those of Indian tea-growing places like Darjeeling. Over time, as the tea industry is developing in Nepal, it has been found that many organizations related to tea are being established. The government-founded NTDC was the first substantially contribute to the sector's growth before privatizing it in 2000. Like all these, the Out Growers Scheme (OGS), implemented by the NTDC in 1978 and 1979, contributed significantly to the expansion of tea plantations among small farmers. NTCDB is an important institution in the tea sector.

Tea has become a need of daily life in Nepal since it is consumed by everyone, from the wealthiest members of society to the poorest. We respect tea for its variety of positive effects on human value and its value as a lucrative cash crop and popular beverage. Tea has social value because when we offer someone a cup, we express our feelings of hospitality. The acquisition and maintenance of foreign money, environmental protection, employment creation, infrastructure development, migration prevention, human resource capacity development, and health benefits as a beverage can all be summed up as the importance of tea.

2.3 Review of the Past Studies

Genetically improved planting materials that differ in yield and quality are now available. In the last 44 years, 30 TV series clones, 135 TRA garden series clones, 11 tackleocklai bi-clone seed stocks have been released, and about 100 industrial clones have. However, it is vital to implement a sound policy in the selection of plant materials in order to meet the rising demand for quality and productivity. Since clones are specific for their growing requirements and with a narrow genetic base than the seed stock, each stage should have its policy of selecting cultivators meeting the

quality and productivity requirements in that growing condition. He explains that an estate should use a minimum of 5–6 clones and that no single clone should occupy more than 10% of the overall land. Clones can be chosen based on their compatibility with blending during processing and suitability for CTC/orthodox production. He adds that when selecting cultivators for estate planting, a blend of standard, yield, and quality cultivators in the ratio of 50:30:20 may be used (Singh & Chakravartee, 1955).

The researchers emphasized that extensive research at Tocklai enabled them to identify specific areas that required ongoing attention in order to increase output by 133 percent during the 1950s and 1990s. The benefits of tea research are only available to a sector segment that accounts for around 75% of the tea area and provides approximately 85% of North East India's production. The Tea Research Association estimates that the difference in productivity between members and nonmembers is 56%. (Singh and Chakravartee, 1955).

Similarly, Herler (1964) has comprehensively introduced given a comprehensive introduction to most aspects of tea planting. In his work, he discusses the plantation of the tea plant, its origin, and its history. Similarly, he has described tea from a rural perspective. He has also written a book about the production of tea, which is quite interesting.

Additionally, Sarkar (1973) researched tea with a focus on its economic aspects. This book offers up-to-date statistics on tea production around the world, making it a crucial resource from an economics standpoint.

In a similar vein, Gautam (1973) studied the expansion of the tea area in Nepal in the context of consumption patterns, population growth rates, tea area at present and the prospect of increasing increase production and productivity, and direct and indirect benefits from investment in the tea production sector in his project report.

Similarly, he reviewed the patterns of each crop, including tea, in the second chapter. Finally, he offered some suggestions for the growth of cash crop production in the nation.

For his work titled "Profiles of Tea," Goradia (2016) conducted a Strengths, Weaknesses, Opportunity, and Threats (SWOT) analysis of the Indian tea sector. He claims that the benefits of tea include its energizing effects from the caffeine it contains, its economic worth, and its self-sufficiency as an agro-industry, with India being the primary consumer. The drawbacks include weather changes, high production costs, quality fluctuations, labour intensiveness, and a long gestation time. The domestic market offers a strong base for sophisticated products like instant, cold, and fruit-blended teas. Tea and coffee can be substituted for one other, which was another alternative. The threats were sustained price drops and an unjustified increase in production costs.

The study also examined tea tasting, auctions, research, and marketing.

Goradia offers a distinct picture of plantation technology for expansion. He asserted that plantation technology was a combination of industry and agriculture. In the tea sector, economies of scale existed, and this aspect hampered tiny fanners from conducting production, manufacturing, and marketing research and worker training.

Eden (1976) has given the significant developments made in Tea Culture and manufacturing, including the principles of tea production. This research is scientific. This book explains the methods used in planting and managing tea bushes systematically. This book is informative. People interested in tea can get a good deal of information from his book in simple language.

A joint team of experts from the Ministry of Foreign Development, UK, the Industrial Services Center of Nepal, and Nepal's ADB conducted a detailed study of

the tea industry in 1976. The study report covers almost all aspects of the tea industry, such as tea cultivation, production, marketing, consumption, financial analysis, economic analysis, management, and program of our producer planning. It also discusses agro-climatic conditions, market trends, prospects, and plans for tea area extension.

The yield per hectare is favourably connected with the size of the tea estates, according to the National Council of Applied Economic Research (NCAER). This study found that 41 percent of the total estate in the Darjeeling hills has areas of more than 200 hectares and has comparatively high productivity. But it has not been pulled down by the low productivity of the estates having less than 50 hectares. These estates are found to be generating under great diseconomies of scale. Similarly, according to the techno-economic survey of the Darjeeling tea industry by NCAER, the number of disputes and man-days lost in the selected estates during the whole period from 1968-69 to 1972-73 were 38 and 1, 16,316 respectively. During the same period, the estates in Terai selected estates of Terai has 14 disputes and 1, 21,468 man-days lost. The survey by NCAER has not given any analysis of disputes that occurred, total loss of wage, and production in terms of monetary values (NCAER, 1977).

Joshi (1978) studied the tea industry in Nepal and discovered in his thesis that an increase in per capita income positively affected tea consumption. Barbora at .el. (1981) conducted an experimental investigation to shed more light on this issue and came to the conclusion that by enhancing cultural practices and management, young tea may be implemented earlier. More crops can be harvested in the early years. Tea bushes have a long but limited span of life. Apart from genetics and the environment, good maintenance is another aspect that influences the lifespan of tea bushes. Tea

plants need three years from planting to produce tea leaves. Currently, several estates have tea bushes that are several hundred years old.

UNCTAD (1982) published a paper on “The Marketing and Processing of Tea” that explored the possibility of increasing tea export from the countries by making some improvements and changes in how tea is marketed and processed before export. It is suggested mechanisms in small-scale tea farms to raise the value-added areas for tea cultivation, processing, marketing, and distribution of tea.

According to research by Koirala (1983), the area planted with tea over the past 20 years has grown significantly. As a result, both its production and consumption have considerably increased. He has stated repeatedly that the populace is becoming more upbeat and paying closer attention to the tea plantation. It seems that Nepal is likely to reach the goal of self-sufficiency before 2000.

Bista (1985) has concluded that supply variation of the necessary raw material was a common problem of agro-based industries. Without proper coordination between sugarcane farmers and sugar mills, the bulk of sugarcane was lost in storage, especially at a good harvest time. The loss in recovery due to various reasons had often discouraged the farmers from growing sugarcane from the next year. Further, the low quality of sugarcane was regarded as one of the problems faced by Sugar and KhandsariMills. There had not been serious thought from the concerned agencies to improve the quality of sugarcane so that the farmers were encouraged to cultivate it.

According to Kansakar (1985), the effective advisory service is one of the primary causes of the poor tea output and the glacially slow expansion of tea plantations in Nepal. He calls this factor "the essential cause of low yield of Nepalese tea." He claims that tea cultivation impacts internal migrations due to job opportunities.

Sarkar (1986) has concluded that Indian planters have roles to play in the development of Darjeeling. Historically, Darjeeling did not develop without the tea industry. In the future also, it cannot develop without it.

There has been alleged that labourers are partly responsible for the growing sickness Darjeeling tea industry and that low labour productivity makes the tea garden unprofitable. He added cultivation labour cost of roughly 31.3 percent in 1978, 31.8 percent in 1979, and 29.7 percent in 1980. It shows that the propaganda of tea garden owners is entirely wrong. The labour cost in dealing over the period and head office expenses are increasing (Dasgupta, 1986).

Sarkar (1986) has found the distribution of labour days for permanent and casual labour among various field operations in Darjeeling hills. Plucking constitutes the single largest component of all categories of permanent labour. The ranking of pruning is next to plucking as far as total man-days worked; weed control gets the next weightage concerning man-days worked. Plucking is the most significant assignment for the casual labour force in the hills. Their counter parts in the permanent labour force account for a little less than 70 percent. The portions of children and adolescent workers, permanent and casual, are mainly engaged in plucking.

Pradhan and Sarkar (1986) found that a comprehensive social security system for tea plantations can increase employment, reduce absenteeism, increase productivity, enhance efficiency and skill and lead to a stable workforce. They have further added that increased income is only possible in the long run by rising productivity in tea gardens. In this respect, if the well-managed tea gardens can operate the social security system meaningfully and efficiently, it would incentivise greater work effort. Because the per-capita income and social security have a positive

relationship, and the income consequences of compulsory deductions encourage more labour.

Reddy (1991) studied the market trends for tea and came to the conclusion that while domestic demand has been rising at a rate of 4.9% annually in nations that produce tea, global output has been expanding at a compound rate of 3.7% annually. In 1988, tea-producing countries accounted for 65 percent of total consumption. As a result, worldwide tea demand surpasses global supply. Tea exports from India have also been expanding at a 4.3 percent annual rate.

Tea marketing in India is divided into two stages: primary and secondary. The main disposal techniques include public auctions, direct exports or forward contracts, and ex-garden sales. The most important of these auctions, South Indian tea, is mainly intended for export. Domestic auctions offer more excellent price stability and escalation. According to the field survey, domestic auctions are preferable. The price differential between auction and retail is substantial. Auction prices for India and Sri Lanka have been dropping because British buyers like Kenyan tea, which is produced under their supervision. The price of tea has been most negatively impacted in South India, and price differences are no longer seasonal. The analysis showed that Kerala has higher production costs and price declines than other South Indian states.

One of the choices for improvement is to replant unprofitable shrubs. The growers want government assistance and subsidies for the tea industry. They claim that growing tea is extremely expensive. The cost of revitalization, infillings, fertilizer, weed and pesticide control, transportation, labour, taxes, and other expenses is high. An increase in labour costs is stated to be the main cost-increasing factor. Both the Tea Board's and the National Bank for Agriculture and Rural Development's (NABARD) aid is viewed as being ineffective.

Raman (1991) examined tea marketing channels by assessing the AVT premium tea marketing system. In India, it is challenging to distribute and market tea due to the remote locations of the industrial tea plantations. Both loose tea and tea in a packet are sold in the market. The market for loose tea is expanding because it offers consumers more flexibility and is less expensive than packet tea. However, the benefit of package tea is that the blend ensures the same flavour. Three levels can be used to categorize marketing channels. The goods are put up for auction at the first level, and wholesalers attend to bid. The tea is distributed by wholesalers to sub-sellers and retailers at the second level, either in bags or loose. At the third level, consumers receive tea from retailers. Tea is distributed to customers at the third level by retailers. Many industries that operate on tea plantations package and market their goods.

According to Vishwas and Chakravorty (1992), using balanced fertilizers on tea plants is crucial in raising output. They discovered that in order to increase productivity levels, a balanced amount of NPK must be applied annually. It takes between 100 and 140 kg/ha of nitrogen, 20 to 50 kg/ha of phosphate, and 80 to 140 kg/ha of potash to sustain a yield of roughly 23 quintals per hectare throughout various places. During a three-year trial on a tea plantation in NEE India, Sinha et al. (1992) discovered a significant rise in the application of elemental sulfur (20–40 kg/ha). They recommended using sulfur as a common fertilizer ingredient, mainly when SOA (ammonium sulfate) is not administered.

To continue the plucking round throughout the peak harvest season, which also happens to be a time when there are typically few pluckers available, to control plucker expenses, to provide mechanical help to boost plucker productivity, to harvest increased yield economically, and to do other things, Borbora et al. (1994) prioritized mechanical plucking, in order to sustain the tea industry's long-term viability. The

maximal quality improvement can be demonstrated by utilizing a clone that ferments quickly and harvesting an increasing proportion of "two-and-a-bud" shoots during rapid growth. However, even in medium or low fermenting clones, equivalent amounts of "three-and-a-bud" and "two-and-a-bud" shoots yield throughout the early and mid-seasons. To optimize output while reducing quality loss, increase the quantity of "three-and-a-bud" shoots taken in the late season.

Asha (1993) studied the potential exportability of Indian tea. His study focused on the exportability of agricultural products, using tea as an example, and considered the potential for domestic market expansion due to increased population pressure. The growing domestic market and other competitive nations compete with Indian tea exports. As a result, the domestic price of tea is rising.

Krishna (1995a) investigated the Indian tea export market. He remarked that whereas Indian tea production has increased by 1.5 percent per year, total export volume has decreased. There were fewer imports from CIS countries, Iran, Egypt, and Saudi Arabia, which contributed to this decline in exports. Due to increased production and price competitiveness, Sri Lanka has emerged as a global tea market player.

Sundaram also studies the export of tea (1995). He pointed out that in 1992, India's tea industry experienced a crisis due to falling prices, exports, and production. India's share of global exports has been decreasing. Expanding production requires increasing plant productivity because extensive cultivation has a limited geographic range. In India, the vast majority of tea bushes are no longer lucrative. Small gardens can be managed scientifically, obsolete parts can be replanted, and other measures can be taken to increase productivity. Strong quality control must accompany the

introduction of branded products for both domestic and international marketing to be successful.

Mahanta (2012) asserts that tea growers in Assam don't pay much attention to marketing because there is always a market for their products. However, due to an oversupply of tea versus demand, the market strategy has moved from seller to buyer. He recommended that the Tea Board and the State Government enhance the e-auction system, the online pricing system, the development of additional infrastructure for tea research, the adoption of new technology by tea growers, and the appropriate action be taken by the Tea Board and the State Government to raise awareness of tea cultivation through seminars.

Thapa (2008) compares and contrasts the tea industry of India and Nepal. North-East India, which has a 25-fold greater tea industry and a three-fold higher tea yield than Nepal, is the nearest rival for Nepalese tea. North East India's combined productivity is estimated at 1652 kg per acre and 698 kg per worker. Even though Nepal has a comparative productivity advantage over Darjeeling tea, competing with India is a major issue, and the differences are significant.

Das (1989) has found that sugarcane is a prominent cash crop in Nepal, mainly grown in the Terai region due to suitable climate, soil conditions, and availability of irrigation facilities. With the increase in population and urbanization, as well as the increasing habit of drinking tea, the domestic consumption of sugar is also increasing fast. The total sugar production capacity of all the sugar mills is inadequate to meet even the current domestic consumption of sugar in the country. Existing transport facilities in all the sugar mills areas are inadequate, and the procurement system is inefficient (e.g., the late announcement of purchase prices). The return for sugarcane as against the cost of production appeared to be high, but compared with other

competitive crops, it is hardly beneficial. Farmers are, therefore, very reluctant to grow sugarcane despite the high prices being paid by sugar mills. He found that Nepal, at the interval, had been exporting sugarcane to border sugar mills of India; at the same time, Nepal had been importing sugar from India and overseas countries quite frequently.

In order to meet corporate goals, Stanton (1994) defined marketing as "a whole system of commercial activities aimed to plan, price, advertise, and distribute demand-satisfying commodities to target markets." According to Stanton, the planning, pricing, promotion, and distribution of products to target markets that meet customer wants are all part of the marketing management system. The activities are carried out in order to achieve the organizational goals or objectives.

On the benefits of drinking tea, Jain (1995) also focuses. Based on findings from the annual meeting of the American Association for Cancer Research, he claims that drinking tea assists in cancer prevention.

The government's ongoing goals and strategies prioritize promoting agro-based sectors like tea and coffee. Tea processing and plantation were prioritized in the ninth five-year plan (1996-2001). The strategy acknowledged that the country's development was built on agro-based industries. In accordance with the plan (NPC, 2001): "The growth of the agro-industrial business will be given priority, forward and backward linkages will be made easier, and a network of integrated industrial businesses will be established. The plan called for this network to serve as the foundation for the industrialization of the entire nation." The Ninth Plan prioritized the planting of premium orthodox tea for export.

The promotion of CTC tea, primarily for domestic use, has also been given top priority. During the planning stage, 6982.92 bighas (4564 ha) were expected to make

up the entire tea plantation (4564 ha). A 1000 ha area would be converted to tea cultivation over the plan period, with a projected 3156 ha total tea output yielding 4101 m.ton of tea. The estimated addition of a new plantation of 1000 ha from the ninth plan has already been surpassed.

Shrestha (1999) defines it as "the execution of individual and organizational activities targeted at enabling and speeding exchanges within a system of dynamic environmental pressures for meeting customer, organizational, and social goals." He recognizes that marketing involves efforts aimed at facilitating and accelerating exchanges. An individual, a group of people, or an organization within a set of dynamic environmental influences carry out individual and organizational action. Other authors have presented similar points of view.

According to Pride and Ferrel (1985), marketing is developing, distributing, promoting, and pricing commodities, services, and ideas in a dynamic context.

Sharma (1999) cites the expansion and significance of small producers in South Asian nations like Nepal as one of the beneficial trends in the tea industry.

Small growers are small farmers without processing facilities who have tea plantations below the land ceiling frame. Small growers are those farmers that cultivate tea on their private property with an area of up to 25 Bighas (16.66 ha.) in Terai and up to 350 Ropanies in the hills. Small farmers are defined as plantations with 8.09 hectares (20 acres) or less of land by the Indian Tea Board. However, the terminology does encompass gardens up to 50 hectares in size without a processing unit.

A marketing information system (MIS), according to Kotler (1999), comprises people, equipment, and procedures that acquire, sort, analyze, evaluate, and deliver needed, timely, and correct information to marketing decision-makers. The twenty-

first century is the age of the information revolution, and with the help of information, one can analyze market opportunities and threats better. The marketing information system provides price, advertising, sales, competition, and distribution. MIS gathers critical information from various sources, analyzes and synthesizes it, and distributes it to marketing decision-makers. The MIS's responsibility is to identify the manager's information needs, produce the necessary information, and deliver it on time. Internal company records, marketing intelligence efforts, marketing research, and marketing decision support analyses are used to generate the data.

The entire amount that a specific consumer group would spend on a product in a particular location, at a particular time, in a particular marketing environment, and as part of a particular marketing program is what is known as the market demand for that product (Kotler, 1999). Thus, market demand is a function of several factors like market area, period, market environment, and marketing mix. Marketing decisions are mainly based on estimates of demand or sales of the product in a defined market area in a specific period. Demand forecasts are the basis for every organization's production, workforce, and financial planning. The size of the demand denotes the size of the market (Koirala, 2000).

Rai (2001) examined tea production's private and public sectors of tea production in his dissertation. He discovered that both sectors play a major role in tea consumption and export and that the private sector is more active in Nepal than the public sector.

Sanyashi (2001) has written about every element of the tea industry, including tea cultivation, manufacture, marketing, consumption, financial analysis, economic analysis, and management. It also deals with agro-climatic conditions, market trends, prospects, and plants for the expansion of the tea area.

Sharma (2001) asserts that due to geographical considerations, tea is a significant source of foreign currency and the cornerstone of the nation's overall prosperity. But, fair export duties are not specified. Thus, export promotion is negatively affected. The export duty must be calculated based on the percentage of green tea per kg. In contrast to the current monopoly price of tea processing factories, price determination should be based on a competitive market price. Exportable tea should be free from local taxes, which will help lower prices in the international market. Also, the study suggests implementing a supervision system in packed tea.

Whittle's report covers the situation of tea growers in Nepal, current extension and research provisions, and areas for training. The studies finding support the establishment of the 'Tea Development Foundation' as an independent trust for the development and expansion of the Nepalese tea sector, with the foundation providing training services to small farmers (Whittle, 2003).

Daimari studied the Upper Brahmaputra Valley's tea gardens in 2003. He looked at the relationship between labour productivity and land use and found that it is negatively correlated with labour intensity. High labour productivity is found where there is little or no labour intensity. He found that the quantity of tea produced is not distributed equally throughout the different product categories of gardens in the different agroecological zones. In virtually every agroecological zone, groups with very low land productivity (0-2500 kg/ha) account for about 64% of total production. Only 7.6% of the overall production volume falls under the extremely high category of land productivity (above 10,000 kg/ha). He found that the physical qualities of the tea gardens influenced both the distributional patterns of land productivity and labour productivity.

Chettri (2003), Analyzed the study's overall goal to learn about the challenges that tea farmers in the Ilam area face in selling their tea, reveal the root causes, and assess the study's possibilities. And the specific goals are to identify the role that various agencies play in marketing Ilam tea and to explain the expansion of tea plantations in Ilam. Studying the future market potential for Ilam tea is another research objective.

According to the data, he says growers in the tea industry are having financial difficultiegrowers in the tea industry are having financial difficulties. Ilam tea is of excellent quality and has a promising future. In light of these considerations, the study suggests the following for tea growers:

Tea growers must be organized appropriately to maximize production and the potential market. National and international market research is necessary. Tea growers must be instructed to use chemical fertilizers, compost, organic manure, pesticides, etc. The current variety of tea plants can be improved by genetic engineering. The proper engineering methods must be learned.

Tea growers can band together to promote Ilam tea as a brand name for identification. The initiative of the tea growers can help to overcome the transportation issue. Tea growers can aggressively promote Ilam tea.

Shrestha (2004) concluded that some of the steps for the growth of tea in Nepal should be implemented. These are infrastructure development, classification of a small farmer with debt cancellation, worldwide marketing for excess in the global market, conducting research for quality tea, reducing the cost expenditure, working for quality tea, and priority for the required workforce development.

Upreti (1985) concluded his study to know the green tea leaves marketing of Jhapa by analyzing the pattern and trend of tea leaves production and the possibilities

of expansion and development of tea. He further points out that it could b the major area of income and employment generation, which helps to earn foreign currency.

Dharmasena (2003) determined that the Indian markets are not inefficient. However, it is impossible to distinguish prices from random walk behaviour in any non-Indian marketplace. These later marketplaces are inefficient as they stand right now. Further research is being undertaken on these latter markets to discover whether the information is transferred between them. Vector autoregressions (VARs) on non-Indian markets are investigated using directed acyclic graphs, impulse response functions, and approaches for prediction error decomposition. Price leaders in real-time for both series priced in local currency and those priced in USD are the Sri Lankan and Indonesian markets. Kenya is an information minefield. At the moment, it is endogenous. While Malawi is an exogenous price leader in dollar terms, it is an endogenous price leader in local currency in real time. Indonesia, Sri Lanka, and Malawi are in the first rank in terms of long-term pricing. Kenya, Indonesia, and Malawi have regularly outperformed other countries regarding pricing in the local currency category. We assess the predictive power of the VAR models using Theil's U-statistic. They found that random walk forecasts outperform VAR-generated estimates for most markets in either dollars or local currency. This second finding demonstrates the inefficiency and partial efficiency of non-Indian markets.

According to Thapa (2006), the prospects for tea cultivation in Nepal are infinite. Nepal's geographical setting and climate are ideal for producing orthodox tea, and the demand for tea is growing daily in the global market. The government, manufacturing, and marketing all provide significant difficulties in the tea industry. It concludes that there should be a commitment to Nepal's tea growth.

South Asia Watch on Trade, Economics, and Environment [SAWTEE] (2006) carried out a study to assess the consequences of the tea industry on poverty. According to the research, tea is a cash crop with consistent global demand, similar to coffee. Due to the climate and hilly terrain of Nepal, tea has the potential to help a significant section of the rural population and lift them out of poverty and stagnation. Trade liberalization policies implemented in the early 1990s encouraged growth in Nepal's tea sector. Businessmen and entrepreneurs have built some tea estates after the state monopoly was abolished in 1993. Due to the demand for orthodox tea and its higher price than other traditional crops, small farmers have been drawn to planting tea. These results are exciting because they demonstrate how much this cash crop is helping Nepalese farmers have another option outside their usual, low-yield subsistence farming.

Tamang (2007) has studied trends, problems, and prospects of tea cultivation; he concluded that it yields more profit comparatively than other farming. **Amlisobari, Khet, Jungle, and Cardamom** farms are also used for tea cultivation. Tea cultivation has given more employment to the local people. More labour is required for plantation, harvesting, and cutting. The male and female are both engaged in tea cultivation. Tea cultivation is comparatively more popular than cereal crops. He further added instability in the price of tea is a common nature of its market. Up to now, the Nepalese market has been unsystematic, unorganized, and limited. Therefore, farmers are facing many problems. Government and non-government sectors are trying to make the tea market, its price, quality, and cultivation stable by the code of conduct.

Chhetri (2007) discovered that environmental conditions influence pest population visiting patterns. According to the observation, the tea plant's pest

population rose due to the maximum temperature rise. Similarly, as the temperature dropped, so did the number of pest arthropods. The growth or decline of the pest population is also greatly influenced by rainfall. The pest population decreases when it rains a lot.

Additionally, the "age effect" of the plant helps manages pest infestation in tea bushes. More insect attacks will occur on elder plants. It is advised that hand-picking be used to control bug larvae. The cultivation of a resistant type of tea plant and the use of bio-control agents are also advised. Other cultural measures, including sanitation and timely pruning, are also encouraged. Since clean tea plant maintenance promotes aestivation, hibernation, and other biological processes, it is crucial for lowering the pest population. Organic tea production should be encouraged due to its strong demand on the world market and its hygienic nature.

According to Rai (2008), professional competency in human resource management has not yet been attained in Nepal. Human resource management in the Nepalese tea business, which has been researched in this article, is just an administrative role from an organizational standpoint. Due to the absence of a personnel policy, a dedicated personnel department, and personnel programs, the Labour Act and Regulations, as they apply to tea plantations, were used to resolve employee-related issues.

Personal connections, recommendations from family and friends, and unstructured interviews are still the most common methods of recruiting. Training and development for workers/employees are ad hoc, irregular activities. The government's minimum wage determines salary levels on tea estates. The pay for tea workers varies from one tea plantation to the next and is often less than that of government and public employees. The current state of labour relations is not stable. The time has

come to enter the global market, according to a report on market intelligence and international standards for tea and pashmina, as Nepal is already self-sufficient in CTC tea, and about 90% of orthodox tea is sold to other nations.

In order to make the desired profit from the tea company, the relevant stakeholders must now investigate new marketing techniques and ways to join the global market. However, Nepalese tea exports account for only approximately 0.2 percent of global tea exports. Nepalese tea has previously entered various high-growth areas, and there is significant room for growth in the global market (Nepal Chamber of Commerce, 2008).

Baten, Kamil, and Haque (2009) examined a stochastic production function for panel data to understand how technical inefficiencies affected the outcomes. The inefficiency effects are assumed to be linear functions of the observable variables under the premise that they are independently distributed as truncations of normal distributions with constant variances. The Stochastic Frontier Analysis (SFA) method and panel data are used in this article to evaluate the production frontier and the effects of technical inefficiency on tea output. The results demonstrate that the Stochastic Frontier Cobb-Douglas Production Function is inferior to the Stochastic Frontier Translog Production Function. The null hypothesis that inefficiency effects are neither stochastic nor dependent on factors particular to labour or observation time is rejected in light of these results. This study also shows a negative relationship between yield and size.

Hicks (2009) conducted research on the status quo and projected expansion of worldwide tea production and tea products to pinpoint the key challenges facing the industry. It examines the production, consumption, and trade of tea and its impact on the world market for tea in its current state and the medium term. Several factors

influence global tea production, including weather, planted area, population, age of tea bushes, labour, capital, input price, and yield risk. The quality of the goods, the alternatives, and the compliments given, as well as the country's income, all affect global consumption.

According to Rimal (2009), there is more potential for export business due to the strong production trend for tea. The tea export trend has steadily gained traction. It reflects the growth of tea exports in the international market. Respondents identified Germany, the United States, Canada, Pakistan, Russia, and Japan as the top tea export destinations. Orthodox tea is the most prominent variety of exportable tea. In the years after the WTO, there has been fierce competition in the global market for Nepalese tea. The impact of the WTO on the Nepalese tea sector has been discussed by tea growers, processors, importers, and exporters. The bulk of Nepal's tea exports complies with the SPS, TR, Standards, and Safeguards rules of the WTO Agreement. Geographical Indication (GI) registration for Nepalese tea has become urgently necessary. Since there isn't a widely recognized national tea brand in Nepal, GI hasn't yet been adopted. Importers' tariff policies have not impacted the tea business in Nepal. He identified the absence of government support to reach the global market, the lack of innovative technology to compete with highly maintained quality, and a lack of testing facilities and technical people resources as the three major barriers. Instead of processing it in Nepal, India receives Nepali leaf tea. Additionally, the quality and process of producing tea in Nepal do not adhere to international standards. Our tea market has been disturbed by claims that Nepalese tea is heavily pesticide-treated. There is fierce competition in the local market between several CTC brands and other producing nations quickly developing to meet the worldwide standard. Scientific planting techniques should increase market size, improve productivity, and

provide direct access to the global market. Tea plantation expansion is not encouraged. The government hasn't provided enough funding or training for nurseries, and its policies haven't been well-defined or implemented. He further found the major opportunities in the tea industry as follows:

Establishing a research and training institution that can supply more modern clones and seed stock suitable for the Nepalese environment should be promoted because Nepal has a favourable climate.

An increasing trend is toward establishing green leaf production, and there is enough room in specified areas for expansion and new plantings. Banks are engaged in several operations, including the development of export insurance, the expansion of export financing, and the supply of factoring services. This industry is boosted by enhancing and developing regional and bilateral trade and transportation agreements with Bangladesh and India to enhance exports and cargo capabilities. New export markets can be developed as a part of market liberalization. Global demand for bio-organic tea has risen due to the availability of organically certified production sites on undeveloped land. Nepal's tea industry benefits from low labour costs, rural employment, and female empowerment (Rimal, 2009).

In order to familiarize them with these critical issues and improve the private sector's ability to overcome challenges and grasp opportunities in international trade, the Nepal Chambers of Commerce (2008) has placed a strong emphasis on the market intelligence and international standards of the two identified focal export industries, namely tea, and a pashmina. The following are the report's findings regarding the tea industry:

Production: The total amount of tea produced in Nepal has increased along with the growth of plantation lands. While orthodox tea is produced in the highlands

of the Ilam, Tehrathum, Panchthar, and Dhankuta districts in facilities that resemble Indian Darjeeling factories, CTC tea is produced in the Terai districts, particularly in the Jhapa district.

Taste and Preferences of Consumers: Therefore, the preference for tea among consumers may be largely attributed to the tradition of drinking tea based on the type and blending, eating customs, new technologies, and the development process of tea, and ultimately to the health information that consumers regarding tea have received. In countries like Nepal, India, and other South-East Asian countries, granular CTC tea is preferred since it yields a better colour in smaller volumes. The gentler, more delicate teas from higher altitudes are popular with the British. The blend's birthplaces, the United States and the United Kingdom, have seen an increase in demand for "Earl Grey Tea." One sign of changing lifestyles is the use of handy tea packets. New technology and process development have enabled it to fulfill and respond to these changing consumer expectations. For instance, iced tea in cans is already gaining popularity in the US and Europe, where consumers can still enjoy the cooling tea drink during the hot months. Similar to how different types of tea, such as fruit-flavoured tea, are becoming more popular in Europe to improve consumer attention. While "Foamy" tea is popular in Taiwan, herbal tea is popular in China, the USA, Japan, and Thailand.

Export: More than 60 percent of CTC and 90 percent of Nepalese orthodox tea are sent to India. Both orthodox and CTC-producing regions export a sizable amount of green leaves. Both in terms of value and volume, Nepalese tea exports are rising. Germany currently has the biggest market for Nepal tea, followed by Pakistan, the United Arab Emirates, the Czech Republic, France, and Japan.

Tariff: Even though there are no tariff advantages in these markets, Nepal enjoys generally advantageous market access conditions in all areas, particularly market openness. Except for Russia, all significant markets are open to Nepal. Russia has a relatively high conditional tariff of 20% but no less than 0.8 Euros per kilogram.

Price: The average CIF import price differs significantly between countries, ranging from US dollar 3.0 per kg in Russia (for black tea in packages under 3 kg) to US dollar 12 per kg in Norway and US dollar 13 per kg in Finland. This suggests a significant opportunity for value addition. Orthodox teas are more expensive, especially when promoted similarly to how India markets its Darjeeling teas. Nevertheless, it is impossible to pinpoint the precise location and operation of orthodox tea market.

Packaging: Cheaper grades are commonly packaged in polyethene and polypropylene plastic bags. Higher-grade CTC tea is packaged in laminated paperboard bags with internal aluminium lines. Leaf grades like SFTGFOP and TGFOP are frequently transported for orthodox teas in tea chests. Paper sacks with a valved mouth are used for packaging the medium and smaller leaf grades. Western customers prefer and demand paper sacks as a packaging option, even for leaf teas.

Market Channel: Typically, the Tea Board of the relevant nations establishes the framework for both domestic consumption and exportation. In practically all the major producing nations where the auction market is active, tea was initially traded through this market. The well-known tea auction markets are Limba in Malawi, Chittagong in Bangladesh, and Kolkota in India. There is a legal requirement that most majority of the tea sold in India be transacted through the auction market. The Colombo Auction market sells more than 90 percent of the volume generated in Sri

Lanka. Given that the price is locked in and the payment is paid on time, this type of sale is simple.

London-based auction houses are the oldest and most crucial tea auction houses globally. In recent years, direct selling through various procedures has also been used without participating in auction markets. Ex Garden sales are frequently utilized to facilitate easy market access for producers, exporters, importers, processors, and packaging firms. The packers and blenders directly import the manufactured tea.

Quality, Grading, and Standard of Tea: Tea is categorized into four primary groups: leaf, broken, fanning, and dust. Each group has a different quality, grading, and standard. And within these four groups, the grades are separated according to their size. There are five primary grades of orthodox tea and eight main grades of CTC tea in Nepal.

In his concept paper on the analysis of the Nepalese tea industry vision 2020, Thapa (2005) suggested that one of the major issues is creating the image/and identity of Nepalese tea by pursuing brand marketing in the global market. This entails promptly and effectively identifying and resolving issues in both the domestic and global markets. Nepali Tea is undoubtedly a lesser-known product on the global export market. Nepal tea has thus yet only made small-scale sales to a few countries. This variety of tea, however, has a sizable market. Nepalese tea has a bright future if it is promoted methodically and consistently. To promote and advertise the orthodox and CTC teas, Nepal tea awareness campaigns in tea-importing nations are necessary, as are brand-building operations. Our marketing strategy should center on this. Through ongoing brand development, Nepal tea can enter new markets. For this, we should take the following actions:

i. A marketing or advertising effort that aims to bring together sellers, buyers, and consumers in a mutually beneficial way.

ii. Designing and publishing visually appealing websites.

iii. A delegation of Nepalese tea producers traveled to present their products in Australia, the Middle East, Japan, the USA, the UK, and Germany, among other nations.

iv. A promotional kit containing free samples of tea to be given to tourists from Nepal.

v. Participating in trade shows and food festivals.

vi. To generate publicity and organize seminars/conventions in Kathmandu.

vii. Collaboration with tea groups and bodies in major importing nations.

Kamau (2008) came to the conclusion that peak yields happen 20–40 years after planting, after which there is a decline that could cause plantations to decay and become unprofitable. Although several theories have been put forth in the past, it is still not entirely apparent what is causing this degeneration. He has disclosed details about how tea plants age in relation to productivity and resource use that were previously unknown. Clonal cultivars, grown at high plant population densities, and improvements in agronomic techniques increased yields in Kenya's smallholder sector. In contrast, the estate plantations sector's productivity trend deteriorated as a result of aging tea plantations based on seedling genotype and low plant population densities. The sources of the observed trends were determined to be agronomic methods, ecological factors, soil fertility indices, and genotype features. However, as tea estates age, the aforementioned characteristics could not directly affect productivity due to technological advancements in agronomic practices like machine pruning.

According to this study, the seedling bushes that are 76 years old are still growing and in good health. Similar to this, the study demonstrated that soils could continue to function during tea plantings with the use of suitable agronomic techniques. It is important further explore the indicators and criteria of tea bush degradation to serve as a diagnostic tool for judgments on uprooting and replanting. Genotype, Environment, and Management (GEM) links should be examined holistically in studies on tea plantation productivity. Numerous biotic stressors (drought, cold, and unbalanced nutrition) linked to climate change and unfavourable soil conditions also need further study. The aim of ongoing studies on the allopathic interactions between soil and crop in degraded tea fields is to understand the mechanisms that limit the growth of newly planted tea in old tea lands and may provide strategies for detoxifying any potentially hazardous compounds that may be at fault. The degradation of tea may be caused by soil-borne pathogens, which should be isolated, screened, and identified.

The economic security of millions of Kenyans is at risk due to the destruction of tea trees. It is crucial to comprehend the causes, effects, and opportunities. Therefore, sharing knowledge about how tea ecosystems work should be a major goal in collaboration with all stakeholders (managers, researchers, farmers, policymakers, and extension agents) (Kamau, 2008).

Ipinmortiat et al. (2009) claim that tea (Camellia sinensis), which costs less than other drinks, is the beverage of choice for more than 80 percent of Nigeria's 145 million residents. The tea plant was planted using cuttings at a 1.0 m × 0.6 m area and treated with or without fertilizer on a 24 m by 10 m fallow plot that had previously been utilized for maize (Zea mays) farming. NPK 25:5:5 (reference fertilizer), cocoa husk, cow dung, tea fluff, and chicken droppings were applied to the tea cuttings as

manures. At Kusuku (6O 501 N; 11O 071 E), Nigeria, manure-urea mixtures with a 3:1 N-content ratio as organic minerals were used in a regulated manner (no fertilizer), and growth performance was studied for two years. The organic-based fertilizers beat the reference fertilizer (NPK 25:5:5) and the control in all growth parameters.

The organo-minerals produced taller, thicker plants, with more leaves and more branches, in their first year of growth compared to those treated with manures, but in the second year, the manure-treated plants had higher values. This pattern was related to the first year's faster release of nutrients from the organominerals and the second year's more beneficial decomposition of the manures for the tea plants. Organominerals, on the other hand, were more cost-effective in producing optimal tea production at the lowest cost in the area, according to comparative cost studies.

Karki et al. (2011) investigated the factors influencing the conversion of Nepalese tea farms to organic farming. In Nepal, however, the transition to organic farming has progressed more slowly than intended. The study investigates the factors that affect the switch to organic agriculture using Nepalese tea growers as a case study. In the Ilam and Panchthar districts of Nepal, a survey of 181 farmers was conducted, of whom 95 were conventional farmers and 86 were organic farmers. According to the estimated discriminant function, farmers with larger farms, who have larger farms, are farther away from local markets, are older, better trained, connected to institutions, and have more education are more likely to practice organic farming. Similar to this, a factor analysis shows that the main influences on farmers' decisions to switch to organic farming are environmental awareness, promising market prospects, observable financial advantage, and health consciousness.

Arya (2013) showed that Assam Tea had lost its market competitiveness due to price increases. Over the last few years, the tea sector has faced challenges since land for tea plantations has not risen significantly, despite a massive increase in labour in tea gardens. The industry requires transformation through low costs, the absorption of small estates, and cooperative management.

Sarkar (2013) identified the components that influence the price formation mechanism of Indian tea. More than half of all sales in the country are conducted through auctions. There is a considerable disparity between wholesale and retail pricing, and auction buying is frequently more fragmented. Southern tea producers are more dependent on auctions as a key marketing channel. Within a year, there is also a noticeable seasonality in tea prices. The unit export price is one element that explains the variation in auction prices. Higher export prices enhance the ability of sellers to negotiate at an auction. Due to the fact that increased export volume drives up domestic prices and decreases local availability, it also affects how auction prices are formed. The average price realized at auction is negatively correlated with the quantity sold, and the number of lots offered, even if the latter is strongly correlated with the former.

According to Hazarika and Borah (2013), the possibilities of small tea cultivation as a source of self-employment in Assam are encouraging. They concluded that small tea farmers' private initiatives would promote an entrepreneurial spirit in Assam, which is vital to the state's development. Entrepreneurs are a country's backbone. Establishing small production units would give the state's youth fertile chances for self-expression while also boosting their material well-being. In Assam, the younger generation is dissatisfied because they are unsure whether their education, abilities, and talents will be adequately exploited. Thus, encouraging these youths to

engage in small/medium-scale tea planting would strengthen the rural economy's backbone while reducing public unrest. This first-generation entrepreneur will serve as a model for the coming generations.

Both the British and people from outside the state (Assam) benefited economically from the tea industry before and after independence. The growth of the tea industry did not fully benefit the indigenous population. Assam's tea industry might be compared to a paradise in a desert. The first generation of tea growers in Assam represents a revolutionary step toward creating a new social structure. The Assamese people would gain dignity from this. Small-scale tea farmers in Assam's rural districts have led a peaceful economic revolution that has helped them combat unemployment and save the environment. Therefore support must come from all sides to maintain this socioeconomic revolution.

The limitations faced by small farmers in Tamil Nadu's Nilgiris District were observed by Kavitha et al.(2014). The investigation came to the conclusion that tea is the most popular beverage worldwide. Every day, 3.5 billion cups of tea are consumed worldwide. Before tea became a popular beverage, it was known for its medicinal properties. One of the most significant non-alcoholic beverages, tea is well-liked for its stimulating qualities. In India, tea is the preferred beverage in every single home. Finding the motivations for cultivating tea in the Nilgiris is easier by studying the issues and opportunities facing small tea growers there.

The report also identified challenges faced by Nilgiris tea growers. Tea growers face various issues, including a lack of cooperation, an inability to obtain loans, and a lack of transportation options. The study also produced several recommendations for enhancing tea output by small tea farmers. Small tea farmers should implement numerous reforms to lower production costs and increase worker productivity. To

increase awareness of the superiority of Indian tea, it is advised to launch some promotional initiatives. Value-added goods may also be promoted abroad.

Black tea production costs were explored by Nath and Dutta (2015) with a number of variables. They noticed that the main factors affecting overall productivity are labour and material productivity. Among the variables that influence tea production, energy and welfare also play a significant influence. Labour and material costs can be somewhat minimized or managed.

Government, exporters, processors, and farmers who grow tea varieties must work together to improve the industry. All parties are harmed equally by a break in production, processing, export, and communication activities. Therefore, for the chain to generate synergistic effects, operations must be transparent and involve as many small farmers as possible. In an era of business globalization, where most people are small farmers and development activities are valuable in laying the groundwork for the commercialization of agriculture, the role of government as a facilitator is crucial.

The abovementioned books, dissertations, papers, and articles reveal that systematic methods and knowledge regarding farming, production, and marketing have been studied. But, previous studies have given less information about tea production and its market mechanism in Nepal.

2.4 The World Tea Economy

Reddy (1991) examines the world market trend for tea. He claimed that domestic consumption in the producing nations expanded at an annual rate of 4.9 percent and that the increase in world output was a 3.7 percent compound annual growth rate. Sixty-five percent of the world's tea was consumed in tea-producing nations in 1988. There is a discrepancy between the global supply and demand for tea.

This trend is not just seen in India. India has experienced a 4.3 percent average yearly growth in tea exports.

An overview of the world's tea business is given by Sarkar (1912), focusing on the distribution of plantation sizes, trends in tea consumption, trade agreements, supply responses, demand and supply fluctuations, and a few policy suggestions. Comparing Chinese tea plantations to those in Japan and Taiwan, he noted that they are far larger. His research on per capita consumption reveals that there hasn't been much of a rise in line with population growth. The majority of the tea plantation industry is geared toward exports, and It's noteworthy that the majority crop producing nations only consume a small portion of the total harvest, and what little they consume is of lower quality and has no export value. The analysis of supply and demand demonstrates that the supply of tea is not sensitive to changes in price. Supply, demand, price instability, and cyclical swings are brought on by the expected income and price elasticity, which are discovered to be relatively low. Tea supply responds to price changes slowly, which causes instability. The historical examination of international tea rules led researchers to conclude that such agreements cannot stabilize tea marketing. Sarkar provides several long-term strategies for the tea industry's rationalization through increased productivity and decreased costs. It is important to advance technology and utilize good manufacturing practices to their full potential. It has been recognized that labor costs are extremely expensive, and replacing labour with equipment is one approach to reduce costs and take advantage of economies of scale. He advises combining small, unprofitable units with more significant ones. The development of the tea plantation sector also requires the rationalization of charges and taxes on equipment used in the tea industry and the creation of social overheads.

A detailed description of the Kenyan tea estate is presented by Haridas (1998). One of Kenya's primary industries and sources of wealth is tea, which large commercial firms have dominated. The Kenya Tea Development Authority owns 57,700 hectares of tea-growing land57,700 hectares of tea-growing land is owned by the Kenya Tea Development Authority. In Kenya, both overall output and yield levels have been rising. Small growers are becoming more widespread. A Tea Board represents the industry, and a Tea Research Foundation manages research-related activities.

Lisinenko looked at the expansion of the tea plantations in the former United Soviet Socialist Republic (USSR) (1988). Tea cultivation began in the USSR in 1833. After the First World War, the USSR's tea industry grew quickly: by 1973, 75,000 tonnes of tea had been produced nationwide. With 152,000 tons, output reached its maximum point in 1985. However, since 1985, production has sharply decreased as a result of political reform, generally known as "perestroika." Then they started importing tea from other nations, and as a result of the collapse of the USSR, both the import and the people's purchasing power decreased. By 1995, the Commonwealth of Independent States (CIS) market had stabilized. The Russian market is challenging, with multiple layers and an upper layer of Moscow and Saint-Petersburg. Inadequate banking infrastructure, highway robbery, underdeveloped transportation infrastructure, and other issues with tea marketing in Russia have caused foreign companies to leave the country.

2.5 Indian Tea Industry

Manoharan (1974) uses production, consumption, export, and share market data to analyze the issues facing the Indian tea sector. After paying close attention to how

the tea industry developed, he noticed that exports of Indian tea had significantly increased in the 1950s and that India was leading the world in tea export.

India lost its dominance as the world's top exporter to Sri Lanka in the 1960s. According to his analysis of the share market, the low rate of profit caused by the business's dropping share value and rising production costs had hampered the tea industry. He proposed various policy reforms for raising production, lowering prices, and rationalizing the tax structure to support the Indian tea sector. Replanting can boost productivity when combined with advanced technologies in farming.

An effective marketing strategy must be implemented to stabilize the market. It is possible to encourage exports without reducing domestic demand. Manoharan points out that small farmers may join together to form cooperatives to benefit from economies of scale.

In order to determine the strengths, weaknesses, opportunities, and threats facing the Indian tea industry, Goradia (1979) performed a SWOT analysis. He asserts that the advantages of tea include its high level of caffeine, which makes it a stimulating beverage, its profitability, its sustainability as an agroindustry, and the fact that the biggest consumer of tea in the world is India. The disadvantages include reliance on the whims of the weather, high production costs, erratic quality, labour intensiveness, and prolonged gestation times.

There are opportunities in the home market, which provides a solid base for high-end goods, including instant, cold, and fruit-mixed teas. Another benefit is that coffee and tea can be consumed in equal amounts. Prolonged price declines and an excessive increase in production costs are the threats. The study also covers several dimensions of tea, including marketing, auctions, research, and tea tasting. Goradia provides a thorough overview of plantation technologies for expansion. He claims that

plantation technology combines industrial and agricultural practices. Economies of scale exist in the tea sector, discouraging small producers from researching production, manufacturing, and marketing, as well as worker training.

2.6 Supply-demand Analysis in Tea

Supply response studies are crucial in formulating agricultural strategies. Most perennial products, like tea, do well on the export market; as a result, supply-demand imbalances in the global market system will harm the countries producing them.

In 1994, Chiranjeevi conducted a study on the supply-demand analysis of the Indian tea industry. The objectives of the study include examining how Indian tea growers make micro-level decisions, contrasting and comparing the reactions of diverse tea-producing locations in India, figuring out how age influences judgments about the area and output, and learning how planters manage risk. He estimated a discrepancy between the domestic demand for tea, which was expanding on average by 4.3 percentage points yearly, and the output, which only increased by 2.5 percent annually.

2.7 Percentage Per-annum

The age-yield correlation revealed that the yield per bush rises by the eleventh year, peaks between 20 and 30 years later, and then begin to fall. The age groups of 11 to 20 years had an overall positive impact on yield per hectare, according to the yield responses to the price and age aspects at three different levels of aggregation, namely the state, regional, and national. Age groups between 21 and 30 seem to have a beneficial influence, whereas those between 31 and 40 seem to have a negative influence. Chiranjeevi (1994) asserts that replacement and replanting in North and South India are more price-sensitive than new plantings.

A national and regional econometric study of the Indian tea business was carried out by Misra (1986). He used a decomposition methodology to analyze growth trends. The study examined regional patterns, as well as output and productivity. Three criteria were used to categorize the increase in the output: area effect, yield effect, and combined effect. Between 1956 and 1982, production rose by 252 million kg; an increase in productivity accounted for 12 percent of that increase; an expansion in the area accounted for 18 percent of that increase; and a combined effect accounted for 10 percent of that increase. In addition, between 1961 and 1982, he worked to understand the supply-response dynamics of tea in West Bengal's Terai, Dooars, and Darjeeling regions. His research revealed that the yield exhibited positive price elasticity in the short-term response behaviour and that the elasticity magnitudes varied widely. All the areas and size classes taken into account showed a positive yield response to price increases with significant variation in elasticity estimates.

2.8 Harvesting and Processing of Tea

In-depth information about the drying, processing, and potential by-products of beans and leaves is provided by Ashby (1977). The book also details how to grow tea, including planting, caring for, producing, and controlling pests. Research and development efforts are made in India to create technologies for tea plants.

The advancements made by UPASI in this area are described by Muralidharan (1998). They have created two versions of plucking machines in addition to two varieties of skiffing (pruning) equipment. The machines have a few shortcomings, including their weight, excessive heating, loudness, and issues with technical support and spare parts.

An essential part of the tea plantation industry is harvesting. Picking leaves makes up about 60% of the field and 20% of the manufacturing costs (Hudson, 1998).

The length of time between plucks a determining factor. Shear harvesting may be used during the growing season. In mature fields, alternate row lane plucking will raise the average plucking rate. A 40-inch-high pruned bush is OK. The development of human resources is also crucial. The suggested measures include employee and supervisor awards, annual performance reviews, and motivational training.

Shear harvesting is described in depth, as well as its benefits, by Hudson (1997b). He asserts that shear harvesting will lower the need for labour and raise the average number of plucks. Research on the West Bengal tea plantation industry was done by Sarkar and Bhownik (1988), with an emphasis on the representation of female employees in trade unions. They discovered that women are underrepresented in union activities. In their opinion, the main causes are inequality, poor literacy rates, a lack of political consciousness, and the weight of household responsibilities.

Raman(1986) looked into the socioeconomic circumstances of the South Indian tea plantation labourers. In the past, colonization helped to create the plantation system in India. Workers on plantations had very low living standards in the early years. The researcher notes that they were poorly housed, poorly nourished, and poorly handled. The Plantation Labour Act of 1951 was passed due to the labourers' ongoing protests since independence. Raman also looked at the labour market. Permanent and temporary employees are both available in Tamil Nadu and Kerala. But in Karnataka, there are a contract and casual workers in addition to these permanent and temporary employees. The researcher emphasized the significant productivity of female employees, which is a crucial component. Poor housing and insufficient water supply are the working conditions.

Nair (1989) investigated the socioeconomic circumstances of the Ponmudi tea estate's workers. In this section, he developed a case study to highlight the condition

of factory workers. The only reason the workers remain at the factory is that they are without a choice. As a result of their unemployment, they are essentially living in poverty.

Sen and George (1982) and George (1982) both examined the issues with South Indian tea plantations, notably the crises that the sector experienced in the 1970s (1992). They have found that there are developmental and economic problems. These studies concentrated on the factors influencing the degree of investment, long-term financing, and development strategy, and the causes of the increase in the cost of production, pricing, and profitability of the tea sector. Additionally, they have addressed the unique characteristics of industrial, export, and agro-climatic factors.

Along with growth patterns, socioeconomic conditions that prevailed in these regions throughout the British era, as contrasted to later times, were also looked at. They examined how the current marketing structure was created, production trends, structural modifications to South Indian tea farms, and the distinguishing characteristics of the plantation workers.

Karnataka, Kerala, and Tamil Nadu are three states, George (1982) used a stratified random sampling method to collect data from 148 large estates and 94 small growers. Thus, it was determined that insufficient government support, growing costs, declining or constant prices, a decrease in domestic demand, structural changes in the management system, and rising costs were the main causes of crises during the 1970s. In addition to cost increases, an unfavourable taxation system and introduction of new producers have impacted the tea sector. Another problem is the poor rate of output growth compared to the increase in domestic tea consumption. For instance, George (1982) stated that while output has been increasing at a rate of 3.5 percent

annually, domestic demand has been growing at a pace of 5 percent on average each year.

The majority of ID tea farms remained unproductive due to a lack of development activities. The shifting patterns of ownership may be one cause of the worsening circumstances of the South Indian tea plantation business. Over time, the tea industry's ownership structure evolved from propriety to partnership partnerships to public limited companies. The British Managing Agencies had complete control over its tea plantations before achieving independence. But in 1970, the Indian government ended the controlling agency structure when the country gained independence. Then some British businesses relocated to East Africa, while others partnered with Indian finance. In India, there are two stages to marketing tea: primary and retail. The three main disposal routes are ex-garden sales, direct exports or forward contracts, and public auctions. South Indian tea is primarily focused on export. Domestic auctions have more reliability and price escalation. The field survey reveals an overwhelming preference for domestic auctions.

The difference between the auction prices and the retail pricing is relatively large. British consumers' preference for Kenyan tea has decreased in the auction prices for Sri Lankan and Indian tea. The price variations have grown on seasonal, and South Indian tea prices have been the hardest affected. In comparison to other South Indian states, the investigation revealed that Kerala had a higher manufacturing cost and a faster rate of the price drop.

Replanting unprofitable shrubs is one of the suggested improvements. Tea industry producers demand more government funding and subsidies. They think it costs a lot of money to grow tea. These expenses—rejuvenation, infillings, pesticide, weedkiller, fertilizer consumption, transportation, labour, and other costs—are rather

pricey. An increase in labour expenditures is cited as the primary cost-increasing factor. Aid from the Tea Board and the National Bank for Agri-culture and Rural Development (NABARD) is deemed insufficient.

The historical development of plantations in Travancore was analyzed by Baak (1992). Unlike Ceylon, Assam, or Bengal, where the processes began in 18205, the 1830s, and 18405, respectively, Travancore saw the formation of plantations much later. Back points out that the plantations were established with the Colonial Administration's political clout and that the Madras Government was the conduit through which the British government pressured Travancore in 1860. The majority of the initial expenditure went toward building roads. The plantations were owned by the British, and underdeveloped areas provided the labour. Profit during the colonial era left the country since ownership remained with the British. The construction of transportation, communication, and infrastructure facilities, as well as increased economic activity and employment opportunities, are all benefits of the expansion of plantations.

According to Radhakrishnan (1997), Kerala's Wayanadu District has room to expand its tea production. The district had an average production of 2300 kg/hectare in 1997. A prolonged drought is one of the main elements affecting productivity in this situation. Radhakrishnan recommended boosting yield; planters consider replanting, rejuvenating, trimming, infilling, and tree shade before planting. Prunings can be buried to boost the organic matter in the soil. According to the author, by including these components, the district's tea output can increase by 25 percent to 30 percent.

In order to research the distribution channels for the tea sector, Raman (1991) looked at the marketing strategy of AVT Premium Tea. Due to the remote locations of

the industrial tea plantations in India, the distribution and marketing of tea can be challenging. Both loose tea and tea in a packet are sold in the market. Because loose tea is more flexible for consumers and less expensive than packet tea, its market is expanding. However, the benefit of packet tea is that it blends to create a consistent flavour. Three tiers can be used to categorize the marketing channels. The goods are put up for auction at the first level, and wholesalers are invited to bid.

Venugopal (1992) conducted a market analysis of Harrisons Malayalam Limited's packet teas in Calicut city. Retailers and local residents are surveyed for information on consumer preferences and the effectiveness of advertising. According to the study, middle-class customers consume the most tea, while middle- and high-class consumers prefer packet tea. Kanan Devan had the best marketing performance among the branded teas.

We may conclude from the review above that tea plantation plays a significant role in global economic activities. The universally stimulating beverage tea has both advantages and disadvantages.

According to a literature review, there has always been an imbalance between supply and demand in the global market, which has seen variations. A similar pattern is seen in the Nepalese market, where there is little correlation between tea supply, demand, and price. Developing countries produce high-quality tea, export it, and consume low-quality tea. Globalization and trade liberalization has led to the discovery that tea-exporting countries are also importing and exporting the commodity. For export, they combine locally grown tea with tea from abroad.

Although it makes sense in theory, it will significantly impact practice quality control. The place of the plant's growth, the type of plant, the method of production, etc., all affect the quality of the tea. CTC and Orthodox tea products can often be

classified into two categories. While CTC tea enjoys great domestic demand, Orthodox tea enjoys considerable export demand. The tea plantation sector benefits greatly from economies of scale. It combines industry with agriculture (plantation). A factory in their estates is usually out of reach for small plantation owners. Even if they do, a factory may not be able to operate profitably with the raw leaves generated in small plantations. Due to its historical scale and skewed size distribution in favour of large enterprises, the tea industry is particularly large. Small planters have established their cooperative enterprises and begun processing tea leaves there. The labour-intensive nature of the tea industry is another distinguishing quality. Approximately 65 percent of the total cost of production is made up of labour expenses. In an effort to replace labour with machines, technical improvements are being made.

2.9 Research Gap

The detailed examination of earlier studies, particularly in Ilam, has revealed that most of the studies were conducted to look into the tea industry to the economic growth, plantation management system, problems in the cultivation of plantation crops, management and manufacturing practices, and cultivation practices. But, no specific study has been conducted to find out the real cause and consequence of taking up tea cultivation, extension, and organic conversion at the small farmer level. This is the research gap found in the earlier studies in Ilam. Thus, this study tries to analyze the influencing factors and motivational factors of tea extension and organic tea conversion in Ilam.

Supply and demand have always been out of balance in the global market, which has experienced oscillations. The Nepali market is showing a similar pattern. Tea leaf supply and demand are very little correlated with price. The two main categories of tea products are CTC and Orthodox. CTC tea is quite famous locally,

whereas Orthodox tea is trendy in the export market. This study also attempts to analyse the demand and supply side of green leaves. The study also attempts to identify the problems specific to small tea farmers in the district. It is clear from the literature review that not many studies have been conducted in relation to the Nepalese tea sector. Studies are wide and are related to marketing, socioeconomic relation, human resource, labour relation, and ecological and non-ecological factors related to production. Some researchers studied production and productivity on a small-scale basis of Ilam. Many research activities have already been conducted about the orthodox tea of Ilam. But, no research has been conducted till now on the case of small farmers in the Ilam district. This study's research gap is the absence of analytical studies on the productivity and output of green tea leaves in Ilam. As a result, the study attempts to identify new industry concerns and issues that might aid in correctly addressing them to the various policymakers.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

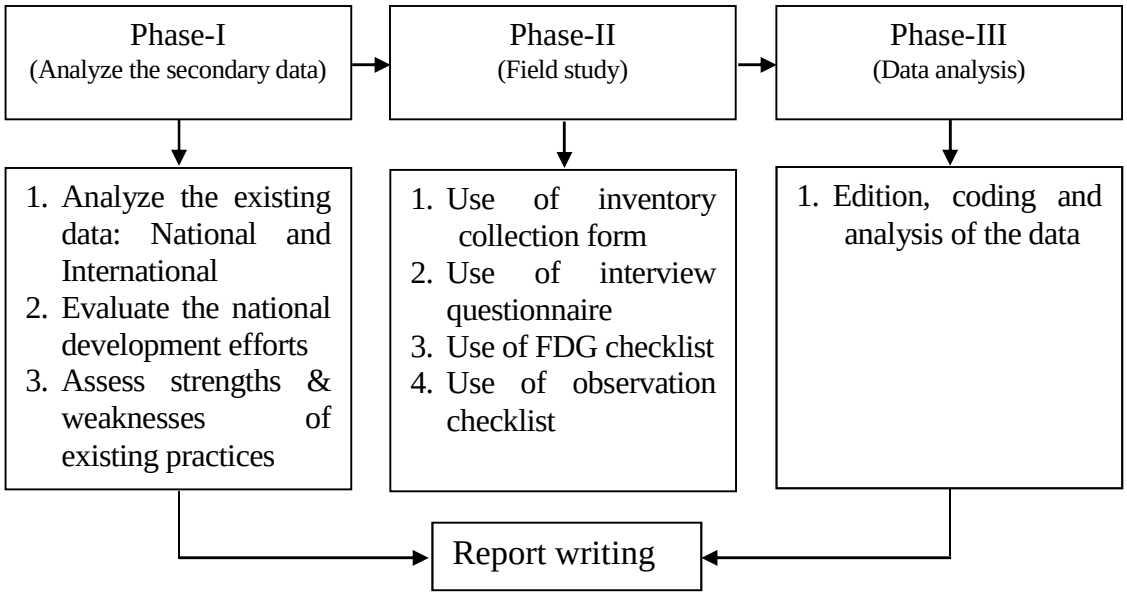
The exploratory design and archival research methodology are the foundation of this project. When doing analytical research, an archive research technique uses already-existing administrative records and data archives that range in age from more ancient to more recent documents (Kothari, 2004, pp. 35). Several archival records of tea cooperatives, the logbook of green leaf collection centers/factories/tea processors, and the office of tea extension programs are used for collecting data and verification. The case study design is also adopted to reach the targeted area, particularly the Ilam district. For this, factory and farmers' production and selling record data are also used in the selected area.

Similarly, secondary data from various sources were collected. For instance, administrative documents published by government agencies, NGOs, and local tea factories from the non-government sector were used. The majority of the information gathered from these sources was statistical data and information, including production, consumption, export, import area, and employment generation. Another method applied in this study is the 'Contact Strategy.' This study is conducted with tea experts and tea estate managers. Therefore, primary data was gathered using telephone, personal interviews, and email.

The research design of this study was analytical as well as descriptive in nature. Similarly, this study explores the problems, opportunities, threats, and weaknesses of tea cultivation, extension, production, and marketing. While qualitative data were assessed qualitatively or descriptively, quantitative data were examined using the Statistical Package for Social Science.

Research design is evolved into three distinct phases. The first phase is an analysis based on existing secondary data on the position of tea cultivation in Nepal and the world. In this phase, the secondary data were analyzed, which helped to clarify the issues of the concerned area. The second phase is planned as a series of intensive field studies using an inventory collection form, interview questionnaire, FDG checklist, and observation checklist. In the second stage of the study, a field investigation was done to gather information from the chosen location, both qualitative and quantitative (See Figure 3.1). In this phase, two clusters of tea extension programs in Ilam have been selected, namely the Mangalbare and Jasbire tea extension programs of the Ilam district (Annex-III).

Figure 3.1 Steps in Explanatory Case Study Design



Source: Author

The third phase is the most important phase of preparing a report. It is involved with editing, coding, and data analysis.

3.2 Data Source

Both primary and secondary data were used in this study and analysed.

3.2.1 Primary Source of Data

Primary data were obtained to understand the problems with tea production in Ilam. The respondents who manufacture and sell teas in the research area were the ones who provided the primary data. In order to gather data, a schedule for interviews was created (Appendix - II). The primary data sources are excellent for finding accurate information because they are typically gathered through interactions with various targeted groups. The main facts and statistics were gathered from a different person who was a representative of tea experts, promoters, and cooperative members who were either directly or indirectly connected to Nepal's tea sector. The estate managers and business owners of the chosen industries provided information. This data was utilized to analyze the issues businesses had with the key players and other significant stakeholders in the Nepalese tea industry. For instance, consultants, tea specialists, small-scale tea growers, and tea cooperatives were contacted and visited during the study.

For research, a sample survey was used in the study. For the empirical study, tea experts, promoters, and authorities of the tea cooperative were selected by using the judgmental sample technique. Among seven extension programs running in Nepal, two clusters of tea extension programs in Ilam have been selected, namely the Mangalbare and Jasbire tea extension programs of the Ilam district. The sample size of small farmers from two clusters (Chiya Bistar Aayojana) was 250, selected by using systematic random sampling.

To collect the necessary primary data, the researcher prepared an interview schedule. Before preparing the schedule, he made a comprehensive review of the literature directly and indirectly connected with the topic of the study. The researcher also discussed the concepts with the officials of the Tea Board of Nepal. The

variables to be studied have been identified by the researcher with the help of producers, farmers and the structure of tea markets functioning in the study area. The available literature in the area of the study has also been consulted. After deciding on the variables, the researcher started preparing the interview schedule. The interview schedule was revised and redrafted in light of their criticisms and suggestions put forth by them. The interview schedule was pretested with 30 sample farmers. The interview schedule was once again modified to incorporate all the pertinent suggestions given by them.

Inventory collection forms were used to collect overall data like farmers' names, area of tea plantation, and annual production and verified from the office of the tea extension program, different tea cooperatives, and green leaf collection centers.

3.2.2 Secondary Sources of Data

Information that has already been gathered for a different research topic but is still pertinent and valuable for the present one is known as secondary data. In order to gather the secondary data for this study, several institutions, including government departments, national and international organizations, and non-governmental organizations (NGOs) involved in the growth of Nepal's tea sector, made relevant materials available online for evaluation. Several websites for tea estates, the NTCDB Nepal publications and reports, HIMCOOP, HOTPA, CBS, TEPC, and other unpublished works such PhD theses, M. Phil. dissertations, and other research papers, books, and journal articles are among the sources of secondary data.

3.3 Data Collection Techniques

This data was acquired through a detailed survey of tea farmers in the Ilam district of eastern Nepal. For the investigation, a total of two sample clusters were visited. Face-to-face interviews were employed during January 2014 to February 2014

survey to collect all necessary data from small farmers and other sampled individuals. Additionally, tea specialists and cooperative leaders were contacted via telephone for a survey (communication) (Appendix III).

The Mangalbare and Jasbire tea expansion areas of NTCDB in the Ilam district were the focus of the research, which also included interviews with tea experts and several local tea farmers. Based on systematic random sampling, 250 small farmers were chosen for the study. First, records and background information about the farmers were gathered using an inventory collection form from the concerned cooperatives, the office of the tea extension programs, and the green leaf collection centers. Next, 250 farmers were chosen as a sample. Similarly, the judgmental sample technique was used to choose 36 key informants (tea specialists, consultants, and activists). Similarly12, small tea industries were also chosen for data collection. The current entrepreneurial status within the chosen small industries was examined. Information was gathered for this study using the tools indicated above.

Through a series of questionnaires, the perceptions of farmers—their attitudes and motivations—about organic and nonorganic farming were evaluated. Interviews with tea industry professionals and supporters of the Nepalese tea industry were also undertaken (Appendix IV). Interviews with specialists and promoters were conducted to get more and deeper insights into the problems with all types of tea farming. Interviews were conducted with 36 tea experts, promoters, and cooperative members to examine the difficulties and opportunities facing tea production and the market in Nepal. This way, 298 sample sizes were interviewed, including farmers, tea experts, and small tea industry holders, including farmers, tea experts, and small tea industry holders.

The narrative analysis approach was used to investigate the interviews. Narrative accounts compile sporadic information and explain why particular acts occurred, or specific interactions occurred by following informational paths and the phenomenon under examination (Richards, 1989). The technique was chosen because it can be due to its ability to comprehend how people think and perceive actions. The findings from the farmer interviews were supplemented with the information from the expert interviews. In a similar spirit, two focus group discussions (FGDs) were held to gather data and confirm the results (Annex-V). The sample size is limited to 298 in the current study because it was determined that this number is sufficient to draw relevant conclusions. Table 3.1 includes a list of the categories.

Table 3.1 Categories of Sample Sizes

Universe	Total Population	Sample HH	Remarks
1. Clusters			Cluster and Systematic
1.1 Mangalbare	1552	134	Random Sampling
1.2 Jasbire	1048	116	
2. Key informants (Tea experts, promoters, etc.)		36	Judgmental Sampling
3. Small tea factories (Registered)*	81	12	Judgmental Sampling
Total		298	

Source: Tea and coffee extension programme, Mangalbare, Jasbire, Fikkal,2014

Note: * There were 1459 cottage and small businesses registered in the Ilam district overall, of which 81 were engaged in tea production. Only around 40 cottages and small industries are manufacturing tea directly. Since the population of the study is large, judgmental and convenience sampling has been done.

It was chosen for the investigation utilizing random and judgemental sampling methods. The responders were picked via a random selection of numbers.

3.4 Statistical Analysis

Interviews with farmers were statistically analyzed using the Statistical Package for Social Sciences (SPSS). Simple descriptive statistics were used to analyze tea farmers' main characteristics. The collected primary and secondary data have been carefully examined, organized, and presented in an appropriate table to make analysis and interpretation easier. Analyses have been done both descriptively as well as statistically. Statistical tools such as percentages, bar diagrams, pie charts, central tendency, etc., have been used per the requirement and summarized as the major findings of the study. Various tables, figures, and graphs have been used to analyze, interpret and conclude the result of the study.

3.5 Delimitations of the Study

This study does not deal with the technical problems of Tea Producers in the study area. The other aspects of production, cultivation, agent, and mediators were not included in the study. Though the sample size of the sample unit was considerable in numbers, it could have been more. However, it reflected the producers' real view and helped the research to generalize the findings. Most of the farmers and producers do not have written records, and they were able to give approximate figures only from their experience. Planters are hesitant to provide information because they are unsure how to maintain the financial records of tea leaf output. Inaccurate information is hence probable.

Private manufacturing units are not ready to give their financial and other record information. Despite these restrictions, every effort has been taken to minimize their impact on the research findings and conclusions.

3.6 Chapter Scheme

The thesis has been organized into ten chapters. The first chapter, "Introduction," covers the context, statement of the problem, research questions, objectives and justification of the study, conceptual framework, and history and development of tea in Ilam Nepal.

The conceptual and empirical review of research work and research gaps in tea production and market mechanisms are covered in the second chapter, "Review of Literature." The Third chapter, 'Research Methodology,' includes research design, source of data, Construction of Tools, Sampling Design, Field Work and Data Collection, delimitations of the Study, and Chapter Scheme.

The Fourth chapter, entitled " Current Situation Of Nepalese Tea Industry, deals with Agriculture: Transferred into tea cultivation, Crops in Nepalese Agriculture, Scenarios of Global Tea Production, World demand, and supply, Nepalese tea production scenario, global tea production scenario, Nepali Tea in Global Position, Trend, Tea Estates and Small Tea Farmers.

The Fifth chapter, entitled "Comparative Analysis: Characteristics Of Tea Production In Ilam," deals with the tea extension program, Farmers' Tea Cooperatives, Types of Tea Production, and Organic Tea Production.

The Sixth chapter, "motivational factors influencing conversion to organic tea farming," deals with farmers' motivation for organic tea farming practices and the opinion of tea experts on motivational factors towards organic tea production also analyses. The Seventh chapter, titled "Factors Influencing Small Farmers' Participation in Tea Cultivation Expansion in Ilam," covers the factors influencing farmers to expand their tea farming in Ilam, the formation of tea cooperatives, and the factors influencing farmers to do so.

Chapter Eighth, "production and market mechanism of green tea leaves deals with Green Leaf Production, Quality Control, Green Tea Leaf Production Cycle, Small Tea Farm Productivity Analysis, Green Tea Leaf Marketing, Green Tea Leaf Pricing Method, and Green Tea Leaf Selling Method. Also, Tea tourism and rural development of Ilam, Specific potentials of tea tourism in Ilam, choice of tourist activities in tea plantations, problems of tea tourism in Ilam, tea factories, and cooperatives have been analyzed.

The Ninth chapter is entitled “prospects and problems of tea production in Ilam," in which Tea Industry and Rural Deveiopment, Prospects and Opportunities, Entrepreneurship of Small Tea Industries, An Overview of Sampled Tea Industries as Per Their Capacity and Employment, Problems of Entrepreneurship of Small Tea Factories in Ilam, Institutional Support, Entrepreneur’s Responses towards the Market of their Product, Problems Associated with Small/ mini Tea Factories in Ilam. Problems Faced by Small Holder Tea Farmers have been explained.

The Tenth chapter, entitled "findings, conclusion and scope for future research", is allotted for giving up the summation, suggestions, recommendations, and scope for future research for improving the performance of tea production and market mechanism in Ilam.

CHAPTER FOUR

CURRENT SITUATION OF THE NEPALESE TEA INDUSTRY

4.1 Agriculture: Transferred into Tea Cultivation

In Nepal, as in most developing nations, agriculture is crucial to supplying the majority of people with their basic requirements. In a developing nation like Nepal, farming is a way of life that has shaped the thought and outlooks of millions of people for centuries. 65.6 percent of people aged ten years and over are engaged in agriculture (CBS, 2013). In the fiscal year 2013–2014, the agriculture industry contributed 33.12 percent of GDP; this is anticipated to drop to 32.12 percent in 2014–2015. This industry's growth is predicted to be quite low at 1.85 percent at basic prices. (Ministry of Finance [MoF], 2015) For the past few years, the growth rate of the agriculture and tea industries has not been satisfying. The present situation of agriculture is discussed below under different subheadings.

4.1.1 Crops in Nepalese Agriculture

Crops are the source of income for the people and the basis of livelihood. Cereal crops have shown their leading position in the distribution of total cropped area. Oilseeds, tobacco, jute, sugarcane, and potatoes are among the major cash crops in Nepal.

4.1.1.1 Cereal Crops

Cereal crops have shown their leading position in the distribution of total cropped area in different census years in Nepal. Regarding the current trend of Nepal's main cereal crops, buckwheat output and area are increasing, but not those of paddy, maize, millet, and barley.

Table 4.1 Area and Production of Major Food Crops in Nepal

(A=Area in Hectare, P=Production in M.T.)

Major Cereal Crop		Fiscal Year				
		2009/10	2010/11	2011/12	2012/13	2013/14
Paddy	A	1481289	1496476	1531493	1420570	1486951
	P	4023823	4460278	5072248	4504503	5047047
Maize	A	875660	906253	871387	849635	928761
	P	1855184	2067522	2179414	1999010	2283222
Millet	A	268473	269820	278030	274350	271183
	P	299523	302691	315067	305588	304105
Buckwheat	A		10304	10339	10681	10510
	P		8841	10021	10056	10335
Wheat	A	731131	767499	765317	759843	754474
	P	1556539	1745811	1846142	1882220	1883147
Barley	A	26600	28461	27966	28989	28173
	P	27587	30240	34829.8	36973	34824

Source: Ministry of Agriculture [MoA], 2015

Besides the facts shown in the table above, it can be said that more land is used in paddy production, followed by maize and wheat. It is also seen that millet and barley are produced mainly in the hilly belt of Nepal. Nearly 60 percent of holdings in the hill belt produced some millet in 2013/14 (Table 4.1) (MoA, 2015).

Pulses in Nepal

Pulses are also exportable crops in Nepal. The available data shows that legumes (pulses) are popular in the fields of Nepalese farmers. Due to their popularity, the cropped area of legumes is seen to be increased in different census years.

Table 4.2 Area and production of pulses in Nepal (A = ha, P = M.T.

Major Pulses		Fiscal Year				
		2009/10	2010/11	2011/12	2012/13	2013/14
Lentil (Masuro)	A	187437	207590.7	207630.4	206522	205939.2
	P	151758	206869.3	208201	226931.4	226830.3
Chick Pea (Chana)	A	8647	9124.45	9154.23	9781.72	9340.56
	P	7065	8130.45	8191.6	9695.69	9380.36
Pigeon Pea(Rahar)	A	21296	17469.3	17471	17459.2	17005.6
	P	18648	14107	14082	16459	16415
Black gram (Mas)	A	33779	27518	27496	25227	23312
	P	26673	22530.3	22482.4	21363.6	19382.8
Grass Pea (Khesari)	A	5986	9213.3	9176.	11517	11495
	P	4453	8673.9	1 8670.6	13936	14103
Horse Gram	A	8000	7900.6	7866.7	6361.6	6232.8
	P	5532	5808	5855	5445	5662
soya bean	A	23943	29317	29281.8	24933.9	23757

	P	22042	28318.1	28269.8	29220.5	28237
Other	A	30383	26247.5	26246.5	31633.4	30644.4
	P	26186	23924.5	24017.5	33691.8	32817.1
Total	A	319471	334380.4	334322.9	333435.7	328737.5
	P	262357	318362.4	319769.8	356742.8	352472.5

Source: MoA, 2015

Legumes are such crops in Nepal today, which have occupied the second position in the area holding after cereal crops in the list of temporary crops.

4.1.1.2 Cereals and Pulse in Eastern Nepal

Cereals*:* In Ilam, the main cereal crops are maize, paddy, wheat, millet, and barley. According to information gleaned from published sources about the production of cereal crops in this district, maize has been the crop that has dominated the region, taking up the most hectares in both Ilam and Panchthar.

Table 4.3 Cereal Crops of Eastern Nepal (Ilam and Panchthar Districts)

(A=Area in Hectare, P=Production in M.T.)

Major Cereal Crop		Fiscal Year					
		2011/12		2012/13		2013/14	
		Panchthar	Ilam	Panchthar	Ilam	Panchthar	Ilam
Paddy	A	11500	14825	11300	14815	10322	14185
	P	23000	45690	22600	45185	30127	44966
Maize	A	12800	31460	8000	31480	18627	28200
	P	21760	77500	12240	78385	29931	69654

Millet	A	5000	3000	5000	3000	4805	3000
	P	9350	3000	9350	2670	9046	3000
Buckwheat	A	60	42	56	25	56	25
	P	28	20	36	17	36	20
Wheat	A	4000	4620	3995	4700	3120	4697
	P	7580	13398	7632	12960	6732	1235
Barley	A	494	55	460	55	450	50
	P	593	55	552	50	500	50

Source: MoA, 2015

4.1.1.3 Cash Crops of Nepal

Moore defines-"Cash crops are crops which are produced for sale, and not for consumption by the farmers and their families" (Moore, 1967). Monkhouse treats them as crops grown for sale and consumption by others. He has mentioned cocoa in Ghana, rubber in Malaysia, Sisal in Tanzania, and large-scale cereal farming in Canada as cash crops (Monkhouse, 1970).

The definition of cash crops varies in different countries. Rice is not treated like a cash crop in Burma, Thailand, and Nepal though it is produced in substantial quantities there and usually exported. Rice is grown on large farms on a commercial basis in the United States of America, particularly in the valley of California and Louisiana states and is treated like a cash crop. Based on the above views, cash crop does not refer to a particular set of crops.

In Nepal, oilseed, potato, tobacco, sugarcane, jute, cardamom, ginger, turmeric, onion, garlic, chilly, Tea, and coffee are important cash crops. Cash crops are

cultivated throughout the country. Here, major cash crops are briefly introduced below.

Oil Seed: It is traditionally cultivated in all districts of the country. But it is produced commercially in Nepal's Terai and inner Tarai region. The current fiscal year 2014/15 is expected to increase 5.7 percent in oilseed production, reaching 195,000 MT (mustard, yellow mustard, sunflower, etc.). According to estimates, the area used for oilseed farming increased by 0.4 percent to 217,200 hectares. Despite an increase in the production of sunflower seeds, oilseed output has been stagnant in recent years due to the decline in mustard seed production (MoF, 2014/15).

Potato: Potato is concluded in cash crops family and grown in all districts of Nepal. On the one hand, it is the primary staple food crop at the high altitude of the Himalayan Region. It is utilized as vegetables in the kitchens of Nepalese families, particularly in the Terai and Hills. Apart from these facts, its cultivation has also been commercialized, especially in the Terai and Inner Terai Region. At present, it shares 3,46380 hectares of major cash crops in Nepal. In the study area, 6815 hectares of land are used for potato farming (Table 4.5).

4.1.1.4 Area, Production, and Yield Rate of Cash Crops in Nepal

Cash crop farming in Nepal has been encouragingly fruitful (table 4.4). The area of cultivation and production of tea, potato, tobacco, and sugarcane, excluding oilseed, is increasing. The table shows that the oilseed has occupied the highest number of hectares in all the fiscal years, followed by potato (second position), sugarcane (third position), and tobacco (the fourth one). Like other cash crops, tea production, area, and productivity are rising yearly (Table 4.4).

Table 4.4 Cash Crops Production in Nepal (Area: Ha, Yield: MT, Productivity: Kg/ha.)

Crops	Fiscal Year 2015/16			Financial Year 2014/15			Fiscal Year 2013/14		
	Area	Production	Productivity	Area	Production	Productivity	Area	Production	Productivity
Industrial Crops	221615	199010.3	898	217225	194536	896	216400	18400	850
	(2)	(2.3)	(0.3)	(0.4)	(5.7)	(5.3)	(0.1)	(1.1)	(1.1)
Oilseeds	1675	2169.1	1295	1724	2227	1292	1773	2200	1257
	(-2.8)	(-2.6)	(0.3)	(-2.8)	(4.4)	(1.7)	(-2.8)	(-9.5)	(-6.9)
Tobacco	67399.2	31487.64	46718.1	66600	30630.00	45991	65000	30200.00	46461
	(1.2)	(2.8)	(1.6)	(1.4)	(2.2)	(-0.7)	(0.8)	(3.1)	(2.3)
Sugarcane	11450	16668.9	1455.8	11400	16530	1450	11350	15750	1388
	(0.4)	(0.8)	(0.4)	(0.4)	(11)	(10.5)	(0.4)	(1.6)	(1.2)
Jute	20165	23187	1149.9	19350	22500	1163	19100	19610	1027
	(4.2)	(3.1)	(-1.1)	(0.4)	(5.2)	(4.7)	(0.2)	(2)	(1.8)
Tea	2031	464	228.5	1925	450	234	1765	375	212
	(5.5)	(3.1)	(-2.3)	(0.7)	(4.7)	(3.9)	(0.9)	(2.5)	(1.6)
Cotton	145	144	993.1	225	202	898	175	155	886
	(-35.6)	(-28.7)	(10.6)	(12.5)	(17.4)	(4.4)	(00)	(3.3)	(3.3)
Flower farming	A transaction worth more than 1.06 billion.			A transaction worth more than 1 billion.			A transaction worth more than 1 billion.		

Source: MoF, 2016

Note: Numbers in brackets indicate the percentage growth over the prior fiscal year.

4.1.1.5 Cash Crops in Eastern Nepal

The two hilly districts of Mechi zones also occupy productive lands for several sectors.

Table 4.5: Major Cash Crops of Nepal (Panchthar and Ilam districts) by Area, Production, and Yield rate (A = Area in Hectares, P = Yield in M.T., Y = Yield in kg/ha)

Major Cash Crops		Fiscal Year					
		2011/12		2012/13		2013/14	
		Panchthar	Ilam	Panchthar	Ilam	Panchthar	Ilam
Oilseed	A	622	780	700	780	670	858
	P	512	700	616	780	550	858
	Y	0.82	0.90	880	1000	820	1000
sugarcane	A	38	13	37	13	37	13
	P	1197	490	1162	500	1162	390
	Y	31500	37692	31405	38462	31400	30000
Potato	A	1830	6815	1927	6815	1963	6815
	P	24119	90950	24952	91749	26013	91749
	Y	13180	13346	12948	13463	-	13463

Source: MoA, 2015

Cardamom has gone down in Ilam because of an unidentified disease. Moreover, the table shows that potato occupies the 1st position as it has occupied the most significant number of hectors of land in Panchthar and Jhapa districts such as 1830, 6815, 1927, 6815, and 1963, 6815 hectares in 2011/12, 2012/13, 2013/14 respectively. Oilseed and sugarcane come in the second and third rank for the area holding.

4.1.1.6 Role of Cash- crops

Cash crops are supposed to have a high value in Nepal. Cash crops, also known as "industrial crops", play a vital role as high-value crops in Nepal (CBS/N, 1994). Nepal is also increasing its cultivation in the high Mountain region. Moreover, farmers are also adopting them from a commercial point of view.

a. Poverty Alleviation: Farmers primarily grow cash crops in rural parts of our nation. In other developing nations, rural areas have high illiteracy rates, a lack of technical expertise, knowledge, entrepreneurial activity, and under or improperly used natural resources. Thus, poor productivity, low income, low saving, low investment, and capital inadequacy are characteristics of underdeveloped countries. These are the symptoms of the vicious circle of poverty. In such cases, cash crops may play a significant role in poverty alleviation.

b. Increase in rural income: Agriculture is the primary occupation of most people in rural areas. In such areas, agriculture is carried out in old fashion with outdated production methods. As a result, such places have a low yield, and people are compelled to live at a bare subsistence level. In such cases, cash crop farming is seen as a first-aid remedy over cereal crop farming.

c. Reduction of Imports: Consumption demand for cash crops in Nepal is high. Large import requires a larger amount of foreign exchange. Self-sufficiency in cash crops and their production would reduce the burden of imports and save the foreign exchange resource in the country. Foreign resources so release can be utilized to import capital goods and raw materials needed for other sectors of the economy. Keeping this fact in view, developing countries depend on agriculture to encourage the cultivation of cash crops and give excessive importance to their agricultural policies.

d. Foreign Exchange Earnings: An increment in cash crop production will significantly increase exchange earnings by reducing potential imports and expanding their raw and processed materials export. Self-sufficiency in cash crops will result in substantial savings in foreign exchange.

e. Promotion of Agro-based Industries: Cash crops are crucial to the agricultural industry. Due to this fact, many industries that depend on cash crops for raw materials have emerged, like oil, sugar, jute, cotton textiles, tea and coffee industries. Those industries provide goods and employment to the people in society.

f. Employment Generation: Between the ages of 15 and 59, 57.0 percent of the population is economically active. The government has not been able to create jobs here at home. One thousand five hundred employees leave the country every day for jobs abroad (MoF, 2014–15). Problems with underemployment and unemployment exist in the rural sector. Rural area unemployment is the cause of the community's poor income and low living standards. Cash crops cultivation and cash crops-based industries can be much more helpful in providing additional employment opportunities to rural people.

Table 4.6 Principal Indicators of Cash Crops-based Industries in Nepal (2011/12)

Type of Industries	Number of Estb.	Number of people involved	No. of Emps.	Wages and Salaries '000 Rs
Manufacture of sugar	54	3,296	3,172	189,616
Manufacture of tobacco	30	1,637	1,585	252,361
*Jute Manufacture	7	5146	4950	89678

Source: CBS, 2011/12

Note: * Indicates the data of the year 1994/95

Employment opportunities might be seen in cash crop-based industries in Nepal. There were 54 sugar factories and refineries, 30 tobacco factories and seven jute

factories in 2011/12, in which 3296, 1637and 5146 people were found to be engaged, respectively (Table 4.6). Based on the figure, it can be said that the cash crops of Nepal are the basis of employment opportunities.

g. Improvement of the Living Standard in Rural Households: Rural sector of any country is comparatively backward. Low labour productivity, low efficiency, general poverty, factor immobility, limited specialization in occupation, and economic ignorance are the characteristics of rural areas. People are mostly illiterate, ignorant, conservative, superstitious and fatalists. As a result, they are compelled to live a life of poverty. Nepal is no exception to it.

The majority of people—about 80 percent—live in rural areas. Agriculture, considered unproductive and practised in a traditional manner using antiquated production techniques, is the primary activity of rural households. The average literacy rates among agricultural family heads are 52 percent (which is just a little bit lower than the nation's average literacy rate for household heads). Compared to urban regions, rural areas have a lower literacy rate (50%) for household heads who are farmers (70%). The central Tarai region of rural Nepal has the lowest literacy rates among agricultural family heads, while Kathmandu valley metropolitan regions have the highest rates. In the bottom quintile of household spending, agricultural household heads' literacy rate falls to 35 percent, then rises dramatically to 75 percent. According to CBS/2010/11 N's report, the literacy rate among agricultural household heads significantly increased, going from 35 percent in the quintile with the least household consumption to 74 percent in the top quintile.

In this situation, cash crop cultivation in rural areas might be the remedy for more earnings and income generation than cereal crops. The earnings from such farming can improve their living standard. Nowadays, based on different sources for cash crop farming, it can be said that farmers are increasing the cultivation of competitive cash crops in Nepal.

h. Enhancement of Saving and Investment: Cash crops are high-value crops compared to cereal crops, and they are considered industrial crops and exported crops in Nepal. More money generates more savings. Saving will be helpful to enhance investment for the improvement of the whole sector. A nation can invest capital from cash crops farming in other social and economic overheads.

4.2 Tea Cultivation in Nepal

In eastern Nepal, tea is one of the most significant cash crops. It is one of the most consumed non-alcoholic beverages worldwide due to its medicinal properties and has been growing in recognition as a significant "health drink." Nearly 2/3 of the world's population receives it daily as a morning beverage.

4.2.1 Scenarios of Global Tea Production

Due to its rising popularity, tea is one of the key elements of the global beverage business. This chapter has made an effort to estimate the worldwide tea scenario in terms of area, production, yield, export, and import over the previous 20 years.

Due to unique soil and temperature conditions, tea can only be grown in a few areas worldwide. Most countries that produce tea are found in Asia, with China, India, and Sri Lanka ranking as the top three producers. Africa, a continent predominantly made up of tropical regions, is home to the top tea producers in the world: Kenya, Malawi, Rwanda, Tanzania, and Uganda. Small amounts of tea are also grown in the CIS (Russia and Georgia), the Near East (Iran and Turkey), and South America (Argentina, Brazil, and other nations) (Majumdera et al. 2012). On the global tea market, considerable amounts of tea are produced in about twenty-five countries.

Production

World tea production from 2007 to 2011 reached 3,794,964, 3,803,970, 3,933,495, 3,937,546 and 3,998,590 metric tons, respectively, and the production in 2012 to 2014 reached 5,034,637; 5,349,088, and 5,561,339 metric tons respectively (Annex-VI).In 2011, the top-producing nations for tea were China (38.76%), India (24.72%), Sri Lanka (8.21%), Kenya (3.9%), and Indonesia (3.19%) (Table 4.7).

Seventy-nine percent of the world's production comes from these five nations. Similarly, the five major tea-exporting countries are Kenya (24.51%), China (18.77%), Sri Lanka (17.53%), India (9.89%), and Indonesia (4.36%). These five countries account for 75 percent of global exports in the same year (Table 4.9) (Appendix VII). Table 4.7 shows that China produced the most tea in 2011, followed by Kenya, Indonesia, Sri Lanka, India, and Sri Lanka. Nepal produced the 22nd-most tea in the world in 2011, according to the data in Appendix VII.

Table 4.7 Percentage Share of World Production from Major Producing Countries

SN	Countries	2007	2008	2009	2010	2011
1	India	24.90	27.84	24.89	24.88	24.72
2	Bangladesh	1.53	15.46	1.51	1.53	1.48
3	Sri Lanka	8.03	83.78	7.37	8.53	8.21
4	Indonesia	3.94	36.15	3.47	3.33	3.09
5	China	30.71	315.46	34.54	37.98	38.76
6	Taiwan	0.46	4.57	0.43	0.45	0.45
7	Iran	0.45	4.75	0.44	0.43	0.40
8	Japan	2.64	24.45	2.37	2.14	1.95
9	Korea, Rep.	0.11	1.08	0.11	0.11	0.11
10	Malaysia	0.06	0.62	0.06	0.06	0.06
11	Myanmar	0.48	4.89	0.48	0.49	0.49

12	Nepal	0.36	4.24	0.42	0.43	0.42
13	Turkey	4.69	40.75	3.89	3.81	3.63
14	Vietnam	3.91	43.74	3.92	4.38	4.45
	Total Asia	82.26	83.98	86.94	90.62	92.95

Source: NTCDB, 2012

The area planted with tea only slowly increased throughout the last ten years of the 20th century. Worldwide tea cultivation was 2563.75 thousand ha in 1991. The total area planted with tea steadily increased at the dawn of the twenty-first century. The area dedicated to tea cultivation increased from 2727.42 thousand ha in 2001 to 3691.89 million ha in 2010. There was 3799.83 thousand ha of tea-growing land up till 2014 (NTDC,2015).

Productivity

In contrast to area and production, tea productivity did not significantly rise during the past 20 years. Only in 2000 did the world's productivity increase to 1100 kg/ha after reaching its peak in 1991 at 1026 kg/ha. In the first ten years of the 21st century, tea production on a global scale was between 1100 and 1 260 kg/ha. As a result, the growth rate across the two decades was constant.

Exports (In terms of volume)

Kenya and Sri Lanka have consistently led the world in exports during the past ten years. In 2011, Kenya (24.5%) and China (18.77%) were the highest contributors, followed by Shree Lanka (17.53%), India (9.9%) and others (25%) (Appendix VII). The two biggest tea producers, India and China, consume most of their output and only share a small portion of the exportable tea (table 4.8).

Table 4.8 World Exports of Tea (Metric Tons)

N	Countries	2007		2009	2010	2011
1	India	175454	200070	18900	183700	170000
2	Bangladesh	410555	8393	3153	913	1250
3	Sri Lanka	294254	294469	279839	298587	301271
4	Indonesia	83659	96210	92304	87101	75000
5	China	289431	296935	302949	302525	322581
6	Taiwan	2008	2328	2400	2627	2816
7	Iran	5000	5300	9400	4700	4000
8	Japan	1769	1767	1984	270	280
9	Korea, Rep.	230	260	280	2287	2420
10	Malaysia	300	310	300	270	280
11	Nepal	7000	8600	8889	8600	8800
12	Turkey	3000	4500	4000	4000	3700
13	Vietnam	110929	104000	95000	127970	143000
Total Asia		1383589	1023142	819398	1023550	1035398

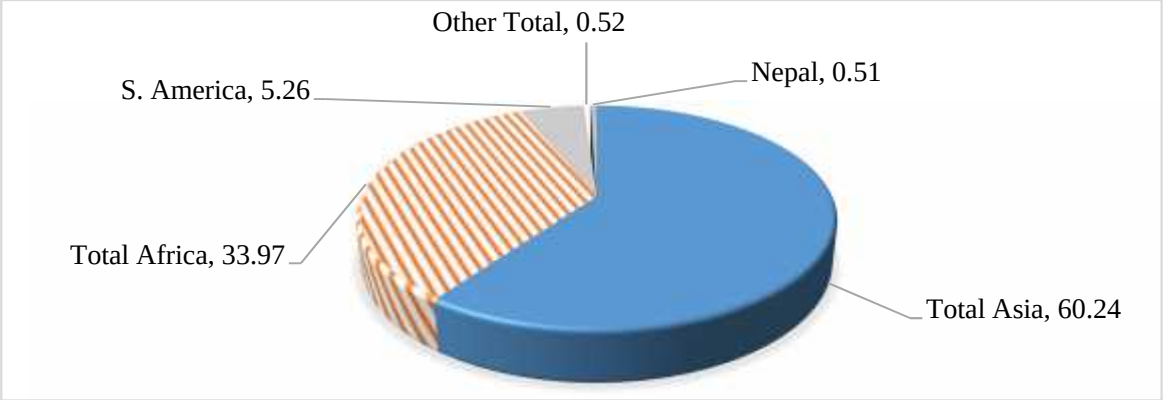
Source: NTCDB, 2012

Table 4.9 Percentage Share of World Exports of Tea (Metric Tons)

SN	Countries	2007	2008	2009	2010	2011
1	India	8.90	12.19	1.34	10.55	9.89
2	Bangladesh	20.83	0.51	0.22	0.05	0.07
3	Sri Lanka	14.93	17.93	19.83	17.14	17.53
4	Indonesia	4.24	5.86	6.54	5.00	4.36
5	China	14.68	18.08	21.47	17.37	18.77
6	Taiwan	0.10	0.14	0.17	0.15	0.16
7	Iran	0.25	0.32	0.67	0.27	0.23
8	Japan	0.09	0.11	0.14	0.02	0.02
9	Korea, Rep.	0.01	0.02	0.02	0.13	0.14
10	Malaysia	0.02	0.02	0.02	0.02	0.02
11	Nepal	0.36	0.52	0.63	0.49	0.51
12	Turkey	0.15	0.27	0.28	0.23	0.22
13	Vietnam	5.63	6.33	6.73	7.35	8.32
Total Asia		70.20	62.31	58.06	58.77	60.24

Source: NTCDB, 2012

Figure 4.1 Percentage Share of Nepalese Exports with Different Continent
(Metric Tons, 2011)



Source: Table, 4.9

Similar to export, import (whether for re-export or personal use) has seen an upward tendency. It increased from 1093.40 m kg in 1991 to 1272.94 m kg between 1991 and 2000, with a compound annual growth rate of 1.70 percent. Tea imports climbed from 1333.01 million kilograms in 2001 to 1618.87 million kilograms at the end of 2010.

Global Consumption of Tea

Global tea consumption is projected to be 3,437 million kg in 2006. The consumption of tea is becoming more and more popular every day. It has been shown that while tea consumption is declining in industrialized nations, it is rising in emerging nations.

Table 4.10 Consumption of tea worldwide (Thousand Tons)

	2006-08	2009	2010	2011	2012	2013
World	3714.9	3916.0	4180.3	4449.6	4626.8	4842.1
Developed	826.0	792.1	818.8	834.4	827.8	814.8
South Africa	18.8	24.0	25.1	23.5	23.5	22.8
EU	259.7	228.5	230.3	246.6	238.0	242.0
France	14.6	13.9	15.3	14.9	15.1	15.2
Germany	23.2	19.0	24.9	25.9	29.9	28.9
Ireland	9.2	10.7	10.2	8.6	6.7	7.0

The Netherlands	13.8	11.8	10.9	14.2	7.0	12.2
Poland	23.7	15.8	17.2	19.9	19.9	15.0
Britain	134.0	121.0	119.8	125.2	125.2	116.2
Other EU	41.2	36.2	31.9	34.2	34.2	47.5
Japan	139.4	124.1	124.0	121.9	121.9	119.1
USA	109.6	108.2	123.8	124.6	122.7	127.4
Russian Fed	172.4	176.2	177.8	182.2	173.3	159.1
others	114.7	107.1	112.7	112.1	125.0	121.6
Developing	2889.0	3123.9	3361.5	3615.1	3798.9	4027.3
China (Mainland)	867.0	1045.3	1188.5	1314.5	1481.7	1614.2
India	786.9	822.1	818.3	922.2	939.2	1001.4
Turkey	214.6	202.4	241.9	227.4	227.2	228.0
Egypt	81.1	82.3	68.5	95.7	95.4	99.0
Pakistan	107.3	85.7	120.3	126.2	131.3	126.6
Iran, Islamic Republic of	76.8	86.1	89.6	80.2	80.3	83.4
Indonesia	56.1	56.8	59.9	61.1	63.3	64.9
Bangladesh	46.4	53.7	57.3	59.3	59.5	61.9
Vietnam	25.5	27.5	27.9	29.3	30.3	31.7
Morocco	51.4	54.8	53.9	65.0	54.1	56.7
Kenya	17.3	18.1	18.7	20.0	23.0	26.6
others	558.6	589.0	616.6	614.2	613.7	632.9

Source: ITC,2015

China has become the top tea consumer among the abovementioned nations, ingesting 1614 million kg. India and the European Union has got the second and third positions in tea consumption (Table 4.10).

World Demand and Supply

Inequities in supply and demand on the global market will severely impact the nations that produce the majority of perennial crops, such as tea, which is highly profitable on the export market. Tea supply and demand on the global market are diverging at an increasing rate (Table 4.11, Figure 4.2).

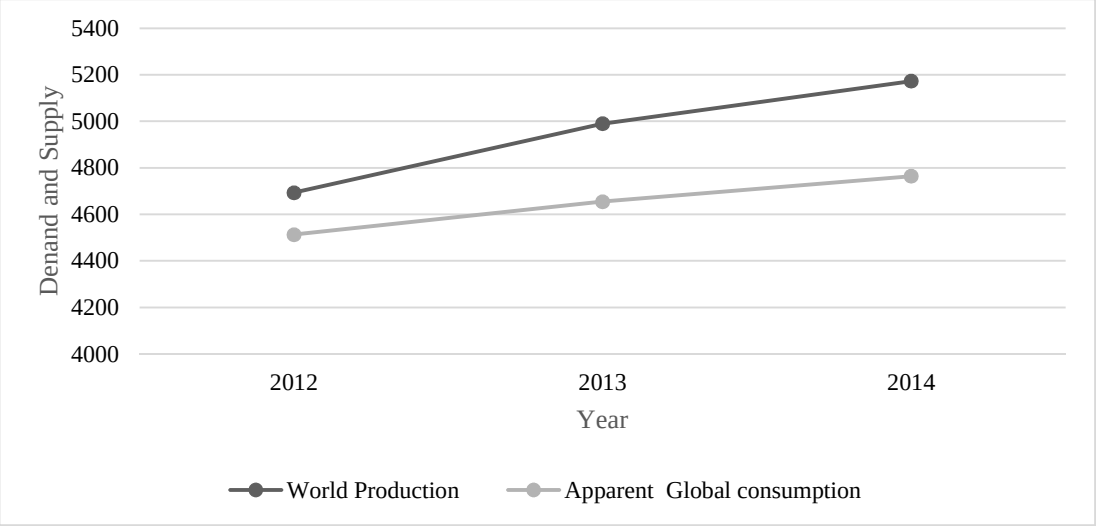
Table 4.11 World Demand and Supply (Unit in M. Kgs)

year	World Production	Apparent World Consumption	(+) or (-)
2012	4693	4513	180
2013	4990	4655	335
2014	5173	4764	409

Source:International Trade Centre, 2015

The supply of tea is higher than the demand in figure 4.2.

Figure 4.2 Demand and Supply of Tea in the World (Figures in M. Kgs)



Source: Table 4.11.

Reviewing the worldwide tea market in terms of area, production, yield, exports, and imports revealed that the amount of tea sold on the global market has generally increased over the past several decades, and the trend is continuing to rise. Therefore, in the coming years, initiatives must be implemented to address the challenges of the increasing worldwide demand for tea. In addition to general tea consumption, the health benefits of tea need to be strongly pushed to attract non-traditional tea-consuming regions of the world to increased consumption. Value addition and diversification for various tea products must be established to balance the supply-demand chain.

4.2.2 Scenarios of Nepalese Tea Production

In Ilam, Nepal, tea plantations first appeared in 1863, but subsequent growth was halted for over a century. Due to the promising future of the industry, the government designated five districts—Ilam, Panchathar, Jhapa, Terahathum, and Dhankuta—as "Tea Zones" in 1982.

The tea industry expanded significantly after being liberalized more than ten years ago. The area under tea plantation as of 2018/2019 is predicted to be 28732 hectares, with a production volume of 25205858 kilos of tea, according to the most recent data from the NTCDB (2015).

Table 4.12 Plantation and Production Trends

Fiscal Year (AD)	Plantation (ha.)	Product (kg)
1999/00	10,249	5,085,237
2000/01	11,997	6,638,082
2001/02	12,346	7,518,575
2002/03	12,643	8,198,000
2003/04	15,012	11,651,204
2004/05	15,900	12,606,081
2005/06	16,012	13,688,237
2006/07	16,420	15,167,743
2007/08	16,594	16,127,490
2008/09	16718	16,208,127
2009/10	17127	16,607555
2010/11	17451	17437933
2011/12	18149	18309824
2012/13	19036	20588145
2013/14	20120	21076366
2014/15	28732	23186726

Source: NTCDB, 2015

According to the data, the tea sector has been growing recently, along with an increase in its plantation lands, which increased in size annually from 12,000 hectares in 2001 to 28732 hectares in 2014–2015. (Table 4.12).

4.2.2.1 Production and Productivity of Tea

Table 4.13 shows the upward trend in the production area and tea production over the past fifteen years, from 1999/00 to 2014/15. By 2014/15, the estimated plantation area was close to 28,732 ha, and 23.18 million kgs of tea were produced. Nepal contributes 0.4 percent of the world's total tea production, which was 5173 million kg in 2015 (ITC/London). Over the previous 15 years, tea plantations have practically increased by five times in size, while beverage production has climbed by more than eight times. Amazingly, there are more than five times as many small tea farmers. Thus, the tea sector has proven to be one of the most important subsectors, with an excellent growth rate and a significant contribution to the national economy.

Table 4.13Tea Plantation Area, Production and Productivity in Nepal

	Tea Plantation in Hectares					Tea Production in Kgs.				
F. Years	Private	NTDC	Small		Total	Private	NTDC*	Small Holder	Total	Productivity ha.
			Farmers	Area						
1996/97	1685.2	937.6	2390	829.0	3501.8	180000	925942	180000	2905942	830
2001/02	8179	-	5575	4186	12346	5864720	-	1653855	7518575	608
2006/07	9011	-	7593	7409	16420	9340754	-	5826989	15167743	924
2010/11	9331	-	9523	8120	17451	10749390	-	6688543	17437933	999

Source: NTCDB, 2069

Note: *NTDC has been privatized since 2001

The productivity shift over time is depicted in the above figure. The productivity of tea increased from 608 kg per ha in 2001–2002 to 999 kg in 2010–2011. One of the farmers stated that "productivity is significantly connected to the age of the tea bush, temperatures, drought, and change in rainfall". An Ilam tea farmer has added that effective management is vital for achieving high yields (Discussed with an Ilam tea producer). The productivity of Nepal (999 kgs) is lower than that of Sri Lanka (1611 kgs), India (1690 kgs), and Kenya (2235 kgs) (NTCDB, 2069).

4.2.2.2 Current Status of Orthodox Tea Production in Nepal

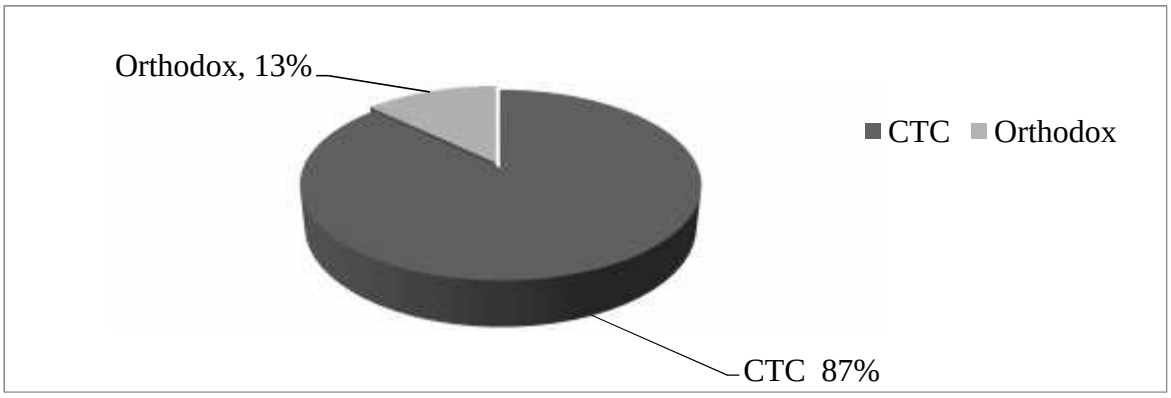
Most orthodox tea is made from green leaves in tea factories in Nepal's higher elevations. It is prevalent in the Eastern Development Region with orthodox tea processing techniques. Despite the fact that orthodox tea production now occupies 47 percent of all tea plantations (Table 4.14), orthodox tea output in Nepal has just recently surpassed 5.8 million kg or 13 percent of total tea production (figure 4.14).

Table 4.14 Orthodox and C.T.C. Tea plantations, Area and Production in Nepal (2015/16)

SN	Particulars	Orthodox		C.T.C		Total	
		plantation Area-ha	production kg	plantation Area-ha	production kg	plantation Area-ha	production kg
1.	Garden	7007	2646457	7725	11735551	14732	14382008
2.	Small farmers	9238	3154855	3718	6726881	12956	9881736
	Total	(47%)	5801312 (13%)	11443 (53%)	18462432 (87%)	27688 (100%)	24263744 (100%)

Source: NTCDB, www.teacoffee.gov.np

Figure 4.3 Orthodox and CTC Tea Production in Nepal 2014/15



Source: Table, 4.14

Nearly 71 percent of tea is grown in the Ilam District, the main orthodox tea-producing district, followed by Panchthar, Dhankuta, and Tehrathum. Currently, tea plantation is spread in other districts like Bhojpur, Sankhuwasabha, Taplejung, Sindhupalchowk, Nuwakot, Dolakha, and Ramechhap as well, but still on a minor scale.

The facts above show that tea is an important sector with excellent growth rates and significant economic contributions. Additionally, there is room for tea plantation expansion in Nepal. It shows that the development of Nepal's tea industry has excellent prospects. The two types of tea produced in Nepal are CTC and orthodox. For domestic use, CTC tea is utilized. The export of orthodox tea is encouraged to generate foreign currency. According to statistics released by NTCDB in 2014/2015, there are 27688 hectares of tea plantations in total, producing 24263744 kgs of tea overall. The expansion of small producers' in tea plantations since 1979 has been one of the significant developments in the Nepalelase tea sector. Small farmers engage on 12956 hectares of plantation, producing 9881736 kg of tea with 15040 small farmers (table 4.17). The rise of the tea sector has created a variety of marketing and expansion issues, and it appears that the current infrastructure is insufficient to

support the tea zone in Nepal. Some problems are insufficient processing factories, credit facilities, and technical know-how.

Problem Faced on Production

The farmers and mini-factories face various problems in terms of production, which are listed below as follows:

1. During the field visits, the farmers of the Ilam district expressed how ineffective the government has been and how the government has neglected the provisions for subsidies in the field of the tea sector.
2. Lack of technical manpower and skilled labour is a problem.
3. Unavailability of input services, lack of factories, and infrastructural development
4. Inadequacies in energy supply, lack of support program for factories
5. Political instability and the role of a trade union have created labour problems.
6. It was found that research activities in this sector are very low, and there is no research station.
7. Nepal, a landlocked country, depends on its neighbouring country India for exporting cargo. There is no accessible transit facility for the exporters.
8. Exporters cannot find the exact condition of the worldwide market in terms of demand, production, consumption, etc., because of a lack of market information.
9. A lack of warehouse and blending facilities are also some other export problems.

4.2.3 Nepalese Tea in Global Position

The tea industry expanded significantly after being liberalized more than ten years ago. According to the most recent data from the NTCDB, the total area expected to be covered by tea plantations in 2014/2015 is 26,165 hectares, with a production volume of 23,186,726 kilos of tea (NTCDB, www.teacoffee.gov.np).

China is the biggest consumer of tea globally and the biggest producer of black tea. In 2011, Nepal contributed 0.42 percent to global production.

Table 4.15 Present Status: Nepalese Tea in Global Position (2011)

Particulars	World	Nepal	Rank	% share
Area under tea (thousand ha 2014)	3799.83	26.2	-	0.69
Production (Metric Ton)	3998590	16900	22	0.42
Yield (Kg/Hectare)	1150	875		
Export (Metric Ton)	1718709	8800	12	0.51
Consumption (Million Kg)	4449600		-	-

Source: NTCDB, 2012, 2015

It has been determined that Nepal shares 0.69 percent of the worldwide tea production area (26,200 ha in 2014) and 0.42 percent (16,900 metric tons) of the total tea production. In comparison to the global average (1150 kg), Nepal's tea production is lower (875 kg) (Table 4.15).

Major tea-producing nations include Kenya, Indonesia, Sri Lanka, China, and India. Nepal is the 22nd-ranking nation in terms of the world's tea producers. It demonstrates that, similar to most underdeveloped nations, Nepal relies heavily on agriculture to provide its fundamental necessities. The analysis of the global tea market in terms of area, production, yield, exports, and imports revealed that the quantity of tea on the market has generally increased and that this trend is continuing. Therefore, in the upcoming years, strategies must be created to address the challenges of the increasing worldwide demand for tea. With its widespread use, tea's health advantages must be vigorously promoted to draw in non-traditional tea-consuming parts of the world and encourage increased use.

4.2.3.1 Tea Plantation and Production Trend

From the most recent information published by the Nepal Tea and Coffee Development Board, tea plantations are anticipated to cover a total area of 26,165 hectares in 2014/2015, producing 23,186,726 kg of tea (Table 4.16).

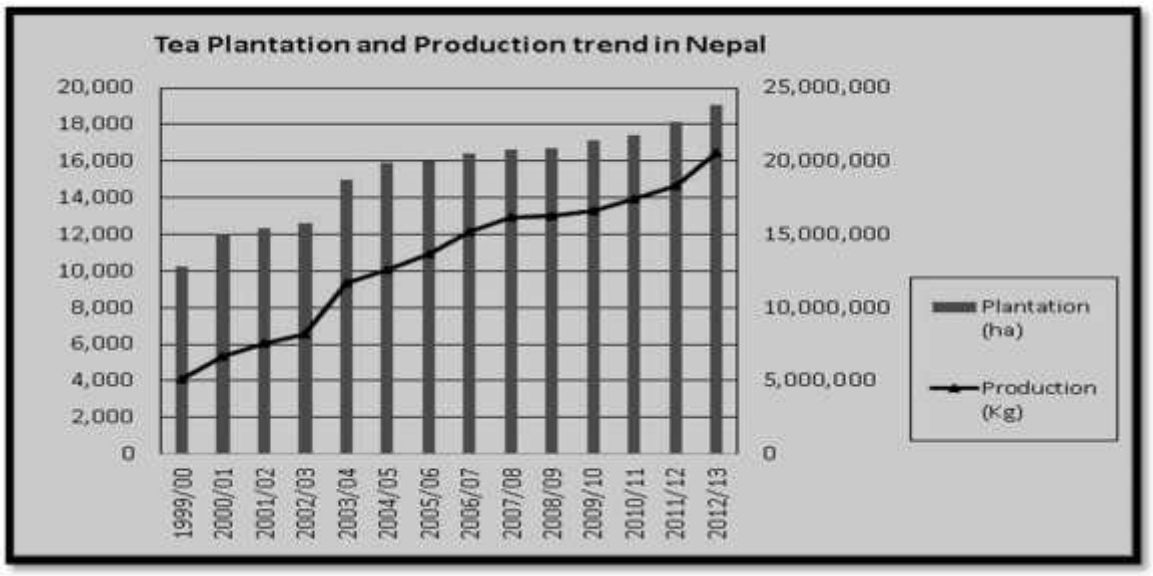
Table 4.16 Plantation and Production

Fiscal Year (AD)	Plantation (ha.)	Production (kg.)
1999/00	10,249	5,085,237
2000/01	11,997	6,638,082
2001/02	12,346	7,518,575
2002/03	12,643	8,198,000
2003/04	15,012	11,651,204
2004/05	15,900	12,606,081
2005/06	16,012	13,688,237
2006/07	16,420	15,167,743
2007/08	16,594	16,127,490
2008/09	16718	16208127
2009/10	17127	16607555
2010/11	17451	17437933
2011/12	18149	18309824
2012/13	19036	20588145
2013/14	20120	21076366
2014/15	26165	23186726
2015/16	27688	24263744

Source: NTCDB, www.teacoffee.gov.np

The data shows that the tea industry has recently expanded along with an increase in its planting lands, which grew from 12,000 hectares in 2001 to 27688 hectares in 2015/16 and is growing yearly.

Figure 4.4 Tea Plantation Trend



Source: NTDCB, 2015

Figure 4.4 shows that tea production in Nepal is on an upward trend.

Table 4.17 District-wise Plantation and Production (Fiscal Year 2015/16)

	Districts	Garden		Small Farmers			Total	
		Plantation Area (he.)	Production (kg.)	No. of small	Plantation Area (he.)	Production (kg.)	Plantation Area (he.)	Production (kg.)
1	Jhapa	7725	11735551	2962	3718	6726881	11443	18462432
2	Ilam	2845	2158574	6995	5120	2704678	7965	4863252
3	Panchthar	619	283570	1140	720	212000	1339	495570
4	Dhankuta	478	80436	491	474	99456	952	179892
5	Teratham	95	21341	665	360	57521	455	78862
6	others	2970	102536	2787	2564	81200	5534	183736
	Total	14732	14382008	15040	12956	9881736	27688	24263744

Source: NTCDB, www.teacoffee.gov.np

The majorityof small farmers produce tea and control the current plantation situation. This industry has a significant socioeconomic impact on employment or job generation, has the potential to increase national income, and directly employs more than 100,000 people.

Table 4.18 Production and Area of Orthodox and CTC in the Fiscal Year (2015/16)

SN	Particulars	Orthodox		CTC		Total	
		Area ha	Production Kg	Area ha	Production Kg	Area ha	Production Kg
1	Garden	7007	2646457	7725	11735551	14732	14382008
2	Farmers	9238	3154855	3718	6726881	12956	9881736
Total		16245	5801312	11443	18462432	27688	24263744

Source: NTCDB, www.teacoffee.gov.np

The table shows the most recent information about the production contributions provided by small farmers and private tea gardens in the orthodox and CTC tea plantation areas, respectively. The data shows that tea is produced in the eastern region of Nepal. Tea was produced on 27,688 hectares of land in 2015–16, yielding 24,263,744 kg.

The study demonstrates that smallholder farmers who favour growing orthodox tea generate less CTC tea than tea estates or gardens. In terms of total production from farmers and tea plantations, CTC tea production is significantly higher than orthodox tea production. The tea sector in Nepal has seen a significant increase in orthodox tea production because of the relatively strong demand from the global markets, which results in a high export potential and larger incentives for low-income farmers.

There has been a noticeable rise in planting area and yield compared to 1999–2000, 17 years ago. There has been an incremental tendency in both area and production, over the past 15 years. The NTDC plantation acreage and output, under NTDC's control, were given to the private sector in 2000 by the government of Nepal.

However, small farmers are starting to get involved in tea planting as they realize how refreshing tea is as a high-value industrial commodity. As a result, the number of small farmers employed in the tea sector has increased significantly. While this is happening, the productivity of small farmers and the area of their plantations are both considerably increasing.

The main Orthodox tea-producing regions in the nation are Ilam, Terhathum, Panchthar, and Dhankuta. These four districts produced 96% of all Orthodox tea in the country during the 2015–16 fiscal year.

4.2.3.2 Tea Estates and Small Tea Farmers

In each of these four districts, there were a varying number of farmers and a varying amount of land used for growing tea. Ilam, the largest district, has 6,995 farmers, 7,965 acres of tea-growing land, and a production capacity of 4863 MT. The Panchthar district has 1,140 farmers, 1,339 hectares of tea-growing area, and 495 MT of production just next to Ilam. Terhathum grows the least, and Dhankuta is in the top three (Table 4.17).

Primarily, tea estates (organised tea gardens) and small tea farmers are the ones that have main contributions to the production of green tea leaf, which is then processed by tea factories operating at two levels (one factory with its tea estate and another one as bought leaf factory) for production of the made tea, which is marketed by tea traders and exporters, domestically and internationally. It is estimated that about 47 tea estates/gardens (registered and unregistered in NTCDB) have been established as organized tea estates (Appendix X). The contributions of tea estates and small tea farmers to the growth of plantation areas and tea production are depicted in Figures 4.5 and 4.6, respectively. Small farmers made a greater contribution to the

growth of plantations and the production of tea than private tea gardens to the overall output of orthodox tea.

Estates (tea gardens) made up 7007 ha of the entire area under cultivation, while small farmers made up 9238 ha. Orthodox covers an area of 16,245 hectares, compared to CTC's 11,443 ha, and produces just 5801312 kg, or 23.91 percent, of the world's tea (Table 4.18). While established garden estates in the southern plains produce the CTC, individual farmers in the hills produce Orthodox.

CHAPTER FIVE

COMPARATIVE ANALYSIS: CHARACTERISTICS OF TEA PRODUCTION IN ILAM

Tea production in Nepal appears to be expanding in terms of area, yield rate, and other factors. This chapter makes an effort to analyse the Ilam district's tea plantations and productivity.

5.1 Extension Program

In Nepal, seven extension programs offer advice and other services to the farmers in their control regions. Table 5.1 displays the list of field extension programs.

Table 5.1 Extension Program with Farmers/Area

Tea Extension Program	Districts	No. of Farmers	%	Plantation area		
				Hectare	Ropani	%
Fikkal	Ilam	3391	40.35	2361	47223	46.76
Jasbire	Ilam	1009	12.01	626	12520	12.40
Mangalbare	Ilam	1493	17.77	1050	20997	20.80
Lalikharka	Panchthar	990	11.78	506	10123	10.02
Hile	Dhankuta	463	5.51	227	4544	4.50
Solma	Tehrathum	631	7.51	228	4555	4.52
Ranipouwa	Nuwakot	426	5.07	51	1020	1.01
Total		8403	100.0	5049	100982	100.00

Source: NTCDB, 2012

One of the major activities of NTCDB at the field level has been nursery plant production and distribution. During the field visit, the farmer expressed that the extension program is providing subsidized tea cutting (50% subsidy) and other materials to the farmers who need them. In the extension program, there were 8,403 farmers involved in tea plantations and production in 2011.

Table 5.1 shows seven extension programs in Nepal. According to reports, the Fikkal Tea Extension Program, the Panitar Tea Extension Program, and the Jasbire Tea Extension Program are three clusters run by the Nepali Tea and Coffee Development Board (NTCDB) in the Ilam area (together known as Chia Bistar Yojana). By 2012, these three clusters had 4189 hectares (83780 plants) of land under their management, covering the entire district of Ilam (NTCDB, 2012). Currently, 7003 farmers and producers manage 5920 hectares of land (NTCDB, 2018/19).

5.2 Farmers' Tea Cooperatives

In many districts, small farmers are involved in the tea industry, and as more of them become interested in the industry, their share of the overall production rises with time. Small farmers are grouped and sell their leaves to bought-leaf factories. There are 5449 farmers affiliated with 89 cooperatives in Nepal. There are 2884 farmers/households involved in tea plantations under 38 cooperatives in the Ilam district. Table 5.2 holds details about the tea cooperatives.

Table 5.2 Number of Tea Cooperatives in Nepal

			Share Member		
SN	District	Number of Cooperative	Female	Male	Total
1	Ilam	38	665	2219	2884
2	Panchther	13	164	606	770
3	Dhankuta	9	58	344	402
4	Therthum	9	64	336	400
5	Lalitpur	8	29	254	283
6	Taplejung	1	33	20	53
7	Udayapur	1	57	54	111
8	Bhojpur	1	20	7	27
9	Shankhuwasava	2	69	25	94
10	Solukhumbu	1	24	3	27
11	Ramechap	1	28	11	39
12	Jhapa	5	97	262	359
Total		89	1308	3976	5449

Source: Central Tea Cooperative Federation (CTCF) Limited Nepal, Ilam, 2014

5.3 Size of Tea Farm

Most of the tea plantations in the survey area have a land size of less than 1 hectare. Farming statistics of sample households are given in table 5.3 below.

Table: 5.3 Farm Data (2011/12-2013/14)

SN	Farm data	Farmers n=250		
		Total Plantation Area (in ha.)	Mean (Std. deviation)	%
	Land covered with tea (he.)	330.15	1.32 (0.88)	
	Less than 0.5 ha			12.80
	0.51 to 1 ha			40.80
	1.1 to 1.5 ha			15.20
	1.6 to 2 ha			18.80
	2.50 to 3.50 ha			12.40
	Other Agricultural Land (he.)	154.15	0.62 (0.48)	
	Less than 0.5 ha			67.20
	0.51 to 1 ha			10.80
	1.1 to 1.5 hectares			22.00
	1.6 to 2 hectares			0.00
	2.50 to 3.50 hectares			0.00

Source: Field Survey, 2014

A tea farm's average size was 1.32 hectares, which is larger than the average area of other agricultural lands (0.62 ha). Most orthodox tea farms have less than 1 hectare of farmland (cropped with tea).

The information shows that smallholder farmers are motivated to orthodox tea cultivation (Table 5.3). It has been shown that, on average, tea farms are 1.32

hectares. Less than 1 hectare of farmland covers the majority of orthodox tea farms (40.80%). (Cropped with tea).

5.4 Types of Tea Production

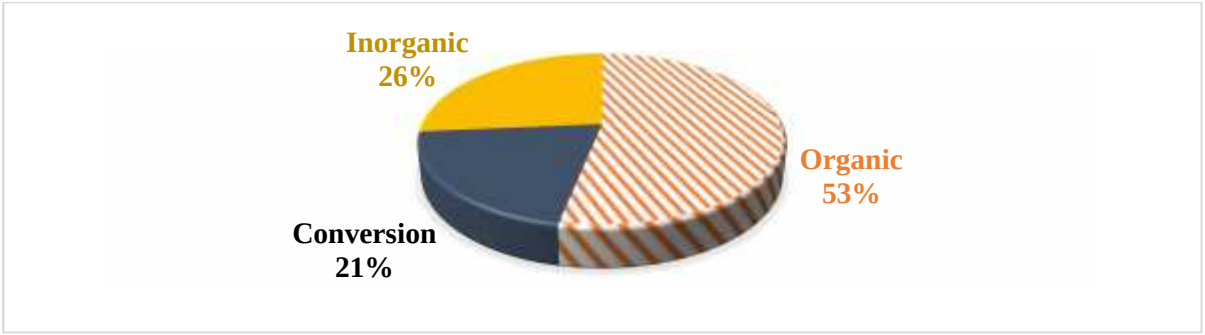
It was found that the total plantation of the sampled area was 330.15 hectares, where 250 households were involved. Among 330.15 hectares, 53.20 percent of the tea plantation area was covered by organic tea (Table 5.4).

Table 5.4 Tea Plantation Area by Type of Tea

SN	Farm data	No. of HHs	Plantation Area (in ha.)	Mean (Std. deviation)	%
1	Land covered with tea	250	330.15	1.32 (0.88)	
2	Organic	133	216.65	1.63 (1.00)	53.20
3	Conversion	51	52.00	1.02 (0.74)	20.40
3	Inorganic	66	61.50	0.93 (0.35)	26.40

Source: Field Survey, 2014

Figure 5.1 Tea Plantation Area by Type of Tea



Source: Table, 5.4

The above table shows that 20.40 percent of the total land converted a traditional farm into an organic farm, and more than 50 percent was fully converted into an organic farm. Smallholder farmers are more interested in producing organic than inorganic tea (Figure 5.1).

5.5 Production of Organic Tea

Organic tea production was initiated by the Himalayan Orthodox Tea producers Association (HOTPA) in 1995. Utilizing local resources as effectively as possible is typically a priority in organic tea production. Many people who care about their health and the environment seek chemical-free products since organic agriculture respects nature's laws. Therefore, in the long run, producing organic tea can be quite important to the developing nation's economy. Chemical use results in an immediate rise in production, which can boost productivity for a few years. But after a while, the cumulative harmful effect caused a decline in crop productivity. The use of organic manures improves the quality of the soil. However, it has a deficient concentration of plant nutrients, which is insufficient to increase productivity. Therefore, employ the proper bio-fertilizers and bio-pesticides in farming. It takes at least three years to transform a conventional farm into an organic tea cultivation farm. A farm may be converted gradually if it is not transformed entirely at once. Legumes, green manuring, or deep-rooted plants should be grown as part of an appropriate multi-annual rotation program to maintain or boost the soil's fertility and biological activity.

There are several opportunities to increase the area used for organic tea production. The main factors driving the promotion of organic tea production in this region are the introduction of a national certification scheme, government support, and an appropriate method of transitioning conventional farming to organic cultivation. The greatest tea-producing region in Nepal, Ilam, is also recognized for its milk production. Going organic is simpler in this district than in any other district. The study demonstrated the importance of training in conversion to organic production. Therefore, developing aid organizations and the government of Nepal should take steps to build and grow local institutions. The vast majority of tea growers

obtain loans and cannot afford the additional investments required for organic tea production, which is another crucial fact. Only the cooperatives' saving and credit programs allow the farmers to promote their tea farming.

It was discovered that the organic tea farms are 1.32 hectares in size on average. Less than 1.5 hectares of farmland make up 53% of the organic farms. It is revealed that the farmers belong to cooperative organizations, which is a positive sign for switching to organic farming. This is similar to how training participation is beneficial in demonstrating that farmers with more training prefer to switch to organic farming. The caste and ethnicity also positively show that ethnic groupings appeared to be more interested in organic adoption (Table 7.4).

It was observed that five main motivating factors—environmental awareness, brighter market prospects, economic improvement, health consciousness, and sustainability in production—significantly impact the decision to switch to organic farming. Another truth is that the study area's female population now has job options due to organic farming (Table 6.5). Most workers in the tea industry are local women because there aren't many working men in the industry.

However, as revealed by the answers from the farmers, organic growing is substantially more difficult and expensive than traditional tea farming. They appeared to be unhappy with the current price. Several farmers spoke about the low price being paid for green leaves and explained that the price must increase for them to make a profit, the price must increase. The growers believe that prices would be higher if more than one factory purchased organic green leaves. They said that "the input prices are greater for organic producers." Switching to organic agriculture may not always result in increased earnings. Farmers have also struggled to find competent workers. There is a scarcity of competent labourers for cultivation and production in this field

as a result of the large-scale migration of males seeking employment in foreign nations.

Although organic farming was shown to be more sustainable than conventional farming, some problems need to be resolved. For the time being, there are no government programs, regulations, or financial aid to support organic tea farming. Governmental norms and regulations for organic agriculture inspection and certification have not yet been developed. Weaknesses were detected in the appropriate technology and marketing systems. Experts and proponents of tea claim that soil fertility is crucial, but convincing farmers to switch to organic farming has proven to be exceedingly difficult. As a result, the factory maintains a pesticide awareness campaign, gradually increasing awareness. It is challenging to produce organic tea since it requires a lot of labour and is very difficult to reach high quality because organic tea farming does not utilize chemicals. Because high-quality tea needs early picking and has smaller, tougher leaves, and shorter bushes, it is significantly more challenging to make. Only consistent product quality and organic tea in every lot are thought to increase the market for tea in Nepal. There is more potential for organic tea cultivation in the Ilam district, but much work and commitment are needed.

5.6 Farm-wise Green Leaves Production

It was found that the total area of organic tea plantation under two clusters of the Ilam tea extension program up to 2014 was 261.65 hectares with a green leaf production volume of 731000 kilograms.

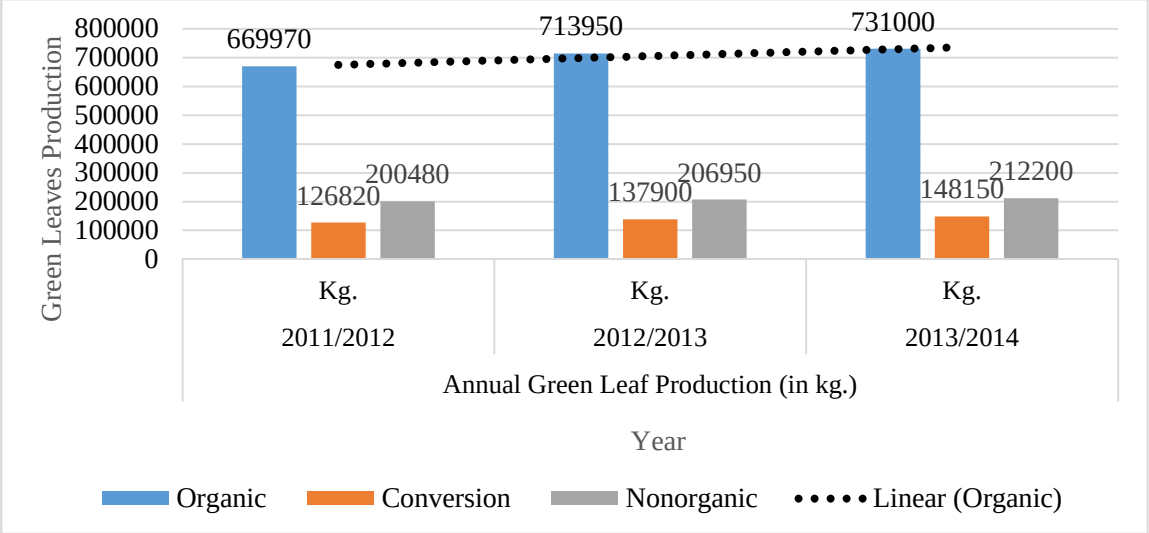
Table 5.5 Farm-wise Green Leaves Production and Productivity

Types of Farm	Farm Size (in ha.)	Annual Green Leaf Production (in kg.)				
		2011/2012	2012/2013		2014	
		Kg.	Kg.	Growth %	Kg.	Growth %
Organic	216.65	669970	713950	6.56	731000	2.39
Conversion	52	126820	137900	8.74	148150	7.43
Inorganic	61.5	200480	206950	3.23	212200	2.54
Total	330.15	997270	1058800	6.17	1091350	3.07

Source: Field Survey, 2014

The total area of conversion and inorganic tea plantation under two clusters of the Ilam tea extension program up to 2014 was 52 and 61.5 hectares, with a green leaf production volume of 148150 and 212200 kilograms, respectively. The highest growth rate was was the highest growth rate of 7.43 percent on conversion(Table 7.1).

Figure 5.2 Farm-wise Green Leaves Production



Source: Table, 5.5

Conferring the data, tea production has been increasing every year. According to the statistics, the total area of organic farming was under plantation with an output of 669970 to 731000 kilograms for the year 2011 to 2014 (fig 5.2). The average productivity of tea was 3472 kg. per hectare and annual revenue was Rs. 28128000 collected from the organic green leaf in the last year (2014 AD) (Table 5.5).

CHAPTER SIX

MOTIVATIONAL FACTORS INFLUENCING IN CONVERSION TO ORGANIC TEA FARMING

The conventional method of production and the organic method of production are the two main kinds of manufacturing patterns. Tea that is organically grown is produced without the use of chemicals. As a result, it poses no risks to human health or the environment. The demand for agricultural products produced without pesticides is rising as the global market becomes more concerned about the potential health risks associated with pesticide use. Organic agriculture is a farmer/eco-friendly holistic production system that uses local resources efficiently, avoids synthetic agrochemicals, produces healthy food and maize, and helps ensure self-sufficiency, food security, and access to international markets (Dahal, 2009).

Around the world, organic farming is expanding quickly. From 2000 to 2009, the area of land under organic management expanded from around 15 million to 37 million hectares, with about a third of that area in developing nations (Willer, 2011). Growing exports of organic food to developed countries were the key factor driving the expansion of organic land in developing nations (Parrott et al., 2006). Exporters in developing nations can pay higher prices to organic farmers who produce less in organic agriculture because of the significant demand and willingness of European and North American consumers to pay more for organic than conventional foods. However, the rates of organic output increase vary from one country and region to another and depend on various factors (.Brodt & .Schug, 2008).In contrast to Asia, where organic land area increased by 24 percent between 2007 and 2009, Nepal's organic land area declined(Willer, 2011).

Organic agriculture is necessary for the environment's and natural resources' sustainability, which seems more acceptable. To preserve soil productivity, fertility, and pest control under conditions of sustainable natural resources and a healthy environment is the production approach that encourages the most extensive use of organic materials (crop residue, animal faces, beans, on and off-farm material waste, growth hormones, bio-pesticides, etc.) and discourages the use of artificial agro-inputs. Ghimire (2002) claimed that if this issue is considered enough, organic farming is a workable idea for sustainable agriculture. Involving more and more experts is urgently needed to pinpoint critical areas for study to create environmentally friendly production systems.

As a result of concerns about the effects of chemical-intensive agriculture, the potential for global trade, and its role in sustainable development, organic agriculture has emerged as one of the top sectors for sustainable agriculture development worldwide. In addition to these factors, Nepal's diversified ecological niches, fragile and marginal farming practices, and abundant labour supply make small-scale organic agriculture highly relevant to a developing nation. In 1986, Sustainable Agriculture Nepal (INSAN) was founded as the first step in a systematic campaign to promote organic and sustainable farming in Nepal (Ranabhat, 2011). The general area in Nepal under organic management is said to be 8187 ha or 0.2% of the total agricultural area under the supervision of 1424 producers. The total area converted to organic is 7737 hectares. And the land under conversion is 245 hectares (International Federation of Organic Agricultural Movement [IFOAM], 2009). According to estimates, 800,000 acres (26%) of Nepal's agricultural land is organic by default (Dahal, 2011).

In terms of orthodox tea output, Ilam leads Panchthar, Dhankuta, and Terahthum. In Nepal, tea is now grown by 8,767 farmers (households). There are

104835 Ropani planted in Nepal as a whole. With 6137 farmers employed, Ilam alone makes up more than 80% of the total tea plantation area (Nepal Tea and Coffee Development Board [NTCDB], 2014).

HOTPA's organic program is currently viewed as a failure since the campaign for organic tea, which began in 1995, has essentially reached a stop. Due to the strong demand for organic products, particularly in rich nations, organic agriculture has increased over the past few decades in developing countries. However, it has been found that Nepal is converting to organic farming at a very slower rate than expected. Many farmers in Nepal are reluctant to convert to growing organic tea (Chapagain, 2010). Given the situation, it is necessary to look into the growth of organic tea farming in Nepal. As a result, quantitative surveys with organic tea growers and extra-qualitative interviews with key Nepalese stakeholders in the Nepalese tea industry have been carried out.

The soil and weather patterns of Ilam are ideal for growing orthodox tea. In this district, a significant number of small farmers grow tea, and their share of the overall production has grown over time as more small farmers are drawn to the sector. Small farmers are joined together and sell their leaves to factories that buy leaves through these cooperatives. With similar cooperatives in Ilam, these groups are united into Tea Producers' Cooperatives. Most farmers are now gradually being moved to concentrate on their production quality. It appears that small farmers are motivated to make their products organic.

6.1 Characteristics of Organic Tea Farmers

The Brahmin Chhetri caste makes up the majority (58%) of the tea growers in the study area. The Dalits, who make up only 5 percent of the tea-growing population, are followed by the ethnic group of Janajati (37%) in size.

Table 6.1 Characteristics of Organic Tea Farmers

		Organic Farmers (n=154)	
S.N.	Socio-economic variables	Mean (st. Deviation)	(%)
Personal data			
1.	Gender of the head of the household		
1.1	1=Male, 0=Female	0.79 (0.41)	
2.	Age (years)	46.86 (12.95)	
2.1	Less than 30 years	-	9.69
2.2	31 to 40 years	-	24.49
2.3	41 to 50 years	-	28.57
2.4	51 to 60 years	-	20.41
2.5	61 and up	-	16.84
3.	Educational Level		
3.1	0= illiterate, 1=literate only, 2= school level l, 3= college and university	2.06 (0.90)	
3.1.1	illiterate	-	0.00
3.1.2	Literate	-	37.42
3.1.3	School level	-	19.90
3.1.4	Collage and university level	-	42.86
4.	/caste		24.49
4.1	1= Janajat,i 2=Dalit, 3= Others	2.21 (0.95)	28.57
4.1.1	Janajati	-	36.73
4.1.2	dalit	-	5.10
4.1.3	other	-	58.16
5.	Family size (number of household members)	5.08 (1.77)	
5.1	Less than 5 members	-	69.39
5.2	6 to 10 members	-	29.59
5.3	11 to 15 members	-	1.02
6.	Experience in Tea Farming (Years)	15.87 (4.91)	
6.1.1	5 to 10 years	-	19.39
6.1.2	11 to 15 years	-	40.82
6.1.3	16 to 20 years	-	22.45
6.1.4	21 to 25 years	-	10.20
6.1.5	26 to 30 years	-	7.14

Source: Field Survey, 2014

Caste and ethnicity are also positive, with ethnic groups constituting 36.73% of the total cooperative members showing more interest in adopting organic tea cultivation. The ethnic ratio (Janajati per hundred other castes [(Janajati/other)]* 100) is 63.16. The sex ratio (female per hundred male [(F/M)]* 100) of the three cooperatives is 27.27. It was found that the sex ratio is higher (30.91) in the ethnic community than Brahman-Chhetri community (21.28).

A significant percentage of farmers (43%) have completed college or a university degree, yet 38% of all farmers lack formal education. They fall into the group of "literate only."

Table 6.2 Farm Data

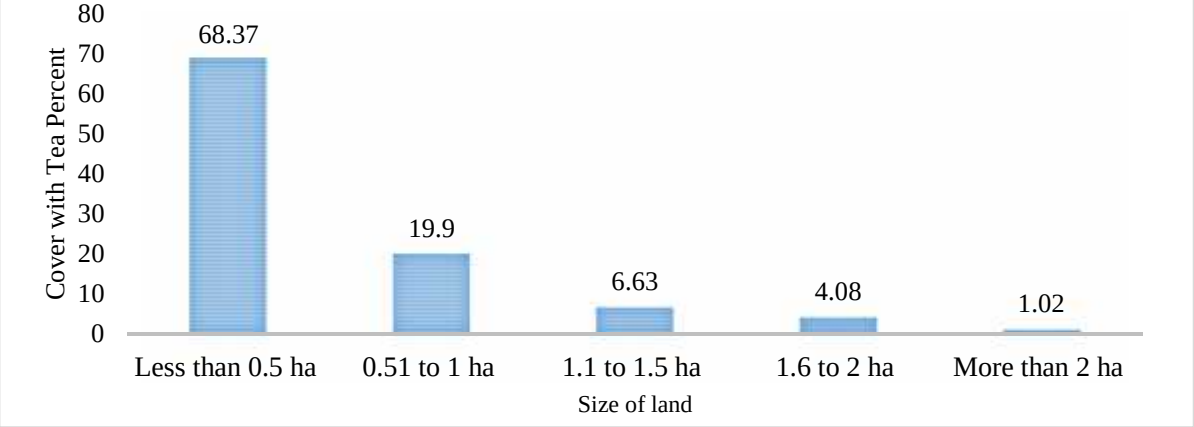
SN	Farm data	Organic farmers (n=154) (Std. deviation)	Mean (%)
1	Land covered with tea (ha)	0.45 (0.42)	
1.1	Less than 0.5 ha		68.37
1.2	0.51 to 1 ha		19.90
1.3	1.1 to 1.5 ha		6.63
1.4	1.6 to 2 ha		4.08
1.5	More than 2 ha		1.02
2	Affiliation with cooperatives		
2.1	0 = No affiliation, 1 = Affiliation	1.00 (0.00)	
3	Loan		
3.1	0= No borrowed, 1= Borrowed	0.23 (0.43)	
4	Access to agricultural technicians		
4.1	0 = No access to agricultural technicians, 1 = access to agricultural technicians,	0.93 (0.25)	
5	Training participation		
5.1	0 = no participation 1 = participation	1.00 (0.00)	
6	Delivery time to point of sale (hours)	0.95 (0.50)	

Source: Field Survey, 2014

The fact that all organic tea growers are connected to cooperative organizations indicates that they are moving toward organic cultivation. In the same

way, it has been shown that the farmers participating in the training have increased the trend of organic farming. Positive results for the projected age parameter indicate that older farmers are more likely to convert to organic farming. The market's time requirement has a very positive coefficient. It was found that the average transportation time to the selling point is less than 1 hour (0.95 hours) (Table 6.2).

Figure 6.1 Land Covered with Organic Tea (ha)



Source: Field Survey, 2014

The research demonstrates that orthodox tea planting attracts small growers. The average size of organic tea farms is found to be 0.45 hectares. Less than 0.5 hectares of farmland make up 68.37 percent of organic farms (cropped with tea) (Fig. 6.1).

6.2 Farmers' Motivation for Organic Tea Farming Practices

Whether they preferred organic farming, almost all farmers gave a favourable response, and a sizable majority expressed confidence in the future of organic tea. Half of the farmers predicted that the organic tea market would succeed, while the other half predicted it would be average. Some farmers claimed that farming organically was difficult and expensive when questioned about its challenges. Farmers emphasized health, the environment, a vibrant market, and sustainable production in their explanations of what organic agriculture is and why it is used.

Several farmers highlighted the low price of green leaves currently being offered (between Rs. 40 and Rs. 45), emphasizing the need for a higher price for the farmers to profit. One of the farmers continued by saying that prices would rise if more than one factory bought organic green leaves. Many farmers were reported to be dissatisfied with the current pricing. A principal component factor analysis was used to determine group farmers' motives for converting to organic agriculture methods. Motivations can be summarized in the following ten motivational statements.

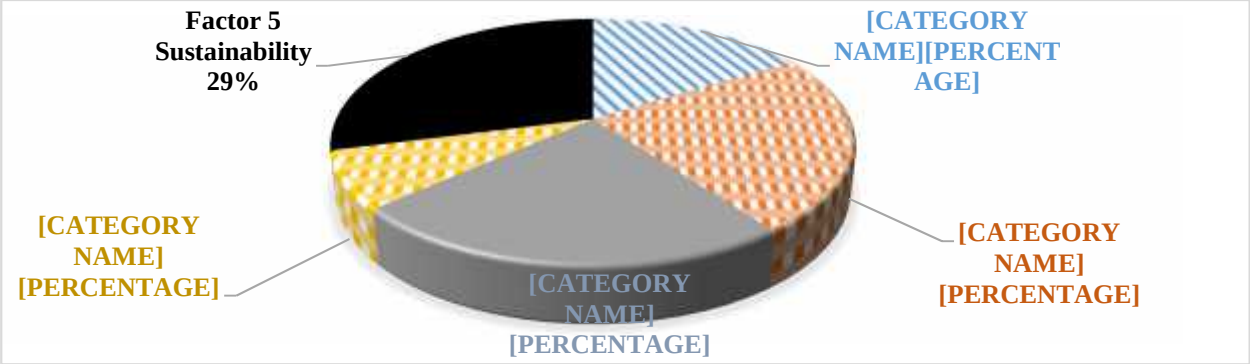
Table 6.3 Motivational Factors for Organic Farming

Variables	Frequency	(%)
Factor 1 Environmental awareness	31	(15)
Environment Protection.....	10	
Minimizing Soil Erosion.....	7	
Good soil fertility.	14	
Factor 2 Positive market prospect	44	(22)
The reputation of Nepali tea is positive in the global market.	23	
Fulfilling the needs of processors.....	21	
Factor 3 Economic benefit	44	(22)
Better profitability.....	1	
Easier and better marketing.....	43	
Factor 4 Health Consciousness	15	(7)
Healthy products for consumers	15	
Factor 5 Sustainability	50	(27)
Maximum utilization of farm internal resources.....	15	
Sustainability in production.....	35	

Source: Field Survey, 2014

The findings indicate that five distinct conversion-motivating factors were discovered. Factors affecting farmers' environmental consciousness are included in factor 1. 15% of the total farmers belong to this category.

Figure 6.2 Motivational Factors for Organic Farming



Source: Table, 6.3

Factors cited as good market potential include demand for organic tea and sustainability of production. This includes the optimism of the farmers. Not unexpectedly, another major motivator for farmers is the financial benefits of organic tea production. It plays a role in the conversion to organic production. The health consciousness factor includes healthy products for consumers. Factor 5 consists of motivational reasons dealing with the sustainability of the product. This factor consists of two variables: "maximum utilization of internal farm resources" and "sustainability in production." Farmers' confidence in the market for organic tea and the sustainability of production are factors that are referred to as "excellent market prospects." Unsurprisingly, another important driver for farmers is the financial gain from growing organic tea, which contributes to the shift to organic production. The health consciousness element includes healthy products for consumers.

However, as shown by the farmers' responses to the interviews, organic growing is much more expensive and challenging than conventional tea cultivation.

They contended that organic farmers' input costs were higher. Profits may not be higher as a result of organic production. Farmers have also had trouble finding trustworthy employees. There is a lack of educated labour in this sector for cultivation and production due to significant male labour migration to other countries. The good

news is that it has opened up employment opportunities for the study area's female residents. Due to the shortage of employed men in the industry, the bulk of workers is experienced, local women.

6.3 Opinion of Tea Experts on Motivational Factors towards Organic Tea Production

One of the respondents who were knowledgeable about tea stated that "the factory is transitioning to organic manufacture as pesticides destroy the environment and the quality of tea" and that "organic tea producers are in a stronger financial position than conventional tea producers due to the enormous foreign demand for organic tea." The key modifications brought about by the switch to organic farming involve discontinuing chemical fertilizers and pesticides. Organic fertilizer is made of compost and animal dung and contains no chemicals ". The factory runs a pesticide education program that gradually increases farmer awareness. The tea experts claim that producing organic tea is difficult, labour-intensive, and difficult to reach good quality because it cannot rely on chemicals. Animal feces and compost are the only chemicals present in organic fertilizer.

The plant operates a pesticide education program that gradually increases farmer awareness. The manufacturing of organic tea is difficult, labour-intensive, and difficult to reach acceptable quality because one cannot rely on chemicals, according to tea specialists. Since the bushes are shorter and the leaves are smaller and tougher, growing organic tea makes it considerably more difficult to create high-quality tea. Farmers in the region have had trouble growing enough tea because of declining productivity per worker and a manpower shortage. The responding tea expert remarked, "In the future, this entire area will be organic, and if the Ilam region is fully organic, it can compete with Darjeeling.

If it can satisfy the rising demand, Nepal's tea sector will succeed in delivering chances in the producing sector. Despite the fact that Darjeeling Tea is more well-known internationally, Ilam Tea and Darjeeling Tea are relatively similar; the key distinction is that the Ilam tea market in Nepal is less developed. They all agreed that the Nepalese tea market could only succeed with consistent quality and organic production.

The responding tea expert stated, "The Nepali government does not support organic tea production, and most enterprises in Nepal are not interested in switching to organic production. However, the Indian government is strongly promoting the development of Darjeeling tea and organic conversion. Nearly every expert concurred that organic tea has a sizable market and is advantageous for customers' health and the environment. It has a lot of potential, but a lot of work and commitment are needed on many different levels. According to one of the responders who is an expert in the field of tea, the main problems in the Nepalese tea industry are the difficulty in obtaining pesticides that are not banned, the absence of inexpensive or easy organic input, the lack of government support, the lack of accessible loans for farmers, and the lack of infrastructure. Experts in the field of tea believe that there are a variety of ways to view the significance of organic tea farming, some of which are covered here:

Environmentally Safe: In organic tea farming, farmers avoid using synthetic chemicals (fertilizers and pesticides) and rely on natural pest control, fertilizers, and cultural practices that help reduce various environmental pollution. Reducing the use of these toxic synthetic chemicals helps improve the health of humans and livestock, and other beneficial organisms.

More Sustainable: In organic production systems, farmers are less dependent on external inputs (such as pesticides, fertilizers, credit, etc.). They manage sound

production systems based on locally available resources that are economically and ecologically viable. It refers to the sustainable management of natural resources, Soil, Water, and Biodiversity.

Employment Source: It has been noted that organic farming necessitates much more labour than conventional farms. Organic farming, however, can hire unemployed people when labour is not restricted.

Health Awareness: According to research, organic foods include higher levels of cancer-fighting vitamins, minerals, and antioxidants than non-organic foods. There are fewer pesticide, antibiotic, and other chemical residues in organic foods. Compared to inorganic items, it tastes better. Consumers are becoming more conscious of the benefits of organic foods today, particularly for their health. They are aware of the environmental and health benefits of organic products.

Enhance Biodiversity Conservation: Organic tea cultivation helps in biodiversity conservation. This promotes the general health of the agricultural sector, ensures the preservation of significant genotypes, and offers habitat for beneficial animals.

Use of Local Resources: Organic farming uses a lot of local resources. Therefore, farmers do not have to rely on external inputs.

Profitable and Market Opportunity: By avoiding the high cost of agrochemicals, organic tea farmers can manage to lower production expenses. The organic system benefits from market premiums (fair prices) and occasionally reduced input costs, so even if crop yields are lower, the farm's overall economic returns will still be competitive. Organic farming is currently widespread all over the world. Many positive developments have been made in organic production on a global scale. Consequently, organic products have a bright future. As a WTO member, Nepal may

benefit from favourable market conditions. Global marketing is possible for high-quality organic tea goods.

Indigenous Knowledge: A native expertise of organic farming is available to the farmers. Organic farming still makes use of traditional knowledge.

It takes at least three years to convert a conventional farm to an organic tea farm. If a farm is not converted entirely at once, it may be converted progressively over time. There are enough prospects to expand the area used for organic tea farming. The execution of the national certification scheme, government support, and an efficient conversion strategy from conventional to organic farming are all important factors. Legumes, green manuring, or deep-rooted plants should be grown as part of an appropriate multi-annual rotation program to maintain or boost the soil's fertility and biological activity.

The study demonstrated the importance of training in the transition to organic production. The fact that the vast majority of tea growers lacked access to financing and were unable to afford the increased capital expenses related to the production of organic tea was another remarkable finding. Only the cooperatives' saving and credit programs allow the farmers to promote their tea farming.

It was shown that organic tea farms are about 0.45 hectares in size. Less than 0.5 hectares of farmland make up 68% of the organic farms. It is discovered that the farmers belong to cooperative organizations, which are encouraging signs for switching to organic farming. Similar to how training participation is encouraging, it demonstrates that farmers who have received more training are more ready to adopt organic agricultural practices. The study's finding that the time needed to reach the market has a substantially positive sign is another impressive finding. Positive results

for caste and ethnicity also suggest that ethnic groupings appeared to be more interested in organic adoption.

It was observed that five main motivating factors—environmental awareness, promising market prospects, economic gain, health consciousness, and sustainability in production—had a significant impact on the decision to switch to organic farming. Another reality is that women in the studied area now have employment options due to organic farming. The bulk of employees is hired by local women because there aren't many working men in the sector. However, as indicated by the comments from the farmers, organic cultivation is much more expensive and difficult, contrary to usual tea farming, organic cultivation is much more expensive and difficult. Small tea farmers appeared to be unhappy with the current price. Many farmers expressed their dissatisfaction with the low price being paid for green leaves and claimed that to make a profit, a higher price was required. If more than one factory bought organic green leaves, the farmers believed that prices would rise.

They stated that the cost of the inputs for organic farmers is higher. Profits might not thus be higher with organic farming. The lack of dependable staff has also been an issue for farmers. There is a lack of competent labour for this sector's production and cultivation as a result of the large-scale migration of males seeking employment in foreign nations.

Although organic farming has been proven to be more sustainable, there are still several problems that need to be solved. Government programs, legislation, and help are still lacking in promoting the production of organic tea. Governmental norms and requirements for organic agriculture inspection and certification have not yet been developed. Weaknesses were discovered in the marketing and technological systems. Experts and proponents of tea claim that soil fertility is crucial, but convincing

farmers to switch to organic farming has proven to be exceedingly challenging. The factory, therefore, runs a pesticide education campaign, which has only very gradually raised awareness. Producing organic tea is challenging since it requires a lot of labour and is very difficult to obtain acceptable quality because organic tea cultivation does not utilize chemicals. Because high-quality tea needs early picking and has smaller, tougher leaves, and shorter plants, it is far more challenging to make. It is thought that the tea market in Nepal will only prosper if the quality is reliable and all of the tea produced is organic. There is more potential for organic tea cultivation in the Ilam district, but much work and commitment are needed.

CHAPTER SEVEN

FACTORS INFLUENCING FARMER'S PARTICIPATION IN THE EXTENSION OF TEA CULTIVATION

The current agricultural extension program has its origins in events that took place in Ireland in the mid-19th century. Fungal diseases destroyed the Irish potato crop between 1845 and 1851, causing a terrible famine. The British government intended to send "practical trainers" to rural areas to instruct small farmers on how to grow alternative crops (Jones et al.,1997). The German government officials were impressed by this plan, so they created their system of traveling teachers. By the close of the nineteenth century, Italy, France, the Netherlands, and Denmark had all adopted the concept.

Some experts believe that the phrase should only be used for persuasive tactics, while others say it should only be used for instructional purposes. According to Paulo Freire, "extension" and "participation" are incompatible. These disputes are motivated by philosophical concerns. But in reality, in one part of the world or another, communication strategies that are related to each of these four paradigms are commonly grouped under the extension (Fire, 1969). Agricultural expansion is seen as an example of such a movement, both pragmatically and ideologically.

The proposed chapter focuses on factors that influence small farmers' participation in the expansion of tea farming in Nepal, where tea has a significant potential to generate export earnings and new jobs. There were 105,000 Nepalese working in the tea sector in 2006, primarily women (International Trade Centre [ITC], 2007).

The majority of Nepal's tea is grown by small farmers. Hence tea production and sales might be a trustworthy weapon for alleviating poverty (Heiss & Heiss, 2007, ITC, 2007). The area under cultivation in Nepal increased to 15,168 hectares in 2007, contributing to a 14% annual growth rate in the country's tea sector since 2000 (FAO,

2009a). Over 90% of Nepal's orthodox tea was exported that year, according to the Agro Enterprise Center/Federation of Nepal Chamber of Commerce and Industries (AEC/FNCCI). Up until this year (2014), 8,768 farmers in Nepal were involved in the 104,835 ropani of orthodox tea plantations. It documented the fact that the manufacturing of orthodox tea was 3,037,694 kg in this annum (NTCDB, 2014). Tea farming currently employs 15,234 Nepalese farmers. Nepal's entire plantation field is 28,732 hectares. More than 80 percent of the tea-planting area is in Ilam alone, and there are 7003 active growers (NTCDB, 2020).

It is grown as orthodox tea in Ilam due to its unique climatic circumstances and soil types. Many smallholder farmers in this district are involved in tea farming, and as more small farmers become interested in the industry, their contribution to overall production has grown over time. Green tea leaves are sold to "Bought Leaf Factories" by local farmers who are organized into groups. Tea farmers' cooperatives are formed from these types of communities. Most farmers are now gradually increasing the quantity of tea leaves they produce. Small farmers seem to be interested in expanding their tea cultivation.

The following queries were investigated in this study to get answers: What aspects of increasing tea farming in the Ilam District motivate farmers to participate? What difficulties are the tea farmers in the Ilam District facing as their firms expand? This study intends to broaden and enhance our understanding of the extension factors influencing tea production. As a result, quantitative surveys are being conducted with small tea farmers in Nepal's tea industry. The study's objective is to examine the factors influencing farmers' willingness to contribute to the expansion of tea production in Ilam. The Mangalbare cluster was chosen for the field survey since it was the most convenient of the three. According to reports, 2.72 percent (167) of

Mangalbare's family heads and producers are in charge of overseeing 2.93% (123 ha or 2476 ropani) of the region's total orthodox tea area (NTCDB, 2020).

For this investigation, three cooperatives were chosen: Ajambare Tea Producers Cooperative Society Ltd., Nawami Tea Producers Cooperative Society Ltd., and Hill Top Tea Producers Cooperative Society Ltd. 100 members from the selected cooperatives serve as a sample for the production of organic tea. Similar to this, there are seven privately owned mini tea processing factories in the selected area.

Table 7.1 List of Tea Cooperatives

Name of Cooperatives	Address	No. of Members
Ajambare Tea Cooperative Society Ltd.	Jitpur- VDC-2	66
Hill Top Tea Cooperative Society Ltd.	Deumai- M.-5	74
Navami Tea Producers Cooperative Society Ltd.	Jitpur- VDC-4	57
Total		206

Source: Field Survey, 2014

7. 1 Farmer's Expanded Tea Areas in Ilam

The growth of the tea area in Ilam is depicted in Table 7.2. The areas were expanded by 1731 hectares from 4189 hectares to 5920 hectares.

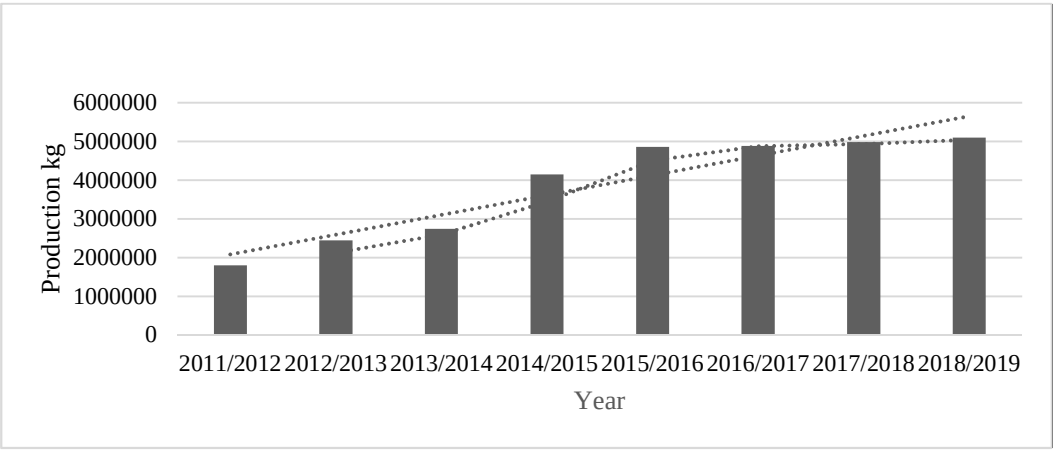
Table 7.2 Farmers' Extended Tea Areas and Production in Ilam

Fiscal Year	N. of Small farmers HH	Small Farmers Area (ha)	Growth in Area (ha)	Orthodox Tea Production
2011/2012	6095	4189	0	1804590
2012/2013	6137	4204	15	2449960
2013/2014	6372	4227	23	2743950
2014/2015	6985	4987	760	4146270
2015/2016	6995	5120	133	4863250
2016/2017	6995	5120	0	4884830
2017/2018	6995	5920	800	4982530
2018/2019	7003	5920	0	5096030

Source: NTCDB, 2020

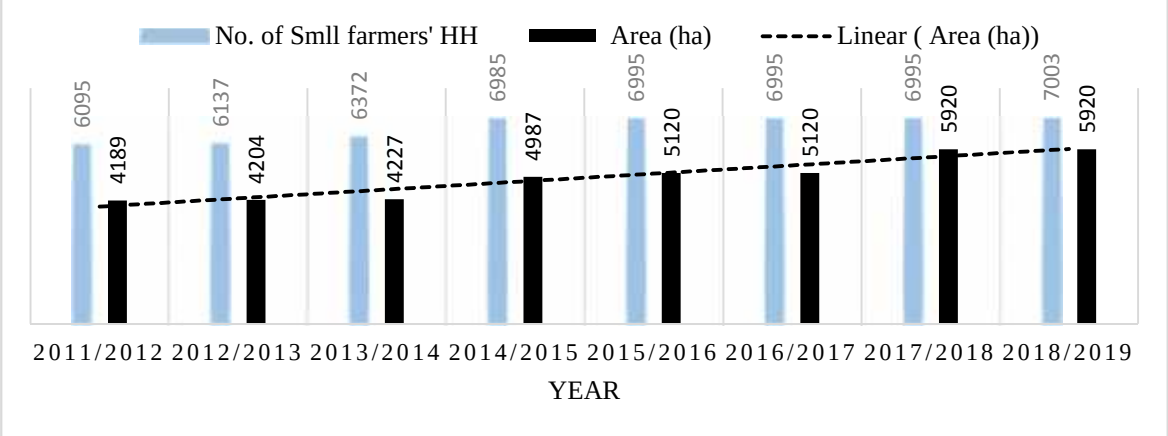
Figure 7.1 shows that the production trend was upward. The production increased from 1,804,590 Kg to 5,096,030 Kg.

Figure 7.1 Trend of Orthodox Tea Production (Kg)



Source: Table, 7.2

Figure 7.2 Farmer's Extended Tea Area



Source: Table, 7.2

The preceding table, number 7.2, demonstrates that orthodox production has nearly doubled in only eight years. Production had increased by 3,291,440 Kg, from 1,804,590 Kg to 5,096,030 Kg. Also, in fiscal years 2015/16, 2016/17, and 2017/18, the data of small farmer households number does not seem to have increased as it remained constant throughout those three fiscal years with 6995 households (Fig 7.2).

Compared to countries with big-scale producers, such as Kenya, Uganda, India, and Sri Lanka, the quantity of Ilam's tea on the world market is relatively small (Appendices VI).

7.2 Role of Tea Cooperatives on Extension

Cooperatives provide members with opportunities that smallholders would not be able to achieve on their own. The ability to bargain better contract farming conditions and lower prices for agricultural inputs like seeds, fertilizer, and equipment is a benefit for smallholder farmers who are part of a larger group. Cooperatives also offer opportunities that smallholder farmers could not seize on their own, like helping them secure land rights and expanding their access to markets. By creating long-term rural employment, agricultural cooperatives help men and women who are small agricultural producers as well as marginalized groups.

Producer cooperatives offer both male and female smallholders access to markets as well as services like improved natural resource management education and training as well as information, technology, innovations, and extension services (FAO, 2005).

Tea production in the Ilam District has expanded tremendously due to cooperatives. The data, which include socio-demographic information on farm size, fundamental farming conditions, and marketing conditions, show that 250 farmers have been cultivating tea farms for the past five years. 10% of the 250 farmers are under the age of 30. The average age of farmers is between 41 and 50, which represents 29% of the total (Table 7.4).

Among 250 farmers, 154 were found the member of tea cooperatives, and 96 were non-cooperatives (Table 7.3). Those members were involved in organic tea production.

Table 7.3 Sampled Tea Cooperative Demographics by Gender and Ethnicity

Cast Group	Sex	Name of Co-operative Society			Non-cooperative Farmer	Total	%
		Ajambare	Nawami	Hill top			
Janajati (Ethnic)	Female	6	4	3	8	21	8.67
	Male	22	9	13	27	71	28.06
	Total	28	13	16	35	92	36.73
Dalit	Female	0	2	2	2	6	2.55
	Male	2	1	2	2	7	2.55
	Total	2	3	4	4	13	5.10
Other	Female	3	9	3	10	25	10.20
	Male	23	29	21	47	120	47.96
	Total	26	38	24	57	145	58.16
Grand Total		56	54	44	96	250	100.00

Source: Field Survey, 2014

According to Table 7.3, most farmers (approximately 80%) who ran their farms were men. Here, barely 20 percent of women work in the sector (Table 7.3).

Table 7.4 Descriptive Analysis of Characteristics of Total Small Farmers

SN.	Socio-economic variables	Small farmers (N=250) Mean (St.Deviation)	(%)
	Personal data		
1.	Gender of the head of the household		
1.1	1 = male, 0 = female	0.79 (0.41)	
2.	age (years)	46.86 (12.95)	
2.1	Under 30 years	-	9.69
2.2	31 to 40 years	-	24.49
2.3	41 to 50 years	-	28.57
2.4	51 to 60 years	-	20.41
2.5	61 and up		16.84
3.	Educational level		
3.1	0= Illiterate, 1=Literate, 2=School level, 3= college and university	2.06 (0.90)	
3.1.1	illiterate	-	0.00
3.1.2	Literate only	-	37.24
3.1.3	School level	-	19.90
3.1.4	college and university level		42.86
4.	caste/caste		5.10
4.1	1= Tribal, 2= Dalit, 3= Other	2.21 (0.95)	28.57
4.1.1	Janajati	-	36.73
4.1.2	Dalit	-	5.10
4.1.3	Other		58.16

5.	Family Size	5.08 (1.77)	
5.1	Less than 5	-	69.39
5.2	6-10 Members	-	29.59
5.3	11-15	-	1.02
6.	Experience in tea farming (years)	15.87(4.91)	
6.1.1	5 to 10 years	-	19.39
6.1.2	11 to 15 years	-	40.82
6.1.3	16 to 20 years	-	22.45
6.1.4	21 to 25 years	-	10.20
6.1.5	26 to 30 years	-	7.14

Source: Field Survey, 2014

The majority (58%) of the people that produce tea in the study area are Brahman-Chhetri (Other). Only 5 percent of Dalits cultivate tea, making Janajaties' ethnic group the second-largest producer of the beverage (at 37% of total production) (Table 7.4). A substantial percentage of farmers (43%) have a college or university degree, despite the fact that 38 percent of farmers have no formal education. Their description is "literate only" (Table 7.4).

The data shows that orthodox tea cultivation attracts small farmers. The organic tea farm was determined to be 0.45 hectares in size on average. Less than 0.5 hectares of farmland (planted with tea) make up the majority of organic farms (68%) (Table 7.4).

7.3 Contribution of Cooperatives in Tea Production in Ilam

In Ilam, cooperatives have contributed considerably increase in production. In Ilam, tea cultivation first began in 1863. Until 2014, orthodox tea output had constantly been rising since its introduction in 1863. Although more than 90% of output is exported, this only makes up a small percentage of the total volume sold on the global market in 2018, around 5096030 kg. It is noted that 1 kg of black tea is from 4-5 kg of green leaves.

In Ilam, 44 tea cooperatives with mini tea factories were involved in tea production (Appendix IX). Among 250 farmers in the field survey, 154 (61.5% of 250) farmers were found the member of tea cooperatives, and 96(38.5% of 250) were

non-cooperatives members (Table 7.3). Those members were involved in organic tea production.

7. 4 Factors Influencing Farmers for Expansion of Tea Cultivation in Ilam

Almost all farmers were optimistic about tea cultivation, and most believed that, in the long run, tea farming would reach a new height in Ilam. They were also keen to turn to organic tea farming. Their only dissatisfaction was regarding the price they were getting paid, which is NRs 40 to 45 per kilogram. They said that to turn a profit; the price must be raised. One of the farmers continued by saying that if more than one factory had been willing to buy their organic leaf tea, the prices would have been appropriate. It was discovered that many farmers appeared unsatisfied with the pricing at the time. In Ilam, Nepal, the farmers' decision to expand their tea farming is influenced by price. Principal component factor analysis was performed to find the factors influencing farmers' which has been summarized in six statements.

Table 7.5 Factors Influencing Farmers in Expansion of Tea Cultivation in Ilam, Test of between-subject effects

Sources	Dependent Variables	The Som of Square	df	Mean Square	F	Sig.
Expansion of land under tea cultivation	The educational level of the respondents	.401	1	.401	.693	.406
	Main (primary) occupation	12.688	1	12.688	3.841	.052
	The Importance of being a A member of a cooperative	27.005	1	27.005	6.612	.011
	Access to credit	10.060	1	10.060	7.4667	.006
	For off-farm employment income	2.514	1	2.514	10.851	.001
	Amount of tea Harvested	5.716	1	5.716	34.009	.000

Source: Field Survey, 2014

The outcome shows that five different motivating factors for the expansion were identified. The issue of unreliable workers is one that farmers have consistently

faced. Due to the widespread male migration to other countries in search of jobs, this sector needs both skilled and unskilled personnel for cultivation and production. On the plus side, it has given the study area's female population more employment options. Most workers in the tea industry are local women because there aren't many working men in the sector

The Expansion of Tea Cultivation and Off-Farm Income: Data analysis showed that off-farm earnings had a favourable and significant influence on the growth of the tea farming sector (Table 7.5). The findings indicate that households with farm income are more inclined to invest in boosting tea production than those without farm income. Banks and potential lenders may view revenue generated abroad as collateral. Farmers may find it simpler to get financing, buy food, and invest in new farming inputs.

Cooperative Membership's Influence on the Expansion of the Tea Industry: The research found that the expansion of tea farming was greatly influenced by cooperative participation (Table 7.5). According to the findings, cooperatives play a crucial role for users and other stakeholders. People who were cooperative members had access to market opportunities, lobbying chances, extension services, and agricultural inputs.

Influence of Harvested Amount on Expansion of Tea Cultivation: The study revealed that harvested quantities significantly influenced the expansion of tea production (Table 7.5). It happens because farmers with higher yields and productivity earn an average of more money every year. With the help of this money, they can expand their tea farming by obtaining loans, buying more land, and getting better materials for agricultural input.

Influence of Primary Occupation on Expansion in Tea Cultivation:

The findings demonstrated that farmers' decision to take part in the expansion of their tea plantations was not influenced by their line of work (Table 7.5). This is because more than 75 percent of the sample's members claimed to only work in the agricultural sector.

Influence of Farmers' Educational Attainment on the Expansion of Tea Cultivation: The study's findings demonstrated that farmer education had little bearing on the spread of tea cultivation. Educated farmers work, receive loans from commercial banks and microfinance organizations, run their enterprises, hire workers for jobs off the farm, and participate in value chain dealings and activities related to agro-business.

Influence of Other Crops on the Expansion of Tea Cultivation:

The study discovered that other crops negatively impact farmers' decisions to expand their tea cultivation activities.

Table 7.6: Five Crucial Crops in the Study Area

Cooperative Member			Non-cooperative Member		
Factors under consideration	calculates	%	Factors under consideration	calculates	%
Maize	48	31	Maize	27	28.13
Paddy	26	17	Paddy	20	20.83
cardamom	32	21	cardamom	22	21.12
potato	31	20	potato	17	16.32
vegetables	17	11	vegetables	10	9.6
Total	154	100	Total	96	100

Source: Field Survey, 2014

The reason for this is that subsistence farmers use food crops far more frequently than they grow cash crops. Similarly, food security influenced the cropping patterns of the agricultural households on the list. The largest area of land is allocated for food crops (Table 7.6), fig. 7.3. This behaviour can be explained by various

factors, including market activity and—more significantly—a loss of faith in the market for cash crops. Despite this, household food needs are not being met by harvests, and a significant portion of household spending is on food.

Targeting specialty tea markets that offer price premiums that ensure sufficient revenue for small tea farmers is a good strategy for tea stakeholders looking to enhance the production of Ilam tea. As the harvest must be processed within a few hours of picking, the government and its allies should assist tea farmers who need to build tea factories. The government should come up with plans to inspire the producers in Ilam.

CHAPTER EIGHT

PRODUCTION AND MARKET MECHANISM OF GREEN TEA LEAVES

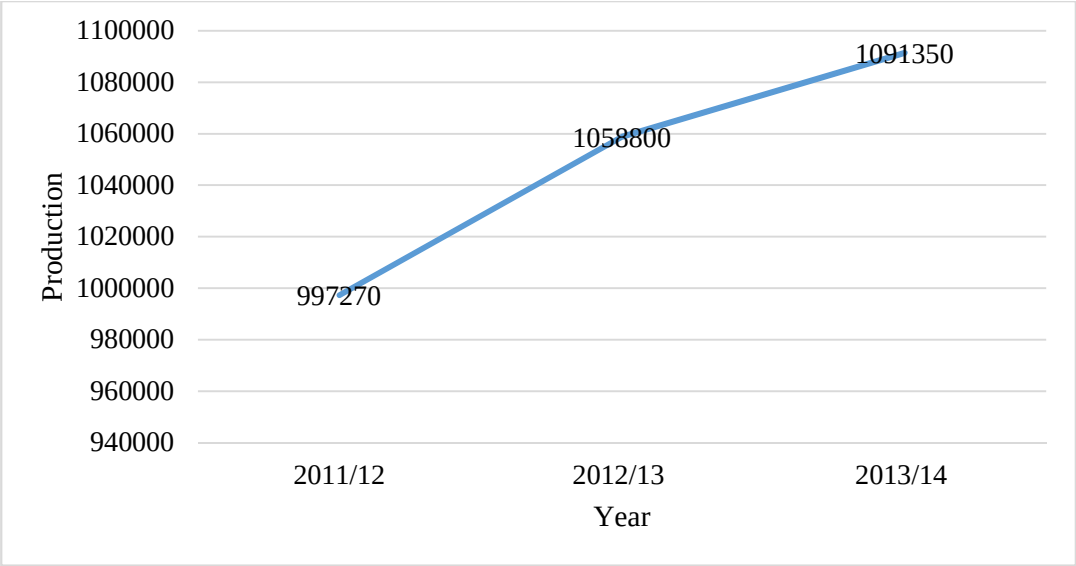
Agriculture and industry are combined in the tea industry. Most small plantation owners are unable to operate a factory on their estates. Even if they do, a factory may not be able to operate profitably with the raw leaves produced in small plantations. Small plantation owners recently established cooperative factories in Ilam, where they began processing tea leaves even though many small farmers sell their green leaves to the nearest Brought Leaves Factories.

Different market mechanisms are emerging throughout the world. Demand and supply movements are referred to as the market mechanism. In the market, these forces manifest as buyers and sellers. A market mechanism is a system of market exchange in which the forces of supply and demand control the price and quantity of goods sold. The law of supply and demand guarantees the efficient allocation of resources. Supply and demand interactions are important in bringing about market equilibrium. But occasionally, the government makes an effort to regulate the economy. The government may adopt regulations like pricing ceilings and floors. Such interventions prevent the functioning of the market process. The price acts as a signal for resource allocation in a market system.

8.1 Green Leaves Production

Production simply means transforming raw materials into finished products through specific processes. When referring to small tea growers, the term "production" refers to the production of green tea leaves in a tea garden. Green tea leaf production was found to have been 997270 kg in 2011–12, 1058800 kg in 2012–13, and 1091350 kg in 2013–14. The production of green tea leaves in the Ilam District is explained in the following Figure 8.1.

Figure 8.1 Green Tea Leaves Production Trend (in kg)



Source: Field Survey, 2014

Figure 8.1 highlights that the trend of production of green tea leaves of Ilam has increased from 2011/12 (997270 kg) to 2013/14 (1091350 kg).

8.2 Quality Control

The price of green leaves depends on their quality. The best green tea leaves for high-quality tea are one bud and two leaves (Dui Pat Ek Suiro in Nepali). According to observations made in the field, green tea producers and consumers always prefer buying this particular variety of tea leaves. For quality control of the tea leaves produced, the Small Tea Farmers train the tea leaves pluckers to pluck one bud-two leaves (Dui Pat Ek Suiro) from the tea plant. Otherwise, the market demand price of green tea leaves will fall.

8.3 Cycle of Green Tea Leaf Production

The yield of green leaves is not equal in all seasons. The production level of green tea leaves in the Ilam district depends on the production cycle. The production cycles are classified into four stages:

i) First Flush Period – March and April.

ii) Second Flush period—May, June, and July

iii) End Flush Period—August, September, October, and November

iv) Nil Period (Banjhi period) – December and January, Once in the rainy season.

Based on the small farmer focus group discussion, the following table shows the production cycles of green tea leaves, including the numbers of plucking time, Quality, and Quantity of green tea leaves in the district.

Table 8.1 Numbers of Plucking Time, Quality, and Quantity of Green Tea Leaves in Different Periods

Production Stages	Nos. of Plucking time in a Month	Quality of Green Tea Leaves	Quantity of Green Tea Leaves *
1ST Flush Period	Three times	Medium standard Quality	Medium Level Production
2nd Flush Period	Four times	High Standard Quality	High Level Production
End Flush Period	2/3 times	Less Standard Quality	Low Level Production
Banjhi period (Nil period)	Two times (winter/ rainy)		No Production

Source: Field Survey, 2014

Note: * Quality of green tea leaves is not the same in made tea.

First Flush Period: – During this period, i.e.(Chaitra, Baishakh, Jestha) March and April, the tea farmers of the Ilam district start plucking green tea leaves with the help of labourers three times a month that is medium standard in quality and medium level in terms of quantity. High-quality **Spring tea** is made of the first flush.

Second Flush Period:- The period from(Ashad, Sharwan, and Bhadra) May to July is the harvest season for Small Tea Farmers. During this period, green tea leaves are plucked a maximum of 4 times a month which is a high standard in quality

and quantity. This period is best for Small Tea Farmers because the demand for green tea leaves in the market is high, and earnings more. In this period, the Small Tea Farmers' production is more than half of the total per annum. Medium-quality of **Rainy tea** is made during the second flush.

End Flush Period: - End Flush Period starts from (Aasoj, Kartik, Mangsir) August and ends in November. The farmer picks green tea leaves two to three times a month during this time of year, but the quality and quantity are substandard. Factory-made tea of End flush is known as **Autumn tea** of high quality.

Banjhi period (Nil Period):- December to January and mid-rainy season are nil periods because the plucking of green tea leaves is stopped during this period.

8. 4 Productivity of Green Leaves of Small Tea Farms

The quantity of green tea leaves produced by small tea farms, the number of workers, and the operating area of land can all be used to determine the productivity of small tea farmers. The production of green tea leaves from 2011/12 to 2013/14 in the Ilam district is given below (Table 8.2):

Table 8.2 Production of Green Tea Leaves of Ilam District (2011 to 2014)

Year	Average Production(in kg)
2011/12	3020.66
2012/13	3207.03
2013 /14	3305.62

Source: Field Survey, 2014

Table 8.2 displays the production of green tea leaves from 2011–12 to 2013–14. In 2011/12, the average production of green tea leaves was 3020.66 kg. It rose to 3305.62 kg. in 2013/14. The production trend of green tea leaves increased from 2011/12 to 2013/14.

8.5 Marketing of Green Tea Leaves

Marketing refers to the business activities that move goods and services from the core producer or service provider to the final users or consumers. Most people agree that marketing is a social process by which people or organizations get what they need and want by creating and exchanging goods and value with others. In marketing, the exchange is the foundational concept. Demand and supply are the determinants of marketing. Tea factories demand green leaves according to their capacity and need, and tea farmers supply green leaves to the factory for the amount they produce.

Tea leaves should be disposed of as soon as possible because they are a perishable product. The intricate network of Small Tea Farmers and industries that stand between the source of the tea leaves on the one hand and the ultimate manufacture of the finished product for tea consumption on the other is referred to as the marketing system for tea leaves.

8.5.1 Market Situation of Selling Leaves

It has been shown that there is no effective marketing strategy the selling green tea leaves produced by small tea farmers. To sell their tea leaves, Small Tea Farmers always rely on Large Tea Estates, Bought Leaf Factories, and Agents. The following table 8.3 shows the market situation of the Ilam district:

Table 8.3 Market Situation

Clusters	Adequate Types	Not-Adequate	Data Not Disclosed	Total
Jasbire	11	101	4	116
Mangalbare	14	114	6	134
Total	25 (10.0%)	215 (86.00%)	10 (4.0%)	250 (100%)

Source: Field Survey, 2014

Table 8.3 reflects that the majority, i.e., 86.0 percent of Small Tea farmers, are unsatisfied with the adequate marketing system for selling green tea leaves in the Ilam district. Only 10.0 percent of Small Tea Farmers have replied that the marketing system is adequate, and 4.0 percent of Small Tea Farmers have not disclosed their comment on the Ilam district's marketing system during the investigation period.

8.6 Average Price of Green Tea Leaves

The average price fetched by small tea farmers per kilogram of green tea leaves is not rigid. Green tea leaves prices from 2011/12 to 2013/14 are different each year (Table 8.4).

Table 8.4 Average Price of Green Tea Leaves

Year	Average Price (per kg)
2011/12	30
2012/13	35
2013 /14	38

Source: Field Survey, 2014

The average price is cyclic, i.e., it varies from year to year. Additionally, it has been noted that the average price for a kilogram of green tea leaves does not go over Rs. 38. At the tea factories, green tea leaf prices are set (table 8.4). Tea

Factories' roles are considerable. District Level Monitoring Committees for decision is not present, so there is no legal sanction of price.

It may be assumed that the difference between the average price paid by Factories and the price received by Small Tea Farmers is made by the middlemen or agents.

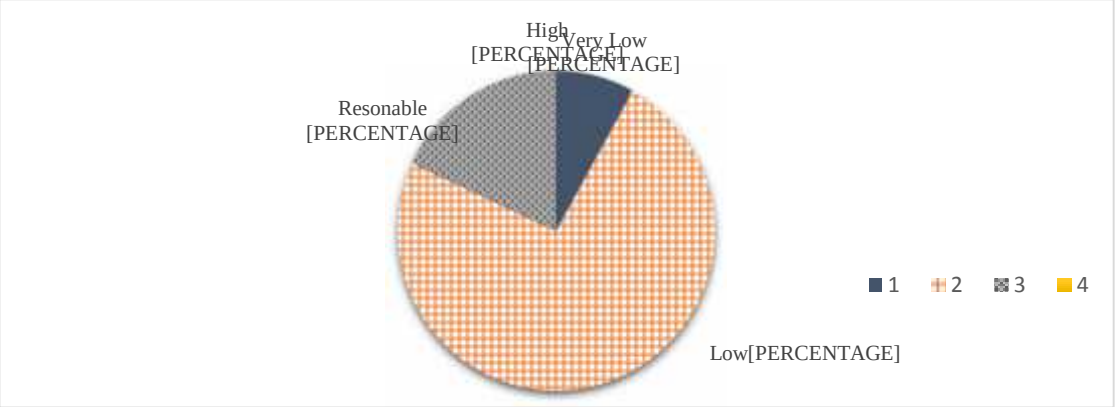
Table 8.5 Small Tea Farmer's Opinion on Price Determination

Clusters	Very Low Price	Low Price	Reasonable Price	High Price
Jasbire	8	89	19	0
Mangalbare	12	96	26	0
Total	20 (8.0%)	185 (74.0%)	45 (18.0%)	0

Source: Field Survey, 2014

Table 8.5 and fig 8.2 displays the Small Farmers' opinions on the price of green tea leaves received from the purchaser. Price determination is found that a maximum, i.e., 74.0 percent of Small Tea Farmers, have given an opinion on the price of green tea leaves to be low. Eighteen percent of Small Tea Farmers have given an opinion on the price of green tea leaves being reasonable, and 8.0 percent of Small Tea Farmers have given an opinion on the price of green tea leaves being very low. It was also found that no farmers have given any opinion that the price of green tea leaves is high. Data shows a kind of monopoly in the price of factories in the determination of price.

Figure 8.2 Small Tea Farmer's Opinion on Price Determination of Green Leaves



Source: Table 8.5

8. 5.2 Market Status of the Study Area

It is found that the marketing environment for selling green tea leaves produced by small tea farmers is very weak. In this context, SWOT analysis is done during the investigation of Small Tea Farmers in the Ilam district.

8.5.2.1 Strengths: Small Tea Farmers of the Ilam district should be treated well and be able to fulfill their basic needs as they are the leading contributors to the economy of the Ilam district. This has partially solved the unemployment problem and improved the socio-economic conditions of the local people. Some of the residents of the district work as agents for the marketing of green tea leaves.

8.5.2.2 Weakness: To sell green tea leaves and determine the selling price, small tea farmers must continually rely on a large tea estate, bought leaf factories, and agents. The market infrastructure of the Ilam district is underdeveloped. Moreover, some Small Tea Farmers do not consider tea cultivation a primary income source.

8.5.2.3 Opportunity: Each smallholder tea farmer's capacity to survive depends on their marketing strategy. Bought Leaf Factories and agents throw new opportunities and market for diversified production at Small Tea Farmers level.

Formation of co-operatives and Self Help Groups among the Small Tea Farmers of the Ilam district should be encouraged for a better market mechanism.

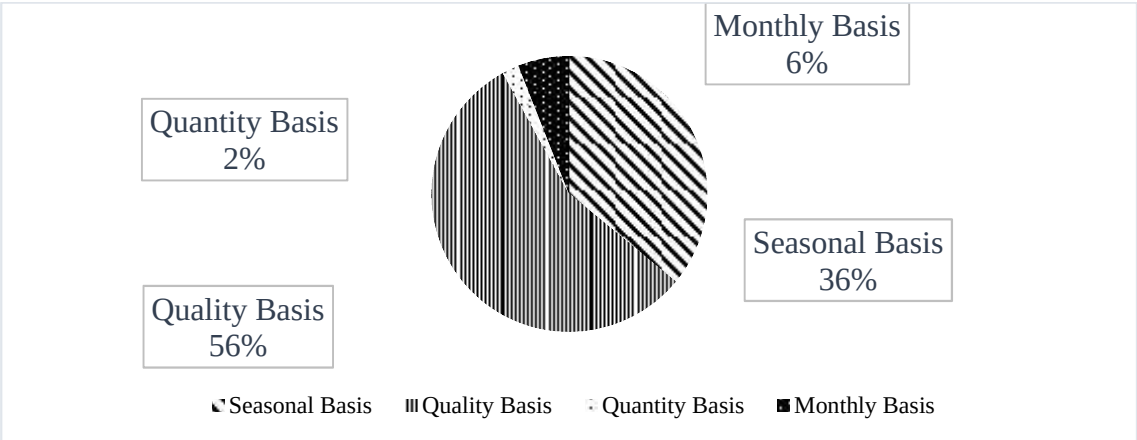
8.5.2.4 Threats: The cost of producing green tea leaves has been rising over time, but the price realization from green tea leaves has been inadequate due to a lack of an adequate marketing structure, the dominance of large tea estates in determining the prices for green tea leaves, and the role of bought leaf factories.

8.5.3 Methods of Pricing of Green Tea Leaves

Green tea leaf supply and demand are used by the market mechanism to establish the equilibrium price of tea. Green tea leaf pricing is a major issue for the Ilam district's small tea farmers. Small Tea Farmers have often utilized the following techniques to determine the price of green tea leaves.

a) Seasonal System
b) Quality System
c) Quantity System
d) Monthly System

Figure 8.3 Method of Pricing Tea Leaves by Number of Farmers in Percent



Source: Field Survey, 2014

Figure 8.3 shows that the price of green tea leaves is often determined based on quality. Among 250 Small Tea Farmers, 140(56%) farmers' prices were fixed on a

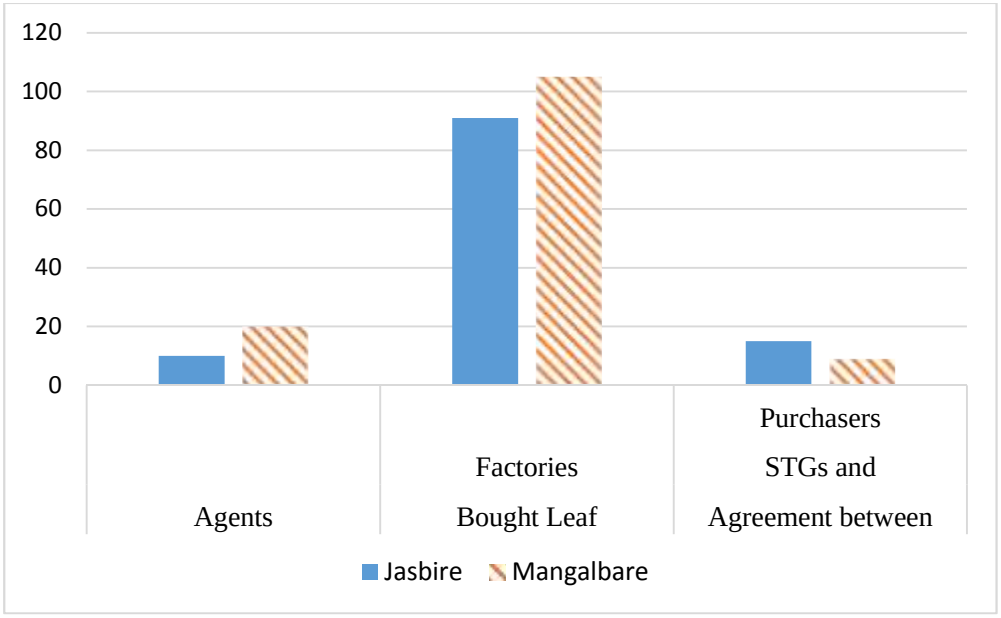
quality basis, and 90 (36%) numbers of farmers' prices were fixed on a seasonal basis. But, in the case of a few Small Tea farmers, i.e., 15 numbers of Small Tea Farmers, the prices were fixed monthly. Further, the prices of green tea leaves of 2 percent of Small Tea Farmers are fixed on a quantity basis (Fig 8.3).

Table 8.6 Fixation of Price of Green Tea Leaves

Clusters	Small Farmers Own self	Agents	Bought Leaf Factories	Agreement between STFs and Purchasers
Jasbire	0	10	91	15
Mangalbare	0	20	105	9
Total	0	30(12.0%)	196(78.4%)	24(9.6%)

Source: Field Survey, 2014

Figure 8.4 Fixation of Price of Green Tea Leaves



Source: Table 8.6

The above Table 8.4 and Figure 8.3 reflects the fixation of the price of green tea leaves in the Ilam district. The price of green tea leaves has been fixed at 9.6 percent (24 farmers) percent in accordance with the agreement between small tea farmers and green tea buyers, with the maximum price of green tea leaves being set by BLF at(196

Farmers) 78.4 percent. The agent fixes 12 percent (30 farmers)of the price. No single small tea grower has had an impact on the price of green tea leaves. From the observations, it is clear that Bought Leaf Factories had a substantial impact on the price-fixing of green tea leaves in the Ilam district relative to other entities. It indicates the poor market mechanism. The Bought Leaf factories, Large estate factories and Collection agents are together price fixers for green tea leaves. Small tea farmers are viewed as price takers. The quality of tea leaves, is a strong determinant for price fixation, is linked to plucking methods.

8.6 Market Supply for Selling and Pricing Decision of Green Tea Leaves

The small farmer and tea cooperatives are the source of green leaves supply. Bought leaf factory and Tea Estate demand green leaves to produce orthodox tea. Tea Estate manufactures its tea. Their supply of green leaves demands itself. Small farmers supply their handmade tea to the local area.

Tea is a healthy drink, and better to say it is a food. Green tea leaves from small tea farmers have been sold on the market using the two methods indicated below:

a. Direct Selling Method
b. Selling through Agents and cooperatives.

Around 1,091,350 kg of green tea leaves is produced annually in the studied area by 250 small tea farmers. Small Tea Farmers either sell their green tea leaves directly to factories or with the aid of agents and cooperatives. The study clearly reveals that the majority, i.e., 170(68.0%) of the tea Farmers, sold their green tea leaves through the agents, and only 80 numbers of small tea Farmers (32.0%) sold their leaves by establishing direct connections to the factories. As a result, the agents are crucial in the green tea leaf sale process. Tea factories used their own vehicles to

carry green tea leaves for direct selling, and Small Tea Farmers used to carry green tea leaves to the collection center.

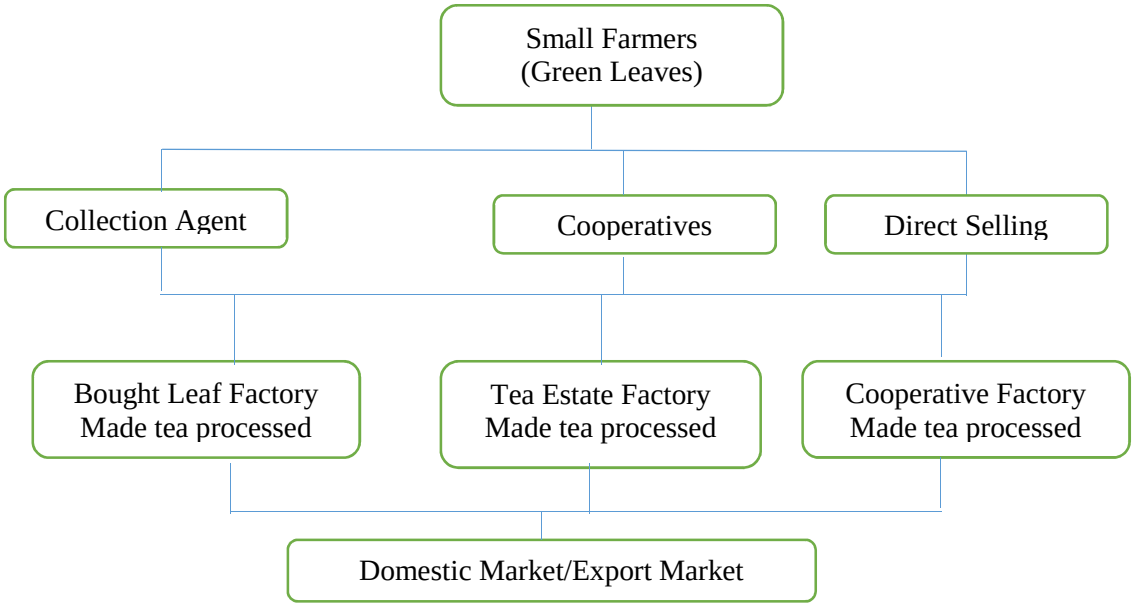
The decision made by the factories that buy the leaves, the role of collecting agents, and the price-fixing of the estate factories all affect the price of green leaves, and it is widely known that small tea growers are price takers. The quality of the small tea growers' products and different agro-climatic, agronomic, and pricing mechanism impact their price.

Oligopsony of Big Tea Estates and Bought Leaves Factories (BLFs) of Ilam influence the fixation of the price of green tea leaves. It is a type of imperfect market. A market structure known as oligopsony is one in which there are many sellers and few buyers. Few buyers can control the price of goods sold by many sellers due to the concentration of demand in their hands. In this system, the ratios of profit and benefit favour buyers because there are few buyers compared to many sellers. Small-scale tea farmers are compelled to sell their green tea leaves for extremely low prices, which may reduce their capacity to make a profit. An integral component of the Small Tea Farmers is the market price fixing of green tea leaves. In this situation, the government can help small tea farmers by implementing the idea of a minimum support price, which also applies to other agricultural goods. The establishment of a forward contract is necessary since marketing is essential to the survival of all Small Tea Farmers. Small Tea Farmers Association and Tea Cooperatives of Ilam may construct a collective depot for locally accessible raw green tea leaves to supply them to purchased tea leaf factories at a reasonable price.

The only raw material used to make processed tea is the well-known "green tea leaves." Green leaf pricing movements are influenced by a number of variables, including farmer decisions and supply lines that link the finished product to export

markets. The price of tea can be identified as a phenomenon that depends on interactions between growers, estate owners, bought-leaf factories or solo manufacturers, and many stakeholders in various domestic and international marketplaces, both domestic and international. The fig.8.5 flow diagram shows how the small tea growers' green leaf supply moves through multiple procedures before reaching the final consumer.

Figure 8.5 Marketing Channel for Mechanism



Source: The Author

Small tea growers are layered in terms of dependency on decision-making and work as a subcontractor with dependence on favourable climate for yield. An as a price receivers from bought leaf factories, large estates, and multinational companies at the top of the ladder (Sharma et al. 2017). Price mechanism of tea is waved by various factors which are largely dependent on the status of an organization, the role of leaf agents, quantity issues of tea leaves, price movements of tea and the role of NTCDB. Small tea growers supply products to the factories through three. Different channels involve direct selling to the factory, Secondly, through collection agents, and thirdly, through the involvement of cooperatives. The agent has a strong cartel

arrangement with Bought Leaf Factories and Estate factories. The study on the sale practices for processed tea is taking place through direct sales. No Auction system is conducted here. Small tea growers' pricing decision on green leaves on a strict price band decided by the cartel of BLFs, collection agents, and large tea estate factories. The present structure of STGs does not have a stronger bargaining power due to its weaker organizational formation, and at the same time information, asymmetry of pricing is intense. According to the field survey, careful plucking of the tea leaves, which an emphasis on organic farming should follow, is the first step in improving tea quality and boosting its price.

8.7 Tea Tourism and Rural Development of Ilam

Rural development is the process of enhancing both the social and economic well-being of the rural population. Our economic structure is based on agricultural growth. Agriculture development includes growing rice, maize, and other agricultural products, including paddy, wheat, tea, cardamom, ginger, and vegetables.

Tea is grown extensively in Ilam. This subheading investigates the question of whether or not tea tourism significantly affects the rural community growth in the Ilam district. By linking the tea industry to tourism and studying its impact on Ilam's rural development, this study also aims to understand the role of the tea industry.

Tea Tourism

Tourism is the term used to describe travel that is done for entertainment or recreation. Nowadays, with technological advancements, increased productivity, and changing attitudes, the opportunities and purposes of travel have also changed and intensified. Education, sports, business, healthcare, and adventure have replaced traditional "recreation or entertainment" as the main reasons for travel. This industry's

growth has led to the emergence of newer products, including "agritourism," "adventure tourism," "sports tourism," and "sustainable tourism."

Agri-tourism, rural tourism, farm tourism, alternative tourism, soft tourism, and many more describe the tourism business in rural areas. The term "rural tourism" currently refers to all forms of tourism in rural areas. Agritourism, rural tourism, and rural community tourism are all interchangeable terms. Those various terminologies represent certain fundamental variations in the growth and management of tourism in any particular region. Agri-tourism is a form of tourism focused on farms, whereas rural tourism refers to all forms of tourism in a region.

Initially intended to diversify rural livelihoods and agricultural practices, agro-tourism—also referred to as ecotourism or rural tourism—is now becoming more popular. Today, it is a highly well-liked environmental protection concept. Ecotourism is one of many long-term, market-based solutions that successfully promote preserving the world's natural and cultural heritage and expanding bio-cultural diversity. "Rural enterprises that combine both a functioning farm setting and a commercial tourism component" are what Weaver and Fennell (1997) define as agrotourism.

Agritourism, in its most basic definition, is travel that incorporates rural areas with agricultural goods as part of a paid-for tourism experience. These excursions may involve travelling to farmers' markets to buy products created in the area, participating in harvest festivals, and visiting orchards and floral gardens. Fixed attractions, events, and services make up the three main topics that can be used to group the entire spectrum of agro-tourism product and service development

opportunities. All demand careful management and resources for supporting development.

Tea tourism is emerging as a new type of tourism. As this type of tourism is sustainable and green, people's interest in tea culture is increasing, so there is enormous market potential. There is great potential for Ilam to become a tea tourism destination and for the tea sector to be promoted as a new market sector and tourism product. Tea tourism can take advantage of the nation's 150-year tea tradition, agricultural heritage, beautiful tea estates, and well-known brand name, Ilam tea.

Tea tourism in Nepal has great potential and a chance to draw domestic and global tourists. It is crucial to determine the mechanisms and approaches that will allow tea tourism to be incorporated into the overall tourism strategy through actions like product development, promotion, and policy decision-making, as well as the creation of value-added products for tea tourism and additional marketing. It is also worthwhile to pick a few tea plantation places where tea tourism might be promoted as a test project.

Tea tourism also improves social life since it allows visitors to see how people live on tea farms. Tea tourism preserves natural greenery and contributes to environmental protection. Tea tourism can boost local economies and slow or stop labour migration. Additionally, it might increase the number of job openings in the area. Considering current and future tourism expectations, stakeholder engagement, product development, and tourism promotion are essential for the continuing growth of tea tourism.

However, farmers are friendly and honest. Farms and Ilam villages can provide unique experiences, including lodging and native food. Traditional

commodities, services, and cultural pursuits abound in rural communities. As a result, agro-tourism can serve a specific segment of agro-tourists.

8.7.1 Choice of Tourists Activity in the Tea Garden of Ilam

According to NTDB, 8 BLFS, 5 Tea Estates, 38 Tea cooperatives, six cooperatives with mini tea factories, and 38 individual mini /small Tea factories are running in Ilam. About 6000 small farmers have owned tea firms. Choice of Tourists Activity in the Tea Garden of the Ilam district is discussed with farmers, and they reported most of the tourists to come to enjoy the natural beauty of the tea garden (Table 8.7).

Table 8.7 Choice of Tourists Activity in Tea Garden of Ilam 2014

Activity	N. Farmers' response	Percentage (%)
Tea cultivation & processing	25	10
Nature & Experiment	70	28
Purchase of hand-made tea	35	14
Leisure	40	16
Local culture & customs	20	8
Food & Accommodation	30	12
Picnic	30	12
Total	250	100

Source: Field Survey, 2014

As shown in the above figure, (seventy (10%) farmers reported) the most popular activities are enjoying the natural beauty of tea gardens, experimenting with the natural environment, and for leisure and relaxation purposes. Similarly, tourists demanded to purchase hand-made orthodox tea as a gift item in the local market (reported by 35 farmers). It should be noted that during the village field survey, it was discovered that locals usually offer lodging in their own homes as a homestay, giving visitors a cozy feeling. Similar to this, other facilities include resorts in tea gardens where visitors may experience luxury while eating traditional food produced by locals

in a clean environment and served to them using local customary serving utensils. Some of the tourists also show their interest activity levels in local culture and customs. Food & accommodation is also preferred activity of the tourist. Kanyam and Panitar tea gardens are famous picnic spots.

8.7.2 Specific Potentials of Tea Tourism in Ilam

Ilam has great potential and opportunity to promote tea tourism and draw both domestic and international visitors. Tea tourism can be incorporated into the overall tourism strategy by developing value-added tea-tourism goods, developing policy decisions, and, most importantly, maximizing benefits to the local community through pro-poor partnerships to eliminate poverty.

Very Old Tea Factory: Ilam and Soktim tea gardens were started before 150 years. The variety of tea plants and machinery of tea factories are different compared to the recent Tea Estates. Tea experts in Ilam said that these varieties are not found in other gardens in Nepal and India.

The Tradition of Hand-Made Tea: Farmers of Ilam have a tradition of hand-made tea culture at home. They make such tea for their own consumption and to sell it locally.

Tea Extension Offices: Mangalbare, Jasbire, and Fikkal tea extension centers have international tourist potential. It may become a point of interest for students and research fellows worldwide if it is well-developed for tourist purposes.

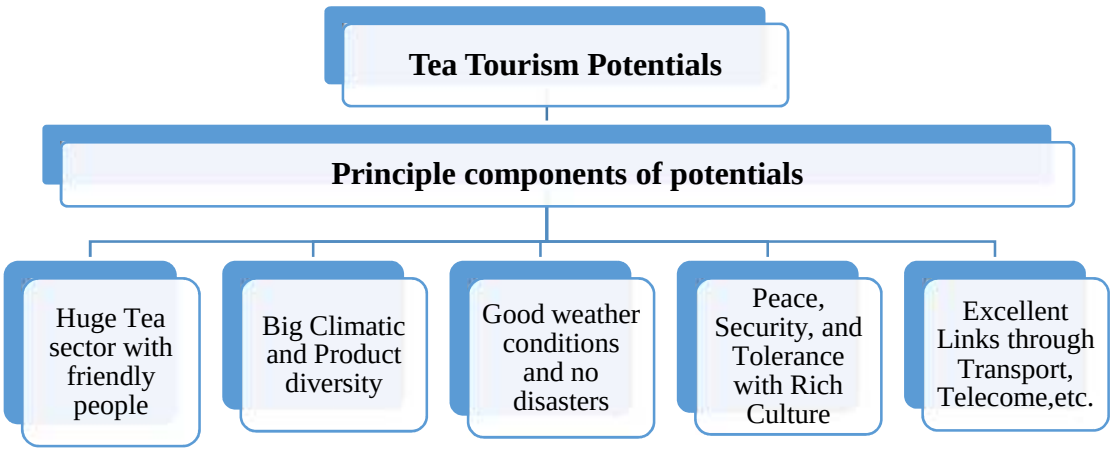
Organic Tea Estates and Tea Gardens: Organic tea has recently gained popularity among health-conscious consumers. Many Ilam tea planters have begun using organic tea planting and production methods in recent years. Health-conscious visitors from all over the country have begun to visit those plantation locations to

witness the manufacturing process first-hand and connect with the planters, ushering in a new chapter in the region's tourism.

Other Things Visitors Can See: Visitors may have the chance to visit animals, birds, farms, and the natural world through agro-tourism. The hill station is home to rare birds, animals, and plants, including the red panda, black bear, musk deer, leopard, porcupine, jackal, and plants like medicinal herbs and orchids. In addition, culture, attire, celebrations, and rural games may pique the interest of foreign visitors interested in tea tourism. Ilam is also known for its ethnic diversity as it is inhabited by Rai, Limbu, Tamang, Lepcha, Sunuwar, Magar, Kulung, Gurung, Sampang, Newari, Sherpa, Chamling, Bantawa, and Yakkha. They can find other tourist spots near the garden in Ilam, such as ‘Pathibhara Devi,’ Hanspokhari, Antu Danda, Choyatar and Hangetham Forests and Lapcha village are those locations near Kanyam Tea Estate and Fikkle Tea garden areas. Another notable Ilam destination is the Mai-Pokhari (pond), with nine corners. Narayansthan, Bhimsensthan, Sati Devi Mandir, and Singha Bahini are near Ilam Tea Garden. Todke Falls and Sandakpur, near Jasbire Tea garden area. Singhadevisthan, Siddhi Thumka, and Ajambare are near Panitar and Jitpur Tea Garden areas(Katuwal & Ghimire). These tea gardens are popular among tourists for picnicking, sightseeing, and photography.

Activities for Visitors: The few activities that visitors can engage in and enjoy are cooking, cooking demonstrations, horseback riding, cycling, hiking, rock climbing, and playing rural games. It can be summarized in the following figure.

Figure 8.6 Summarized Potentials of Tea Tourism in Ilam



Source: Field Survey, 2014

8.7.3 Problems of Tea Tourism in Ilam

Ilam is basically covered by rich natural beauty and other natural resources. It is rich in many unique plant species, unmatched natural beauty, a breathtaking view of the Himalayan foothills, a variety of orchids, cultural heritage, rituals, and festivals. However, there hasn't been much progress in the area's tourism industry, particularly in the tea tourism sector. The explanation is as follows:

a) Lack of Coordination: In Ilam, there are many more active tea gardens. The local populations of these tea gardens are not well taught in the use of tea tourism facilities, homestay-based culture tourism, or tea tourism facilities in tea resorts. They require appropriate instruction based on activities and the promotion of tea tourism. One of the most popular features in Ilam's tea gardens is the availability of homestays, tea resorts, and picnic spots. Tourists rely on the forest and the tourism sector to visit these places. There always appears to be a lack of cooperation among hotel sector administrators, travel and tourism associations, and other government constituents. Excellent and balanced coordination between the local tea gardens and the local

authority is required for the promotion and enhancement of tea tourism in the tea gardens of Ilam.

b) Lack of Proper Planning: Lack of Systematic planning and proper organization is another constraint of tea tourism in the tea gardens of Ilam. There are no such particular tea tourism organizations, Government agencies, and NGOs in Ilam. To promote tea tourism in the surrounding areas of the villages with tea gardens in Ilam, efficient tourism planning is necessary. Hence there should be a separate tourism organization to promote tea tourism in Ilam, Nepal.

c) Government Funding: Lack of Government funding is one of the most relevant problems for the emerging prospect of tea tourism. It is extremely difficult to sustain the standard of tea tourism in Ilam Nepal's tea garden villages without government financing. The absence of infrastructure is among the most critical problems. Poor solid waste management practices, bad road conditions, and in some cases, inaccessibility of the roads all fail to draw tourists.

Adequate professional training facilities for human resource development are required to deliver a better standard of services. However, in Ilam, these amenities are insignificant. Ilam has hardly any certified guides in the most popular tourist destinations.

Despite its enormous potential, there does not appear to be a sufficient level of residents' knowledge of the economic, social, and cultural advantages of tea tourism, nor is there a clear government policy framework for its long-term development. Strikes, insurgency in Ilam, and tea gardens impacted the Ilam tourism industry.

CHAPTER NINE

PROSPECTS AND PROBLEMS OF TEA PRODUCTION IN ILAM

This district is rich in natural resources. Rich in such diversity, this district brings a wide range of agricultural products to the international market.

9.1 Tea Industry in the Rural Development of Ilam

Raising rural residents' living standards and promoting social and economic advancement is known as rural development. With the advent of Globalization, demand for many perspectives, such as education, entrepreneurship, physical infrastructure, social infrastructure, and so on, has developed. Our economic structure is highly dependent on agricultural development. Therefore, it is imperative to address the needs of rural areas and improve the lives of rural people. Agricultural development encompasses not only rice agriculture but also other farm-related farming.

Many people have just begun tea farming in Ilam. This occupation aided the owner's and the tea garden workers' families. Nowadays, tea gardening is a kind of corporate development. Ilam's tea is well-known throughout the world. The newly growing notion of entrepreneurship in Ilam Tea plantations in homestead gardens and unutilized land, together with other crops, plays a key role in rural and urban development. These gardens primarily serve young people and aspiring local enterprises. It also helps to solve the unemployment concerns of both educated and uneducated youths.

The phrase "rural development" can be defined and interpreted in various ways. One widely used definition of rural development states that it is generally enhancing the economic and social well-being of rural inhabitants as well as the institutional and physical surroundings in which they reside. The rural area's economy

is predominantly agricultural and employs more than half of its workforce in the agriculture sector. The purpose of the research in this chapter is to evaluate the contribution of the Ilam Tea Industry to the regional and national economy. Additionally, it highlights the predominant position of Tea Farmers subject to restrictions and the difficulties they encounter due to globalization.

The Ilam tea industry has a strong reputation in the global market. The establishment of the Ilam tea industry not only affected the existing demography of Ilam but also affected the political life of the residents of Ilam. As an agricultural product, tea production requires a lot of labour. It needs labour at every stage of its operation, from preparing the ground for the plantation to working for the nursery and supplying manure both in the nursery and in the plantation area, spraying pesticides, drain cutting, route making, plucking, manufacturing, and finally dispatching it to various locations. Therefore, labour is a tea plantation's lifeblood. Ilam's rural areas it is generating a lot of employment prospects.

The data shows that tea is produced in the eastern region of Nepal. A total of 7965 ha of tea was grown in 2015-16, yielding 4863252 kg (Table 4.17).

9.2 Prospects and Opportunities

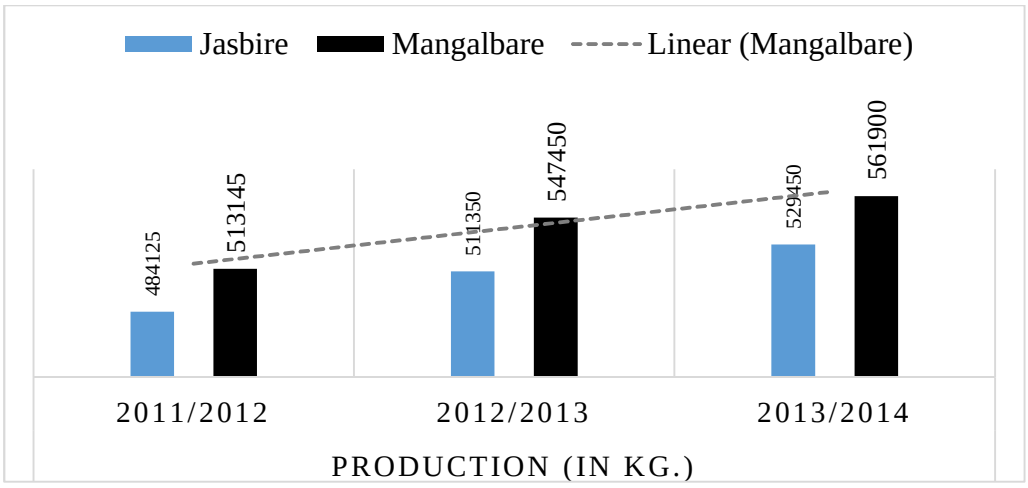
With enhanced composting techniques, biofertilizers, bio-pesticides, etc., "conventional farming" practices can be changed to organic farming with less effort. In a similar manner, organic tea products are offered for sale on the international market.

Table 9.1 Cluster-wise Green Leaves Production

Cluster	Types	No. of HHs	Area (in ha.)	Production (in kg.)		
				2011/2012	2012/2013	2014
Jasbire	Organic	66	111.55	351180	371900	383300
	Conversion	21	19.9	50015	54300	58150
	Nonorganic	29	25.45	82930	85150	88000
Total		116	156.90	484125.00	511350.00	529450.00
Mangalbare	Organic	67	105.1	318790	342050	347700
	Conversion	30	32.1	76805	83600	90000
	Nonorganic	37	36.05	117550	121800	124200
Total		134	173.25	513145.00	547450.00	561900.00
Grand Total		250	330.15	997270	1058800	1091350

Source: Field Survey, 2014

Figure 9.1 Production of Green Leaves by Cluster



Source: Table 9.1

Over the past three years, there has been an increasing tendency in production. Inorganic green leaf tea has the highest production compared to the other two varieties. It was discovered that the yield of green leaves of organic tea was only 3374 kg per hectare compared to 3450 kg for inorganic tea.

Table 9.2 Annual Green Leaf Tea Production and Revenue Analysis

	Year	Minimum	Maximum	Sum	Mean	St. Deviation
Farm size (he.)		0.50	3.50	330.15	1.32	0.88
Green leaf production (kg.)	2011/12	1350.00	12500.00	997270.00	3989.08	2593.08
	2012/13	1600.00	13900.00	1058800.0	4235.20	2869.61
	2014	1600.00	13900.00	1091350.0	4365.40	2870.18
Annual Income (NPR)	2011/12	40700.0	500000.0	34893175.0	139572.7	95754.26
	2012/13	51200.0	472600.0	35882050.0	143528.2	98401.73
	2014	59200.0	540000.0	41383200.0	165532.8	111876.54

Source: Field Survey, 2014

According to Table 9.2, the average selling price of green leaves in various years ranged from 35 to 38 rupees per kilogram. Similarly, the productivity of green leaves was also an incremental trend. The productivity calculation of tea reached 3305 kg. per hectare in the recent year.

Table 9.3 Production and Productivity of Green Leaf

FY	Green Leaf Production (kg.) and Productivity (kg./ha.)			
	Total Production	Minimum	Maximum	Average
2011/2012	997270.00	1600.00	4680.00	3020.66
2012/2013	1058800	2083.33	5560.00	3207.03
2014	1091350	2166.67	5560.00	3305.62

Source: Field Survey, 2014

In the study area, the total revenue was collected Rs. 41383200, and expenditures were Rs. 18302900 in 2013/14. A detailed description is given below.

Table 9.4 Income and Expenditure in Tea Cultivation (2014)

Types	Revenue	Expenditure	Balance (+/-)
Organic	28128000	12270600	15857400
Conversion	5796100	2508300	3287800
Inorganic	7459100	3524000	3935100
Total	41383200	18302900	23080300

Source: Field Survey, 2014

According to the research, organic tea has a larger revenue than other products. In the case of green leaf, per hectare, Rs 129832 revenue was collected from organic, whereas only 121286 rupees per hectare was collected from inorganic production.

Table 9.5 Per-hectare Income and Expenditure (2014)

Types	Revenue	Expenditure	Balance (+/-)
	Rs./ha	Rs./ha	Rs./ha
Organic	129832	56637.90	73193.63
Conversion	111463	48236.54	63226.92
Nonorganic	121286	57300.81	63985.37

Source: Field Survey, 2014

The green leaf production cost was 48 to 57 thousand rupees per hectare. The cost of organic products accounted for nearly 44% of overall revenue. Meanwhile, it was believed that inorganic cultivation costs more than organic production. 47% of the total revenue was invested in nonorganic production.

Table 9.6 Comparison of Tea and Other Agricultural Products (2014)

Particulars	Area	Revenue		Expenditure	Balance (NPR)	
	(he.)	(NPR)	%	(NPR)	+/-	(%)
Tea	330.15	41383200	81.12	18302900	22801600	74.64
Other Ag. Products	154.5	9630050	18.88	1881729	7748321	25.36
Total	484.65	51013250	100	20184629	30549921	100

Source: Field Survey, 2014.

Referring to table 9.6, area and revenue (330.15 he. And Rs. 41383200) is more than the other agricultural product (154.5 he and Rs. 9630050). Similarly, tea's total balance (74.64 %) in tea is also more outstanding than other agricultural products (25.36%).

9.3 Entrepreneurship of Small Tea Factories in Ilam District

In the Ilam district, 1459 cottage and small businesses are registered, of which 81 are engaged in tea production. But only around 40 cottages and small industries are manufacturing tea directly. Since the population of the study is large, judgmental and convenience sampling has been done, and twelve samples were selected.

9.3.1 Institutional Support to Entrepreneurship Development of Tea in Ilam District

There are a number of the institution for entrepreneurship development of tea promotion in the Ilam district. Different governmental and non-governmental agencies are working on entrepreneurship development. Some of those organizations and their major activities are presented in table 9.7 below.

Table 9.7 List of Institutions in Ilam and Their Major Activities for Institutional Support

SN	Name of the Institutions	Activities
1	Cottage and Small Industries Development Committee	Registration and renewal of cottage and small industries. Entrepreneurship development program Promotional and technical consultancy Industrial exhibition program Micro-enterprise development program
2	DDC, Local Development Fund (LDF)	It provides loans up to Rs. 5 00000 to new entrepreneurs through local cooperatives on a need-and-demand basis.
3	Ilam Co-Operation Committee (ICC)	It conducts a study of different prospects or feasibility It prepares a business plan and provides it to new entrepreneurs. It provides counseling services to new entrepreneurs It plays a role as a mediator for marketing facilities to the new ventures
4	Ilam Chamber of Commerce And Industries	It selects enterprises and sends them to different trade fairs. It provides recommendations, if any, necessary for the registration of cottage and small industries It hosts a variety of trade fairs to promote cottage and small Industries. Organised a distinctive program to boost cottage and small companies.

5	SEAM Nepal (Completion Phase)	It works in the field of environmental protection. It has provided a subsidy in 50/50 participation to the entrepreneurs to improve their production process. It initiates industries for the protection of the environment.
7	Central Tea Cooperation Federation (CTCF) Ltd. Ilam	It helps the professional and economic development of the member organization and subjective federation. It helps to promote the institutional capacity of its member organization by taking technical and economic help from the different authorities of Nepal Government I/NGOs and to do necessary help to the affiliated organization to these organizations. It helps to mobilize loans obtained from different organizations and authorities. It conducts different training programs such as tea manufacturing training, entrepreneurship skill development training, tea manufacturing industry work plan and management training, and preparation of strategic planning by the expert and tea technicians.
8	Commercial Agricultural Alliance (CAA)	It helps the farmer commercialise their farming, It provides a subsidy for expanding cottage and small industries based on 50/50 participation. It helps to develop infrastructure facilities.

Source: Field Survey, 2014

9.3.2 An Overview of Sampled Tea factories as Per Their Capacity and Employment

With regard to capacity and employment generation by the cottage and small industries among the sample firms, entrepreneurs were asked to provide information about capacity and employment generation. Table 9.8 lists their responses.

Table 9.8 List of Sample Factories with Capacity and Employment

SN	Industry	Address	Annual production(kgs)	Employment		
				M	F	Total
1	Singhadevi Tea Processing unit	Mangalbare - 05 Ilam	2000	2	3	5
2	Sagarmatha orthodox Tea Industry	Santidanda - 06 Ilam	1500	3	5	8
3	Sandakphu Tea Producer Pvt. Ltd	Maipokhari - 01 Ilam	5000	2	8	10
4	Nabin Handmade Tea Industry	Sakhejung - 08 Ilam	2000	2	3	5
5	Kanchanjunga Organic Orthodox Tea Industry	Sakhejung - 07 Ilam	7500	3	8	11
6	Ganesh Handmade Tea Industry	Sakhejung - 08 Ilam	1500	2	1	3
7	Light Hill Orthodox Tea Industry	Sakhejung - 06 Ilam	15000	6	4	10
8	Green Hill Orthodox Tea Industries.	Sakhejung - 04 Ilam	15000	6	3	9
9	Pathivara orthodox Tea Producing Industries	Sakhejung - 07 Ilam	20000	5	7	12
10	Laligurash Hand Roll Tea Processing Centre	Jitpur - 01 Ilam	4500	2	2	4
11	Aambote Handmade Tea Industry	Jitpur - 01 Ilam	3000	4	4	8
12	Brother's Orthodox Tea Pvt.	Mangalbare -	13000	5	7	12

Ltd	04 ilam				
Total		90000	42	55	97

Source: Field Survey,2014

Note: M=Male, F=Female

According to the above table, the total production capacity of 12 sampled industries was 90000 kgs in the finished tea. They were producing, and marketing finished orthodox tea in domestic and foreign markets. These industries employ 97 people. That consists of 42 males and 55 females. Besides that, these factories were providing part-time jobs to many people. Factories with their own tea garden provide more employment than the raw material purchaser.

9.3.3 Problems of Entrepreneurship of Small Tea Industries

Concerning problems faced by entrepreneurs while starting their industry, sampled organizations were asked whether they found any difficulties while starting their industry. Their responses and frequencies are presented in the table below.

Table 9.9 Problem of Entrepreneurs while Starting their Enterprise

SN	Particulars	Strongly		Moderate		Weakly	
		No.	%	No.	%	No.	%
1	Legal procedure	0	0	3	25.00	9	75.0
2	Financial problems	3	25	9	75.00	0	0.00
3	Technical problems	6	50	4	33.33	2	16.67
4	Managerial problems	3	25	7	58.33	2	16.67
5	Energy problems	6	50	6	50.00	0	0.0
6	Social/cultural problems	0	0	0	0.00	12	100

Source: Field Survey, 2014

Figures presented in the table, problems related to the legal procedure are 0 percent strong, 25 percent moderate, and 75 percent weak. Similarly, 25 percent of respondents said big financial problems, 75 percent said moderate, and they said weakly. Similarly, 50 percent of them said big technical problem, 33 percent of them said moderate, and 17 percent of them said weakly. Similarly, 50 percent of respondents said strong energy problem, 50 percent said moderate, and none said weakly. And all respondents said weakly social/cultural problems, indicating no problem regarding socio-cultural problems.

9.3.4 Institutional Support

Concerning institutional support, while starting their industry, a question was asked to the respondents about institutional support while starting their enterprise. The responses are presented in table 9.10.

Table 9.10 List of Industries and Institutions Receiving Institutional Support

SN	Name of Industry	Name of Institution	Type of Support
1	Singhadevi Tea Processing unit	CSIDC Ilam	Training
2	Sagarmatha orthodox Tea Industry	Tea Product development Centre	Training
3	Sandakphu Tea Producer Pvt. Ltd	-	-
4	Nabin Handmade Tea Industry	CSIDC Ilam	Training
5	Ganesh Handmade Tea Industry	CSIDC Ilam	Training
6	Kanchanjunga Organic Orthodox Tea Industry	CSIDC Ilam, SNV, REAP Project, FNCCI Ilam	Training, technical and counseling
7	Lighthill Orthodox Tea Industry	-	-
8	Green Hill Orthodox Tea Industries.	-	-
9	Pathivara orthodox Tea Producing Industries	CSIDC Ilam, REAP Project, FNCCI Ilam	Training
10	Laligurash Hand Roll Tea Processing Centre	CSIDC Ilam	Training
11	Aambote Handmade Tea Industry	CSIDC Ilam	Training
12	Brother's Orthodox Tea Pvt. Ltd	-	-

Source: Field Survey, 2014

The support is dedicated to training entrepreneurs, as seen in table 9.10. Only one of them had technical and counseling support rest of the four small tea industries were not supported by any institution.

9.3.5 Entrepreneur's Responses towards the Market of Their Product

With regard to the market for their final product, respondents were asked how they rate the market for their product to express their opinion towards the market; their responses and frequencies are presented in the table below

Table 9.11 Entrepreneur's Response towards the Market

Options	No of Respondent	%
Most suitable	1	8
Suitable	3	25
Moderate	7	58
Not suitable	1	8
Not at all suitable	0	0
Total	12	100
average	-	3.35

Source: Field Survey, 2014

As much as 58 percent of the respondents were found to respond to a reasonable standard to their market. According to data in table 9.11, 25 percent of respondents said the market was suitable, while just 8 percent said the market was not suitable. It indicated that the market of their final product was suitable.

9.3.6 Problems Associated with Small/ Mini Tea Factories in Ilam

Regarding the problem associated with small industries, respondents were asked about their significant problems. Their responses and frequencies are presented below.

The problem of Registration: Regarding the problem related to the registration of small industries, only 25 percent of the respondents said there was a problem with their industry registration. The remaining respondents did not address any more issues. It shows that there is no problem while in registration of industry.

Financial Problem: With regard to the problem related to the finance of small industries, responses of the sample industries and frequencies are presented in the table below.

Table 9.12 Problem in Finance

SN	Problem in Financing	No. of Respondent	%
1	Loan is not available on time	12	100
2	Lengthy procedure	11	92
3	Interest rate is very high	12	100
4	Problem of collateral	9	75
5	Valuation problem	10	83

Source: Field Survey, 2014.

According to the data in table 9.12, 100 percent of respondents identify the issue as a loan that wasn't made available in a timely manner. Similarly, 92 percent of them respond to the problem of lengthy procedures to obtain loans from the bank. Similarly, 100 percent of the respondents responded as the current interest rate of banks was very high, and 75 percent of respondents responded as a problem for the collator to obtain a loan. 83 percent of the respondent said they had problems with the valuation of their collaterals. The above table shows there are considerable problems in the financial sector.

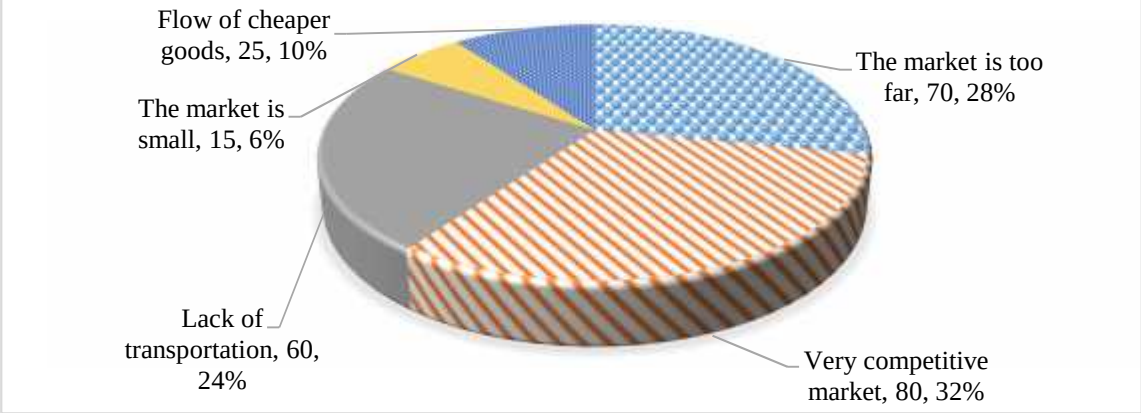
The Obstacles/ problem in Market Mechanism: With regard to the problem related to marketing of small industries, responses of the sample industries and frequencies are presented in the table.

Table 9.13 Obstacles/Problems in market Mechanism

SN	Obstacles/Problems Problem in Market Mechanism	No of Respondent	%
1	The market is too far	70	28
2	Very competitive market	80	32
3	Lack of transportation	60	24
4	The market is small	15	6
5	The flow of cheaper goods	25	22

Source: Field Survey, 2014

Figure 9.2 Problem in Market Mechanism



Source: Table 9.13

According to table 9.31, 28 percent (70)of the respondent's responses to the market were too far, so they have to face a problem. 32 percent (80) of the respondents said that the market is very competitive, and (60) 24 percent said that they have a problem with transportation to sell their product. Similarly, only 6 percent (15) of respondents respond to the market as very small. 10 percent (25) of the respondents react as a problem due to the flow of cheaper products in the market.

The Problem in Inputs*:* With regard to the problem related to input, i.e., raw materials of small tea industries, responses of the sampled industries and frequencies are presented in the table.

Table 9.14 Problem in Inputs

SN	Problem in input	No of Respondent
1	The raw material is not locally available	0
2	The transportation charge is very high	5
3	Quality problems	11
4	Competition to get the raw material	8
5	The high price of raw material	9

Source: Field Survey, 2014

Table 9.14 demonstrates that no local raw material was available.45 percent of the respondents responded to the transportation charge as very high to get raw material to them. Similarly, 90 percent of respondents complain about the quality problem in raw materials. 65 percent of the respondents respond about a competition to get raw materials. 75 percent of the respondents respond to the high price of raw materials.

The problem of Technology: Table 9.15 lists the responses of the sampled processing units and their frequency concerning the technology issue in the cottage and small industries.

Table 9.15 Problem of Technology

SN	Problem of technology	No of Respondent	Percentage (%)
1	The technology is not available	8	67
2	It is very costly	9	75
3	Pace of technology is very high	8	67
4	Difficult to identify appropriate technology	9	75

Source: Field Survey, 2014

According to table 9.14, 67 percent of respondents claimed that the technology was unavailable on the local market. 75 percent of the respondents said that the technology is very costly to purchase. 67 percent of the respondents said that the pace

of technology change is very high, so they face a problem. Similarly, 75 percent of the respondents said they have difficulty identifying the appropriate technology.

Political Problem: About the political problem entrepreneurs were asked how they would rate their political problems. Among 12 respondents, five expressed that they were facing serious political problems, whereas seven responded to having a common political problem.

9.3.7 Challenges and Problems Faced by Small Tea Growers

Tea has historically been highly valued in the Nepalese economy. Still, small tea growers have been severely harmed by low pricing, poor incentives, and a lack of resources to recover their export crops. Due to the high price of such fertilizers, the tea industry faces several difficulties, such as a lack of industrial know-how, limited processing capacity, and limited access to fertilizers for small-scale rural tea growing. The amount and quality of the produced green leaves are impacted by suboptimal fertilizer distribution for both the industrial estates and the smallholder growers.

The weak infrastructure is the primary issue, which drives up production costs and has a negative effect on farmers' income. Examples of inadequate infrastructure include roads and electricity. The way smallholder farmers prune and harvest their tea bushes is negatively impacted by lower pricing for green leaves. The leaves must be transported as fast as possible to the factory for processing since, if not done so within a few hours of being picked, the fresh leaves quickly deteriorate. This makes it challenging to produce a high-quality final product and prevents farmers from promoting the total value of their product in remote tea-growing regions.

Table 9.16 Descriptive Analysis of the Challenges and Problems Faced by Small Tea Farmers

Problems/Challenges	farmer (version)	%
Lack of tea factories and basic infrastructure	67	34.18
Labor resource	22	11.22
Small land size	20	10.20
Trouble getting credits	39	19.89
Low Price of green leaves	33	16.84
Fertilizer and manure	15	7.65
Total	196	100.00

Source: Field Survey, 2014

The study found that the challenges and problems are adversely affecting tea output. The absence of a tea factory and basic infrastructure was the main problem, affecting 34.18 percent of small farmers. Green leaves must be transferred to the closest plant as a result of the Ilam District facility's non-existence, which has an adverse effect on tea producers. The tea's quality is significantly lowered as a result. The plantation can only harvest green tea leaves for no more than four hours each day due to the time needed to transport them to market, which also impacts the plantation's ability to produce. On average, 25 percent of the tea leaves that arrive in such firms too late for processing are lost.

In his work, Katuwal (2020) noted that the cost of the inputs for organic tea growers is the highest. Profits may not, therefore, be higher while producing tea organically. Farmers also struggle to find trustworthy employees. There is a lack of trained labour in this sector due to the large-scale migration of males seeking employment in foreign nations. On the plus side, it has given the female residents of the study region job options. Since there aren't enough working men in the sector, trained local women make up the majority of the workforce (Katuwal, 2020). In this

case, the second major issue mentioned by 11.22 percent of farmers is a labour shortage (Table 9.16).

Obtaining loans from commercial and agricultural development banks was the third difficulty. Banks have historically viewed agriculture as a high-risk sector, and many lack collateral to get loans. Small landholding size and minimal fertilizer delivery are the fourth issues raised by the respondent. These issues affect both the amount and quality of the green leaves produced. The way that smallholder growers manage the pruning and harvesting of their tea bushes is significantly impacted by the low rates for green leaves (40 Rs/Kg). The research revealed that 88 percent of small farmers had experienced payment delays for green leaves in addition to other pressing problems.

CHAPTER TEN

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

10.1 Summary of Findings

The tea industry plays a major role in the economy of Nepal and is the country's leading exported product. Small tea farmers in the Ilam district have had a significant impact on the economic development of both the district and Nepal as a whole. They provide employment opportunities, promote income equality, develop human skills, and utilize unproductive and low-productive land to help spur rural and economically underdeveloped areas. The study delves deeply into small tea farming in Ilam, examining all its aspects. Tea cultivation is an integral part of life in Ilam and has a significant impact on the region's economic and social conditions. The subsequent pages summarize the key findings of the study.

Current Situation of the Nepalese Tea Industry

Cash crops are widely grown throughout Nepal. With the exception of oilseeds, the cultivation of crops such as sugarcane, potatoes, tea, and tobacco is increasing. Agriculture is increasingly shifting towards tea farming. In 2014/2015, it was estimated that 26,165 hectares of land were used for tea plantations, yielding 23,186,726 kgs of tea. In just 15 years, the area covered by tea plantations in Nepal has expanded fivefold, while the production of tea has grown more than eightfold. The number of small tea farmers has also increased by over five times. As a result, the tea industry has become one of the most crucial subsectors, with a remarkable growth rate and a significant impact on the national economy.

China is the top producer of tea in the world, while Nepal ranks 22nd. Kenya is the leading exporter of tea, accounting for 25.0 percent of total exports, while

Nepal's share is only 0.51 percent. Despite producing 0.4 percent of the world's total tea production, which was 3864 million kilograms, Nepal's contribution is minimal. The country's tea growing area, which was 26.2 thousand hectares in 2014, represents just 0.69 percent of the world's total tea area.

The productivity of tea farming in Nepal is determined to be 999 kilograms per hectare, which is lower than the global average of 1150 kilograms per hectare, Kenya's 2235 kilograms per hectare, and Sri Lanka's 1611 kilograms per hectare. The small tea farmers in Nepal mainly produce orthodox tea leaves. Since 1979, the number of small tea farmers has increased on tea plantations, a significant development for the Nepalese tea sector. These small farmers cover 8,120 hectares of the plantations and employ 9,523 workers to produce 6,688,543 kilograms of tea. This is a relatively small portion of global tea production, which is 3864 million kilograms. Although the total plantation of orthodox tea covers 47 percent of the total plantation area, the total production only accounts for 13 percent.

Orthodox tea is the primary cash crop in Nepal that is oriented towards exports. Both small farmers and tea estate gardens participate in orthodox tea farming. Small farmers primarily sell their green tea leaves to local tea processing industries through various channels. These tea processing factories have a significant impact on the price of green tea leaves, ensuring that small farmers receive a steady income and provide local employment opportunities. This has led to an increase in production at all levels, including tea estates and small farmers. The majority of the output is exported directly to India and marketed as an Indian product in the global market.

Comparative Analysis: Characteristics of Tea Production in Ilam:

The three Chiya Bistar Yojana clusters covered 4,201 hectares of land and were managed by 6,123 farmers until 2013. In total, including tea estates and gardens,

7,965 hectares of land are used for tea plantations, and the district of Ilam leads in the production of 4,863 metric tons of tea in Nepal. Tea estates (organized tea gardens) and small tea farmers are the main contributors to the production of green tea leaves, which are then sold by tea traders and exporters both domestically and internationally. It is estimated that about 47 tea estates/gardens in Ilam have been established as organized tea estates. The tea plantation area in Nepal has increased by almost 1.5 times, and the number of tea farmers has increased more than five times within the past 15 years.

The Ilam district is home to three tea extension programs operating under the Nepal Tea and Coffee Development Board: the Fikkal Tea Extension Program, the Jasbire Tea Extension Program, and the Mangalbare Tea Extension Program. These three clusters encompass the entire Ilam district, and as of 2012, 5,893 farmers and producers managed 4,037 hectares (80,740 Ropani) of land. This has now increased to 4,201 hectares, managed by 6,123 farmers and producers.

Currently, 2,884 households/farmers are involved in tea farming in the Ilam district operating under 38 cooperatives. A study found that out of the 330.15 hectares of tea plantation in the surveyed area, 53.20 percent of it was used for organic tea farming, where 250 households were involved. The average size of an organic tea farm was found to be 1.32 hectares, and the majority (53%) of the organic farms were smaller, covering less than 1.5 hectares of land. The study showed that the rate of conversion to organic farming was the highest, with a growth rate of 7.43 percent, followed by an organic conversion rate of 2.39 percent and an inorganic conversion rate of 2.54 percent. By 2014, the total area of organic tea farming under two clusters of the Ilam tea extension program was 261.65 hectares, with a total production of

731,000 kilograms of green leaves. The study found that the farmers affiliated with cooperative institutions had a positive attitude towards converting to organic farming.

According to the study, farmers who have received proper training are more inclined to adopt organic farming practices. Additionally, the study revealed that the proximity of the market is a significant factor, with the average transportation time to the market point being less than one hour.

Motivational Factors Influencing Conversion to Organic Tea Farming

It is possible to transition from conventional farming to organic farming with simple techniques such as improved composting, using bio-fertilizers, and bio-pesticides, among others. It typically takes a minimum of three years to convert a conventional tea farm into an organic one. If it is not possible to convert the entire farm at once, the transition can be done gradually. The organic tea movement in Nepal was initiated by HOTPA in 1995. Small-scale organic agriculture is highly relevant for Nepal, with its diverse ecology, poverty-stricken and marginal agricultural conditions, and large labor force.

The study showed that the average selling price for green tea leaves ranged from 35 to 38 Nepalese Rupees per kilogram in different years. In 2013/14, the total revenue generated from the study area was 41,383,200 Rupees, while the expenditures were 18,302,900 Rs. The revenue generated per hectare of organic tea was 129,832 Rs., while the revenue generated per hectare of non-organic tea was 121,286 Rupees. The productivity of inorganic tea per hectare was 3450 kg, and the productivity of organic tea per hectare was 3374 kg. On average, organic tea farms were found to be 0.45 ha. in size, and 68 percent of them were less than 0.5 hectares in size. All of the organic tea farmers were affiliated with a cooperative, and 36.73 percent of

them belonged to the Janajaties ethnic group, who showed more interest in organic farming and were equipped with indigenous farming knowledge.

Organic tea production is challenging to attain high quality and requires the plucking of leaves at an early stage when they are smaller and tougher, from shorter bushes. Five key reasons were identified as driving factors behind the transition to organic farming, including environmental consciousness, a promising market opportunity, financial advantages, increased health awareness, and sustainability in production. Organic farming has also created new job opportunities for women in the study area, leading to a predominantly female workforce, as men are not employed in the industry. There is great potential for the growth of organic tea cultivation in Ilam, but it requires a lot of effort and dedication.

Factors Influencing Smallholder Participation in Tea Cultivation Expansion: Five driving forces behind the expansion of tea farming were identified. The study showed that having additional income from sources outside of farming positively impacts the growth of tea farming. Over 75 percent of the participants in the sample reported being solely involved in agriculture. Membership in a cooperative was also found to be a significant factor in the expansion of tea farming. People who were part of cooperatives had access to farming inputs, extension services, advocacy, and market opportunities. Of the 250 farmers surveyed in the field, 154 (61.5 %) were members of tea cooperatives, while 96 (38.5%) were not members of cooperatives. The plantation area was extended from 4,189 hectares to 5920 hectares, with an increase of 1,731 hectares from 2011/12 to 2018/19.

The expansion of tea farming was positively impacted by access to credit, off-farm employment, the amount harvested, and cooperative

membership. The tea farming area expanded by 1.5 times during the study period. The small farmers face several challenges hindering their progress, the most significant of which, as reported by 34.18 percent of the respondents, is the lack of tea factories and basic infrastructure. Other issues include unpredictable weather and climate change, an insufficient supply of fertilizers, difficulty in accessing credit from commercial and microfinance banks, delayed payment for green leaves, and long wait times for the release of funds from the Asian Development Bank.

The education level of the farmers did not have an impact on the growth of tea farming. Farmers with formal education can secure employment and access financing from commercial banks and microfinance institutions. They generate income from their business ventures, off-farm work, participation in value chain transactions, and agribusiness-related activities.

Production and Market Mechanism of Green Tea Leaves

The study found that the harvest season for small tea farmers falls between May and July, when green tea leaves are harvested three to four times a month with good quality. The production of green tea leaves is not consistent throughout the year. The analysis of the data shows that the production of green tea leaves has increased on an annual basis. From 2011/12 to 2013/14, the production of green tea leaves increased from 3,020.66 kg to 3,305.62 kg. This trend of increased production of green tea leaves continued from 2011/12 to 2013/14.

The study area has two methods of selling green leaves found in the study area:

1. Direct sales,
2. Selling through cooperatives/agents.

An analysis of the market for green tea leaves showed that it has an imperfect market structure, specifically an oligopsony market. An oligopsony market structure

exists where there are numerous sellers and few buyers, which tips the balance of profit and benefit in favor of the buyers. Most of the farmers in Ilam, 86 percent, are unsatisfied with the current market system for selling green tea leaves. The study revealed that in most cases, the price of green tea leaves is based on quality. Out of the 250 farmers surveyed, 36 percent (90 farmers) determine the price using the seasonal method, 56 percent (140 farmers) use the quality method, 15 percent use the monthly method, and 2 percent using the quantity method.

BLFs have fixed the maximum 78.4 percent price, and 9.6 percent have set the price per the agreement between Farmers and Purchasers. Most tea farmers, which is 170 (68.0%), sold their green tea leaves through agents. On the other hand, only a small number of tea farmers, which is 80 (32.0%), established direct connections with factories to sell their leaves. The tea factories utilized their own vehicles for direct selling, while the small tea farmers transported their leaves to the collection center.

Small tea farmers in the Ilam district produce green tea; however, there are ongoing obstacles in the market mechanism and a lack of proper marketing plans. To market their tea leaves, small tea farmers have to rely on large tea farms, bought-leaf factories, and agents. The majority of these small tea farmers, 86 percent, are unhappy with the current marketing system for trading green tea leaves in the district. Only 10 percent think that the marketing system is sufficient. The average price for their products changes from year to year due to its cyclical nature.

Additionally, it has been noted that green tea leaves rarely sell for more than Rs. 38 per kg. The pricing of green tea leaves is heavily influenced by the oligopoly of Big Tea Estates and Bought Leaf Factories (BLFs) of Ilam. Unfortunately, there is a scarcity of local monitoring agencies in Ilam.

The tea gardens in the hills generate indirect revenue from tourism as they offer stunning scenic views and attract both domestic and international visitors. The tea industry has the potential to become a sought-after tourism product and fill new market segments, making Ilam a popular destination for tea tourism. The farmers in Ilam are known for being hospitable and straightforward. The villages and farms in Ilam can offer unique experiences, including accommodation and local meals. Rural communities maintain traditional goods, services, and cultural activities, making agro-tourism appealing to a specific segment of tourists. Tourist activities in the Ilam district's tea gardens include enjoying the natural beauty, interacting with the environment, purchasing traditional hand-made tea, and leisure and relaxation. International consumers highly value the Ilam tea industry.

Prospects and Problems in Small Farmer Tea production

In the context of Ilam, there is tremendous potential for growth in the agricultural sector. The emerging concept of entrepreneurship in Ilam, including the cultivation of tea in homestead gardens and unused land along with other crops, is vital for rural development. There is also room for expanding tea plantations in Nepal, indicating that the country's tea industry holds great promise for growth. Nepal produces several types of tea, including CTC tea (black tea) and Orthodox tea. Orthodox tea is particularly famous for its appearance, flavor, and health benefits.

Ilam's tea industry faces competition not only in terms of market share but also in terms of production levels compared to Indian tea. The study showed that per hectare, the revenue generated from organic production was 12,09832 rupees, while the revenue generated from non-organic production was 12,286 rupees. There were 12 sample processing units in Ilam with a capacity to produce 90,000 kg of finished tea, which provided employment to 97 people. However, farmers face challenges in

maintaining the quality of their products, and the cost of organic green tea leaves was higher. The study found that orthodox tea was primarily exported, with only a small portion sold in the domestic market. However, there is significant potential for the tea industry to grow as a tourism product, which can increase income and reduce or reverse labor migration. Tourists were found to purchase handmade tea as a souvenir in the local market.

The majority of small farmers in Ilam, 88 percent, reported issues with delayed payment for their green tea leaves. At 350 grams per capita, domestic consumption of tea is low compared to other countries such as the UK, India, Ireland, and Pakistan. Additionally, the farmers have reported quality issues that are largely attributed to high production costs, lack of infrastructure, labor problems, the inefficiency of NTDCB, high labor costs, and the inability to compete in the international market. As a result, the traditional buyers of Ilam's tea industry are gradually declining.

Small and cottage industries producing orthodox organic tea face difficulties in competing both in the international market and in terms of production. They are struggling to keep up with Indian industries. There is intense competition among Bought Leaf Factories for obtaining raw materials, and maintaining the organic quality of the product presents a significant challenge. To maintain the organic quality of their product, these industries have to pay extra for raw materials, which can be difficult for them to afford.

In Ilam, small farmers are the primary producers of orthodox tea leaves, while private tea estates only make up a small portion of total production. In order to understand the development, potential, and prospects of the Nepalese orthodox tea industry, it's essential to examine the challenges faced by its stakeholders. Labor costs

comprise a large part of the total cost of green leaf production. Although organic green leaves are priced higher, some farmers are unhappy with organic farming due to low yields and the time-consuming process of compost preparation. Nevertheless, organic farming has generated relatively higher net benefits for farmers and tea estates over its lifespan. The lack of a fixed price for factory buying leads farmers to sell their green tea leaves at prices below their production costs because they are unable to effectively calculate the cost of production (COP) due to a lack of knowledge about costing methods.

This study delved into the challenges, opportunities, and strengths of the orthodox tea industry in Nepal. It conducted a SWOT analysis to assess the production and marketing of orthodox tea, focusing on the price of green leaves and wages, among other factors that influence the net profit of green leaf production. The results showed that most orthodox tea was exported but lacked proper exposure in the global market.

Despite the stark differences between large factory plantations and small tea farms, there has been inadequate attention paid to the challenges faced by the latter. It has been estimated that around 20 percent of small tea farmers face issues due to external factors like inadequate infrastructure.

Approximately 20 percent of producers reported problems due to a lack of proper infrastructure, while a lack of inputs also impacted production for more growers. Finance-related problems, primarily due to poor accounting practices, also caused difficulties for growers, with 22 percent citing both issues as the cause of their problems. These financial issues are primarily management problems, as a lack of proper practices such as accounting and bookkeeping leads to these difficulties. The market for their product is limited. No significant differences were found between

members and non-members in the challenges faced by small-scale tea farmers. With the ongoing global demand for tea, it has become a profitable cash crop that can increase national revenue and benefit a significant portion of rural communities.

10.2 Conclusion

The tea planters in Ilam had a significant impact on the development of Ilam and will continue to be crucial in the region's future growth. Over the past 15 years, the amount of land used for tea cultivation in Nepal has grown fivefold, leading to an eightfold increase in tea production. The number of small-scale tea farmers has also increased significantly. A study examined the production of orthodox tea (green leaves) in the Ilam district. The results showed that from 2010 to 2014, the area dedicated to tea production increased by 1,489 hectares, growing from 114 to 1,603 hectares, leading to a corresponding increase in green leaf output.

The supply of green leaves is only provided to tea producers who purchase their leaves from small growers. Small tea farmers in the rural parts of Ilam have been leading a peaceful economic revolution that has reduced unemployment and improved the environment by making environmentally beneficial use of idle land. It has changed the outlook of the farmers. The success of tea cultivation demands a scientific approach. Agriculture is transferring to tea cultivation. They have now started cultivating other crops and doing farming activities with a scientific and commercial approach. Many farmers are earning their livelihood directly or indirectly from small tea cultivation.

The study's second goal was to identify the driving forces behind tea farmers' participation in organic tea production and tea farm expansion. The result revealed five motivational factors leading to the conversion to organic farming: environmental awareness, bright market potential, financial benefits, health awareness, and

sustainability in production. The expansion of small tea cultivation has already succeeded in improving the economic status of Ilam. Access to credit, off-farm employment, amount harvested, and cooperative membership all had a favourable impact on the expansion of the sector. Additionally, the small farmer tea area doubled in size in the study period. The number of small tea farmers has increased by more than five folds. The production of green leaves is also increasing trend.

On the market mechanism, the result reveals that the production trend of green tea leaves supply has increased from 2011/12 to 2013/14. The market mechanism is, however, currently hampered by the lack of an adequate marketing strategy for the green tea leaves grown by small tea producers. Small tea farmers depend on big tea estates, bought leaves factories (BLFs), and agents to market their tea leaves. It has been found that the Ilam district's marketing system for trading green tea leaves is unsatisfactory for the vast majority of small tea growers. Due to its cyclical nature, the average price changes from year to year.

Additionally, it was noted that the average price for a kilogram of green tea leaves was extremely low. The oligopsony power of Big Tea Estates and Bought Leaf Factories (BLFs) of Ilam influenced the fixation of the price of green tea leaves. This system of few buyers and multiple sellers tilts the benefits in favor of buyers. There is a lack of local monitoring authorities.

The fourth objective was to identify some major prospects and constraints of tea production and market mechanism in the study area. The critical issues in Ilam were the absence of a tea factory, uncertain weather and environment, inadequate fertilizer delivery, difficulty obtaining credit from commercial and microfinance banks, receiving late payments for green leaves, and extended delays in the disbursement of loans from ADB. The small farmers supply their green leaves only to

Bought Leaf Tea Factories. These small tea growers deal with several issues, including low leaf prices, heavy leaf rejection, manipulation of given leaf quantities, etc. As a result of the establishment of tea cooperatives, small-scale tea farmers may now receive higher compensation for their green leaves. Presently, there are 15 cooperative tea factories operating. If the financial challenges faced by farmers are addressed, and proper focus is given to the economic structure of the tea industry, it is expected that the tea sector will thrive in the upcoming year, leading to improved circumstances for the small-scale tea farmers in the Ilam district. Tea industry participants should focus on speciality tea markets that offer price premiums that guarantee sufficient income for smallholder tea growers in order to expand the production of Ilam tea.

Given the time-sensitive nature of processing tea after harvest, it is important that the government and its partners provide support to tea farmers in constructing tea factories. The government should implement measures to aid farmers and other producers. Orthodox tea is a significant opportunity for Ilam, and there is potential for further expansion of tea plantations in Nepal, pointing to a bright future for the development of the tea sector in Nepal.

Recommendations

The Ilam tea industry is facing a number of challenges, including high production costs, inadequate infrastructure, a shortage of labor, poor performance of the NTDCB, high labor costs, and a lack of competitiveness in the global market. These factors are contributing to the gradual loss of regular customers in the industry. Based on the findings of this report and solutions proposed by farmers, the following recommendations can be made to address these problems.

Ilam tea has lost its competitiveness in the global market due to its high cost and poor quality. In Ilam, various issues such as labor problems, low productivity, high production costs, poor tea quality, aging tea bushes, high labor costs, unfavorable working conditions, and declining demand from traditional buyers have significantly impacted the tea plantation industry. The government must take effective measures to revive the tea industry. The federal, provincial, and municipal governments must eliminate barriers to market access and enhance the visibility of tea both domestically and internationally through stronger marketing strategies, cooperative organizations, and other means. The Tea Board and the government must play a crucial role in finding new markets for Ilam tea globally. The promotion of tea in the local market is also crucial, and by emphasizing its health benefits, tea consumption in areas with low per capita consumption can be increased.

The involvement of numerous organizations, including the federal, provincial, and local governments, universities, research organizations, financial institutions, tea associations, the Tourism Board, tea estates, tea cooperatives, etc., dramatically influences the development and performance of the tea industry in Ilam.

Interests of Small Tea Farmers: Small tea farmers account for about 26 percent of Nepal's total tea production. Despite this, local farmers do not obtain a fair price for their green leaves since they are damaged in transit to far-off factories. To help the small tea growers, cooperative tea processing facilities must be established. Although several banks and financial institutions have provided financial assistance to small tea growers in Ilam, they still struggle with insufficient funds, which has hampered the expansion of tea plantations in this region. By offering loans with cheap interest rates, banks, and other financial organizations significantly contribute to the revival of the tea business. The agents and bought-leaf factories dominate the entire green-leaf tea price determination system. Tea Farmers do not have any role to play as far as the

price of their product is concerned. The Government, through the NTCDB, should help the tea farmers get fair prices for their products by monitoring the entire system. Regular training for small tea growers and tea workers will contribute to them in the long term by improving productivity.

Production of Green Tea Leaves

Tea plantations should promote the implementation of available improved technologies and cultural practices. Wherever possible, farm mechanization should be used to maintain quality. It is important to provide small tea farmers with effective technical assistance in the form of field-level training and consulting services on better production techniques, focusing on raising their awareness of the importance of leaf quality in general.

NGOs, community-based organizations (CBOs), and other private sector entities involved in agricultural development should be organized to support tea farmers. As many small-scale and cottage industries face financial difficulties, the Government of Nepal must provide low-interest financial support. Ilam tea stakeholders should seek out specialty tea markets that offer price premiums that provide adequate income for small-scale tea farmers, thereby increasing the global sales of Ilam tea.

Quality Tea Production

Small tea growers have faced criticism for not maintaining the quality of green tea leaves. Large tea estates have a history of not purchasing green tea leaves from small farmers. In this situation, small tea farmers should focus on improving the quality of green tea leaves through the use of superior planting materials, traditional methods for picking green tea leaves at the right times and intervals, and by training workers in quality awareness. It is essential to initiate educational activities using

various extension strategies such as field training, workshops, demonstrations, field trips, and tours. To produce high-quality products, high-quality raw materials are necessary. Current support from institutions is only effective for capacity building and technical services, so institutional support must also be directed towards areas that aid in producing quality raw materials from each farmer.

Improvement of Made Tea Market

The issue of poor marketing and market mechanisms is a significant concern that has not received enough attention. Simply participating in trade fairs is not enough to solve this problem. Some entrepreneurs are being forced to sell their products at low prices due to inadequate prices, so the Government must take steps to address this issue. The tea auction system provides a platform for producers to sell their tea. Producers have the freedom to choose their preferred marketing channel to sell their products. In a globalized economy, tea producers should strive to maintain a direct connection with the end consumer by selecting the right marketing channel that allows them to receive a fair price for their product. Small farmers need to build connections with buyers who can help them get better prices for their products. The absence of a distinctive trademark often compels farmers to sell their products at low prices. Thus, the Government should create an official trademark at the international level to address this problem.

The Government of Nepal must establish a practical and authorized institution to link cottage and small industries to the international market. Such an institution should be established through small and cottage industries so that they can sell their product in the international market.

Agricultural extension agents should initiate efforts to increase awareness and recruit small farmers to form or join cooperative groups in rural areas. This will

provide them with wider access to agricultural information and enhance their collective bargaining power when it comes to acquiring inputs and services.

There are no auction centers in Nepal. It is recommended that auction centers be established in Nepal to improve the marketing system for large tea production, lower transportation costs, and save valuable time in business.

Organic Tea

On the global market, demand for organic tea is rising, particularly from developed nations. It indicates that organic tea has a bright future in the global market. Thus, the Nepalese tea industry should take this opportunity to enhance its weary export by focusing on organic farming. Therefore, the Nepalese tea industry should invest more in organic tea production to compete in the world market. The Government, NGOs, and INGOs should collaborate on the following in order to build an effective organic agriculture business in Nepal:

1. Providing technical training to farmers in organic production techniques and providing subsidies to poor farmers.
2. Support organic farmers' cooperatives to increase output to levels needed for export.
3. Host a regional or national workshop on organic farming at least once each year so people can share their experiences.
4. Use various extension strategies to inform farmers and consumers on how organic tea is produced and consumed, as well as the effects on human health, the environment, and the economy.
5. Organize NGOs, CBOs, and other private organizations to work together on agricultural development initiatives to help organic tea farmers.

6. Execute a study on the scientific support for conventional agricultural practices that could improve resource sustainability, land productivity, and organic farming as one of the main tenets of farming systems.
7. Entrepreneurs from rural areas have a problem with loan facilities, so banks like Agriculture Development Bank must be active in those areas. The Agricultural Development Bank has stopped providing loans in the tea sector, so ADB must start to invest in those areas.
8. The Government must make suitable cottage and small industries policies.
9. Tea and Coffee Development Board must be more involved and supportive of tea manufacturing cottages and small industries.
10. Getting organic certification from the concerned authority is very costly, and individual effort is insufficient. Entrepreneurs do not have access to such authorities, so it should be addressed at the government level.

Physical Infrastructure Development

Government should develop school and university-level curriculum in the field of organic farming. Most of the cottage and small industries are suffering from energy problems. The Government of Nepal should have special provisions for these industries.

To access 3/4 phase electricity, entrepreneurs must bear the high cost of the transmitter, installation fee, and other essentials. The Government must step in and provide 3/4 phase electricity at no cost. They should also focus on improving transportation, electricity, communication, and public transport services for the tea industry. Small Tea Gardens in Ilam are facing issues with basic physical infrastructure such as electricity, irrigation, roads, and power supply, which is affecting the quality of production and impacting the laborers. To overcome this,

financial institutions and banks should offer loan services with subsidies to help develop the necessary physical infrastructure for the Small Tea Gardens in Ilam.

Since the harvest needs to be processed within a few hours of being gathered, the government and its partners must assist tea growers who require financial aid in establishing tea factories.

10.3 Scope for Further Research

It is recommended that similar future studies be carried out in other tea-growing regions in Nepal to expand our understanding of the tea industry. Further research is required to compare the performance of bought-leaf and cooperative tea factories. Additionally, it is suggested that future studies be conducted to assess the demand and supply for produced tea and the price-setting mechanisms in the Nepalese tea market. An analysis of the factors that influence oligopsony power in the tea leaves market of Ilam is also necessary. Lastly, it may be beneficial to conduct a profitability analysis of tea farm enterprises in Ilam.

APPENDIX-I

Part I

1. Tea -Plant Characters, Different Types of Manufactured

Tea and its Processing: The tea plant is an evergreen or semi-evergreen woody shrub, attaining a height of 9.1 meters to 15.2 meters. But in plantations, it is never allowed to grow beyond plucking height. Tea plants are pruned back to encourage maximum leaf production. Annual pruning after plucking (and the same operation even after the second year)is a common practice helping the plant to flush profusely. By pruning, the tree grows to a height of about 1.5 meters. The older leaves are leathery, bright green, and 5.30 cm. long. The undersurface of tender young leaves is densely covered with soft hairs that vanish as they age. The leaves of a plant are alternatively arranged. The fragrance and aroma of 1he leaves are due to the presence of numerous oil glands. Yellow-centred white or pinkish fragrant flowers are born in singly leaf axils or groups of 2 to 4 and produce, at maturity, three-celled woody capsules, each compartment containing a brown seed of about l.25cm in diameter (Kochar, 1981; 1979).

1.2 Tea Plant Varieties

The four principal varieties of tea plants are *var. bohea* Pierre *(T. bohea. L.)*, *Var Contoniensis* Pierre (*T. cantoniensis* Lour), and *Var. Viridis* Pierre (*T viridis*. L.) and *Ver assamica* Pierre. (*T. assamica* Mast). Cultivated foams are generally grouped into China tea(*C, sinensis Var. sinensis*) and Assam tea (*C. sinensis Var. Assamica Mast*). A hybrid variety of *sinensis* X assamica is also known to occur, cultivated outside China, Japan, and Assam(Kochhar,1981).

1.2.1 China Tea

China tea is a slow-growing multi-stemmed perennial bush, 1.22 to 2.74 meters tall, with relatively narrow, short dark green leaves 4 cm. to 7 cm. long with a

dull, flat surface, pointing upward. It can withstand cold winters and has an economic life of at least 100 years. It is a hardy variety of tea. Flowers are born singly (Kochhai, 1981; Kumar et al., 1997).

1.2.2 Assam Tea

This is a fast-growing, less hardy, single-stemmed tree ranging in height from 6.1 m. to 18.3 m., which has an economic life of 40 years. Compared to China tea, Assam tea leaves are much larger (15 m to 30 cm. Long), held horizontally or pointing slightly downward, and pale green with a glossy and bullate upper surface. Flowers are born in clusters of 2 to 4. The crop yield is greater than the Chinese variety. Another large leaved triploid var. Macrophylla Makino. It is reported from Japan. It gives a better decoction (Kochhai. 1981).

1.3 Agro Climatic Conditions

Tea can be grown successfully in nearly all subtropical areas and the tropics' mountainous regions. The plant is grown in open fields or terraced hillsides where rainfall is at least 150 cm per annum and well distributed throughout the year. An optimum of 21° centigrade to 32° centigrade is essential for the plant's vigorous growth. Tea plants can grow in the plains and the hills up to an altitude of over 2100 meters (better tea always at a high elevation) (Kachhar, 1981; Dutta, 1979).

The most common propagule of the tea plant is a seed, shown in a nursery bed. Seedlings are transplanted into the field at about 30 cm in height. Be careful and regular pruning; the plant is kept bushy. Harvesting or plucking is one of the most important operations in the tea industry, involving a lot of labour. The first picking is made when the plants are 3 to 4 years old and repeated at regular intervals depending on the prevailing climatic conditions. Harvesting involves removing the young tender shoots, i.e., the terminal bud and the 2 to 3 leaves immediately below it, together with

the intervening stalk. The finer grades of tea are obtained from the terminal bud and the first two leaves just next to it. The terminal bud with three leaves forms medium tea, and the same with four leaves forms coarse tea. Although tea plants are the same, tea can be of infinite variety due to varying soil and climatic conditions that vary from year to year and place to place. The main season for tea in India is from April to November. South India has almost a perennial crop. North East India produces premium tea during June and July (Dutta, 1979; Kochhar, 1981; Williams et .al., 1987; Nair, 1984). Tea bushes require proper irrigation and adequate manuring for increased yield. Chemical fertilizers like sulphate of ammonia at 110 kg per hectare. Green manure, cattle manure, and leaf compost are beneficial (Dutta,1979).

1.4 The Pests Attacking Tea Plant

The pests attacking tea plants are mainly Red spider mites (normally attack the upper surface of mature leaves), Scarlet mites (attack the under surface of leaves). Pink mite (attacks both surfaces of the leaf). Purple mite (attacks both surfaces of the leaf) and Yellow mite (attacks the very young leaves). The pests are controlled by applying different pesticides and insecticides (Willson and Clifford,1992; Pillai, 1985).

1.5 Chemistry of Tea

Manufactured tea contains 4 percent to 5 percent of tannins [a group of polyphenols (aromatic compounds)], which are responsible for the colour and strength of the infusion. 3.3 percent to 4.7 percent of caffeine, which is a stimulant for the heart, a little volatile oil to which the aroma of the tea is due, about 8 percent of resinous matter which gives the reddish-brown colour to tea infusion, etc. Green tea leaves contain 30 percent to 18 percent of tannins but greater portions of them are converted into sugar and gallic acid during the process of manufacture. Starch is also

converted into sugar during the same process; The terminal buds are rich in tannin (28 percent), most valued in the trade, and are commonly referred to as golden tips. The smallest leaf is known as 'Orange Pekoe' (28 percent tannin)- 'Peko' is the second leaf (21per cent tannin); 'Pekoe-souchong' is the third leaf (18 percent tannin), and 'souchong' is the fourth leaf (14 percent tannin). Sometimes even the fifth leaves are used for a tea known as 'Congou." The terminal bud also has high caffeine content (4.0 percent to 4.5 percent of the dry matter). Caffeine distribution in tea leaves is as follows: first leaf and bud-4.7 percent, second leaf-4.5 percent, third leaf-3.7 percent, fourth leaf-3.3 percent. Caffeine contents are not changed during the process of manufacture (Dutta, 1979; Kochhar, 1981; Pillai, 1985)

Part II

1. Types of Manufactured Tea and Processing

After plucking, the fresh tea leaves are lightly packed in baskets to prevent bruising (injury by blow), and heating is immediately sent to the processing units. Before starting processing, the quality of the tea leaves will be measured by checking whether coarse leaves exist among the raw tea leaves. There are mainly five types of manufactured tea: Black tea, green tea, Oolong tea, Brick tea, and instant tea (Thomas 1984). Organic tea is a new invention.

1.1 Black Tea:

The tea most of us drink is black tea. The three types of black tea manufactured are Orthodox, CTC (Crush, Tear, and Curl), and Legg -cut (the legg cut manufacture was done during monsoon when withering was difficult, and now the method is obsolete). There are mainly five steps in black tea manufacturing. They are 1) Withering, 2) Rolling, 3) Fermentation, 4) Drying, and 5) sifting and grading.

Orthodox or traditional and CTC tea manufacturing are similar except in the sphere of rolling (Thomas, 1984; Kochhar. 1981; Duw, 1979; Dwibedi, 1999)

(i) Withering: The weighed leaves are subjected to withering. The object of withering is to remove the moisture from the green leaf and condition the leaf for further processing. The raw leaves are spread on the trough for withering, then shuffled and levelled. Withering is done in the withering house with the help of ambient warm air, which causes the leaf to lose about half of the moisture in the course of 12 to 18 hours. This makes the leaf flaccid. There are two types of withering(1) artificial withering by passing hot air through the leaves(when the moisture content is very high in the leaves) and (2) natural withering through passing ambient air using fans.

(ii) Rolling: The withered, Sufficiently flaccid leaves are passed through the rolling machine. The primary object of rolling is to crush the leaves into small sizes. Rolling imparts twists to the leaves and releases 1he enzymes. Major chemical changes occur in this process, and fermentation begins here.

After a brief conditioning roll, The leaf is passed through a machine (CTC machine) comprising two steel cylinders or roller with fine tooth-like ridges. The cylinders with only marginal clearance move in opposite directions at speeds of 70 rpm. And 700 rpm, respectively. This causes accelerated intensive fermentation.

(iii) Fermentation: Fermentation is the enzymatic oxidation reaction by which the texture and nature of the leaves are changed. Sifted leaves are then spread on the floor of the fermentation room, where the temperature is maintained at more or less 2 C for 3 or 4 hours. During fermentation, the flavour and colour develop. For proper and maximum fermentation, rolled leaves are placed in a cool and humid atmosphere.

(iv) Firing/drying: This usually occurs in two stages- the first at 93 and the second at 82 . This process arrests fermentation and mass the moisture content to 2 to 3 percent, thus ensuring better keeping quality, and this process further improves.

(v) Sorting or grading: Sorting removes fiber from the bulk tea and separates the tea particles into various shapes and sizes relevant to trade requirements. Through this sorting or grading using sieves, uniform sizes of leaf broken, dust, etc., are obtained.

1.2 Green Tea

Green tea is largely produced and used in China and Japan. Fermentation is the principal process of the manufacture of black tea. In this regard, green tea is the opposite of black tea. The foremost precaution in green tea manufacture is to destroy the enzymes as soon as possible after plucking leaves. During the plucking operation, the tea piker often wears shade hates to prevent premature withering of 1he leaves. Green tea tastes bitter, but its use is increasing because it is known to lower cholesterol levels and prevent heart attacks. The tannin and caffeine content in green tea is higher than in black tea (Dutta, 1979; Kochhar,1981).

1.3 Oolong Tea

This partially fermented product is prepared almost entirely in Taiwan from a special form of China tea, 'Chesima." It is consumed mainly in America. It is intermediate between green and black tea, having the favour of the former but the colour of the latter. The characteristic flavour of oolong tea is due to the special variety of tea grown in Taiwan and the climatic and soil conditions (Kochhar, 1981).

1.4 Brick Tea

This is prepared from the waste left out after black and green tea preparation. It may consist of leaves, Stalks, and even twigs or coarse inferior tea dust. The bulk is

softened with steam and then compressed into blocks or bricks. Brick tea is mainly made in China to be exported to central Asia. It is mostly consumed in Tibet (Kochhar. 1981).

1.5 Instant Tea

Instant tea (powdered tea) is soluble in water but, like black tea, requires fermentation. It was in 1885 when instant tea first appeared. The process of the production of instant tea consists of the following operations. Selection of raw materials, extraction, aroma stripping, cream processing concentration, and drying (Willson and Clifford 1992; HilL 1979; D; 1999).

1.6 Organic Tea

In the case of organic tea cultivation and manufacture, no chemicals are being used. Only bio-fertilizers are used during cultivation. No pesticides are also being used. It is completely an environmentally friendly tea.

2. Caffeine and Decaffeination Process: Caffeine is a plant alkaloid. It is a central stimulant, but the excess amount is harmful to human health. The tea 'flushes' (young shoots) contain 3 percent to 4.5 percent caffeine. Chemical methods can remove the caffeine content of tea leaves. But it is not a common practice during the manufacture of black tea. The process of decaffeination is as follows.

Tea is processed with organic solvents like methylene chloride, ethyl acetate, supercritical carbon dioxide, etc., to extract the caffeine. These solvents allow caffeine to dissolve. These solvents are used to treat the tea in order to dissolve the caffeine. The dissolved caffeine and the solvent are removed from the tea by specific chemical treatment. The dissolved caffeine is then recovered from the solvent for commercial purposes, and the solvent is purified (Willson and Clifford 1992; Sabins & Daniel 1990 & Daniel 1991).

4. Blending of tea: The meeting point between what the tea leaf plucked from the bush has to offer and what is expected for a cup of tea by the consumer is known as blending. The expert tea blender-taster facilitates it. Based on strength and flavours, blends are classified as premium, popular, and economy; while premium blends are high priced with strong flavour and medium strengths, the economy blends are low priced with high strengths(Thomas, 1984}

5. Tea Testing: Tea tasting is an important function that decides the quality of the tea and its price. The experienced tea taster effectively examines the tea by senses of smell, sight, touch, and taste to enable it to buy at the auction. The tea taster evaluates the dry leaf, the infused leaf (the liquid extracted), and the liquor (Thomas, 1984; Dwibedi, 19991).

6. Grading of Manufactured tea: The manufactured tea is graded as leaf tea and dust tea. Based on the appearance and size of the tea. It is classified into many types. Different grades of the three types of black tea, such as Orthodox. CTC and green tea are given in table II. Each estate or garden has its o nomenclature, but the universally accepted names are given below. (Tea Board and UPASI, 1999).

Table III Grading of manufactured tea

A. Orthodox tea

Kind of Tea	Glade	Nomenclature
Whole Leaf	FP	Flowery Pekoe
	FTGFOP	Fine Tippy Golden Flowery Orange Pekoe
	TGFOP	Tippy Golden Flowery Orange Pekoe
	TGFO1	Tippy Golden Flowery Orange Pekoe One Golden
	GFOP	Flowery Orange Pekoe
	FOP	Flowery Orange Pekoe
	OP	Orange Pekoe
Broken	BOPl	BrokenOrangePekoe one
	GFBOP	GoldenFloweryBroken Orange Pekoe
	BPS	BrokenPekoe Souchong
	GBOP	GoldenBroken OrangePekoe
	FBOP	FloweryBroken Orange Pekoe
	BOP	BrokenOrangePekoe
Fanning	GOF	GoldenOrange Fannings
	FOF	FloweryOrange Fannings
	BOPF	Broken Orange Pekoe Fannings
Dust	OPD	OrangePekoe Dust
	OCD	OrangeChW3Jl13Jli Dust
	BOPD	Broken Orange Pekoe Dust
	BOPFD	BrokenOrangePekoe Fine Dust
	FD	Fine Dust
	D.A	Dust-A
	Spl. Dust	SpecialDust
	G. Dust	GoldenDust

b. Green tea

Kinds of Tea	Grade	Nomenclature
Whole Leaf	YH	YoungHyson
	FYH	Fine Young Hyson
Broken	GP	GunPowder
	H	Hyson
	FH	FineHyson
Fannings	SOUMEE	Soumee
Dust	DUST	Dust

APPENDIX-II

HOUSEHOLD SURVEY FORM 2014

This information is collected for the study doctorate in Tea Production and Market Mechanisms in Nepal. Therefore, the information will be used for the same. All information given by the respondent will be kept confidential. I hope the respondents will provide correct information and assist the researcher and his assistant.

Survey of Tea Farmers

Information Related to Population and Socio-Economic Life

Name of the respondent:

District: VDC/ Municipality: Ward No.

Date:

1. Number of Family Members:

	Age Group		
	0-15	16-59	Above 60
No. Ĝ			

2. Cultivated land (in Ropani)
3. What other crops do you produce except tea?

crops	paddy	maize	Wheat	millet	mustard	cardamom	others
Area in Ropani							

Information Related to the Cost of production of Different Crop

4. How much money did you spend on producing maize?

Activities	No. of labour and wage rate			Total Wage/price		
	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
Preparation of Land						
seed						
Manure						
Transportation cost						
cost in digging and plowing (Godmel)						
harvesting						
Total						

5. How much maize did you produce last year?

FY					
2011/012		2012/013		2013/014	
Kg.	Price	Kg.	Price	Kg.	Price

6. How much money did you invest in producing millet?

Activities	No. of labour and wage rate			Total Wage/price		
	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
Preparation of Land						
seed						
Manure						
Transportation cost (fertilizer)						
cost in digging and ploughing (Godmel)						
harvesting						
Total						

7. How much millet did you produce?

FY					
2011/012		2012/013		2013/014	
Kg.	Price	Kg.	Price	Kg.	Price

8. How much land have you used for tea cultivation?

2011/012		2012/013		2013/014	
Area	Production	Area	Production	Area	Production

9. How much money did you spend in producing green leaves?

Activities	No. of labour and wage rate			Total Wage/price		
	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
Land Preparation						
Manure						

Transportation

cost in clearing (Godmel)

Plucking

Pruning

Others

Total						

10. How much green leaf did you produce from that area? (in kg.)

Season/Flush	2011/012		2012/013		2013/014	
	Quantity	Price	Quantity	Price	Quantity	Price
Chaitra–Baisakh						
Jestha–Asadh						
Srawan–Bhadra						
Ashbin–Kartik						

11. Annual Income:

Sources of Income	Annual Income(Rs.)
Foreign Employment	
Service	
Trade	
Tea farming	
Grains	
Cash Crops	
Livestock Farming	

Information Related to Critical Issues in Tea Sector.

12. Was there any effect of pests and insects in the tea garden?

Year	2011/012	2012/013	2013/014
Name of insects and pests			
Affected area			

13. What is the state of the Green Leaf market? Good ☐ Bad ☐

If bad, what are the causes?

a. Influence of mediator ☐ b. lack of transportation ☐ c. c.Others ☐

14. What do you do if the plucked tea is not sold? a. decay ☐ b. Handmade tea ☐ c. Other ☐
15. Where do you sell Green Tea leaves? a. Tea collection center ☐ b. Tea factory ☐ c. Local Merchants ☐
16. What varieties of tea have you cultivated?

a. ..... b.....

c..... d.....

17. Which one do you prefer most ?.....
18. Have you cultivated organic verities tea? Yes ☐ No ☐
19. How much land have you used for organic tea cultivation ?.....
20. From where assistance have you obtained?
    a. Agriculture Development Office ☐ b. From NTCDB ☐ c. From ADB ☐
21. From which sources do you obtain the needed capital for tea farming?

Source	Amount of debt	Rate of interest	Paid Date	Distance
ADB				
Local merchant				
Debtor				

Information Related to the Production of Organic Tea

22. How much money did you spend on producing organic tea in the past?

Activities	No. of labour and wage rate			Total Wage/price		
	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
Preparation of Land						
Manure						
Transportation						
cost in clearing						

(Godmel)

Plucking

Pruning

Others

Total

23. How much green leaf did you produce from the project area?

Season/Flush	2011/012		2012/013		2013/014	
	Quantity	Price	Quantity	Price	Quantity	Price
Chaitra–Baisakh						
Jestha–Asadh						
Srawan–Bhadra						
Ashbin–Kartik						

24. Is there a lack of labour? Yes☐ No ☐

If yes, how much labours are needed for your tea garden?

Information Related to Problems and Opportunities

25. Have you been engaged in any tea cooperative and tea producer groups? Yes ☐ No☐

If yes, how many members are there in your cooperative/group?

26. In which tea factory do you sell your tea leaves?.....

27. How far is that factory from your tea garden?.....

28. Which of the following problems have you been facing? Please write (√) and (×) for which you are facing and not.

Problems in production:

a. Lack of pesticides, tools, and fertilizer

b. Lack of alternative market

c. Lack of technical skills and knowledge

d. Difficulty in transportation

e. Other

Problems of marketing

a. Lack of knowledge of the real price of green leaf.

b. Cartelling between merchants and factories in determining price.

c. Problems of marketing for hand-made tea.

Suggestions:

.....

.....

29. What of the following suggestions do you want to provide to increase the production of green tea leaves? Please tick.

a. Plantation of good varieties of tea.

b. Managing training for tea plantations and farming.

c. Determining the fair price of tea.

खण्ड- ख

चिया कारखाना सर्वेक्षण

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1. General Information

जिल्लाः **गा.वि.स.** **वडा नं.**

उत्तरदाताको नामः **पदः**

कारखानाको नामः

कारखानाको जडित क्षमता

१. हरियो पत्तिको स्रोत :- आफ्नै वगान ☐ पत्ति खरिद ☐

२. जम्मा स्टाफ ☐

क. कारखानाका ☐

१. प्रशासनीक ☐

२. प्रशोधनकार्यमा ☐

ख. वगान तर्फ जम्मा ☐

३. कारखानाको कुल क्षेत्रफल कति छ ? ☐

४. भवन संख्या ☐

५. भवनको प्रयोजन

क. .....

ख. .....

ग. .....

घ. .....

६. वगानको जम्मा क्षेत्रफल ☐ मध्ये चिया लगाएको क्षेत्रफल (रोपनीमा) ☐

७. हरियो पत्ति कति खरिद गर्नु हुन्छ ? ☐

८. गसालको ३ वटै सिजनको हरियो पत्तिको मूल्य कति कति दिनु भएको थियो ?

चैत्र, वैशाख, जेष्ठ ☐

आषाड, श्रावण ☐

भाद्र, आश्वीन, कार्तिक ☐

९. अरगानीक चिया पनि उत्पादन गर्नु हुन्छ ?

छ ☐ छैन ☐

१०. छ भने कति उत्पादन गर्नु हुन्छ ? ☐

1. Information Related to Critical Issues

११. उत्पादित चिया कहाँ कहाँ बिक्री गर्नु हुन्छ ?

आन्तरीक बजार ☐ बाह्य बजार ☐ दुवै ☐

१२. बाह्य बजार भन्नाले कुन कुन देशमा निर्यात गर्नु हुन्छ ? र कित मात्रामा ?

.....

१३. यस वर्ष नजिकैको अक्सन बजारमा नेपाली चियाको मूल्य कस्तो रहयो ? ☐

१४. हरियो पत्ति खरिद गर्दाका समस्याहरु के के छन् ?

.....

१५. तयारी चिया बिक्रीका समस्याहरु के के छन् ?

.....

११. समग्रमा चिया प्रशोधन, हरियो पत्ति खरिद र आयात निर्यातमा देखिएका समस्या र अवसरहरु के के छन् ?

APPENDIX-III

Organic Tea Farmers' Description and Opinion

SN	Cooperatives	Name	Gender	Caste/ Ethnicity	Age	Education	Motivational factors
1	1	Harka Bahadur Tamang	1	1	52	1	4
2	1	Lok Bahadur Tamang	1	1	62	1	8
3	1	Pratap Singh Tamang	1	1	67	1	9
4	1	Sancha Maya Tamang	0	1	71	1	6
5	1	Man Bahadur Magar	1	1	60	1	8
6	1	Rahal Singh Magar	1	1	52	1	6
7	1	Purna Maya Magar	0	1	66	2	8
8	1	Furlamu Sherpa	0	1	36	3	5
9	1	Dipak Baral	1	3	36	3	4
10	1	Bal Bahadur Magar	1	1	38	3	8
11	1	Ran Bahadur Magar	1	1	33	3	5
12	1	Parbata Baral	0	3	25	3	3
13	1	Purna Bahadur Rana Magar	1	1	55	3	11
14	1	Hom Prasad Bhandari	1	3	52	2	2
15	1	Shivalal Niroula	1	3	62	2	8
16	1	Dev Narayan Kattel	1	3	75	1	5
17	1	Madan Prasad Baral (Ka)	1	3	52	3	8
18	1	Madan Prasad Baral (Kha)	1	3	48	3	6
19	1	Narahari Adhikari	1	3	52	3	6
20	1	Padam Lal Magar	1	1	70	1	5
21	1	Bhawana Khanal	0	3	50	1	4
22	1	Khagendra Kumar Adhikari	1	3	47	1	6
23	1	Chandra Bahadur Magar	1	1	34	3	10
24	1	San Bahadur Magar	1	1	55	1	1
25	1	Dhan Bahadur Lama	1	1	62	1	3
26	1	Madhu Kumar Baral	1	3	50	3	6
27	1	Netra Prasad Baral	1	3	33	3	8
28	1	Mani Ram Kattel	1	3	53	1	6

SN	Cooperatives	Name	Gender	Caste/ Ethnicity	Age	Education	Motivational factors
29	1	Om Prasad Baral	1	3	48	3	5
30	1	Binod Kumar Dhakal	1	3	43	3	11
31	1	Gajurman Priyar	1	2	65	1	8
32	1	Yogya Maya Magar	0	1	42	1	5
33	1	Binita Tamang	0	1	36	1	8
34	1	Harka Bahadur Moktan	1	1	38	2	8
35	1	Balaram Kattel	1	3	50	1	9
36	1	Menuka Devi Kattel	0	3	55	1	1
37	1	Pramod Tamang	1	1	35	3	8
38	1	Hiralal Kattel	1	3	42	3	6
39	1	Singh Bahadur Tamang	1	1	77	1	5
40	1	Ratna Bahadur Tamang	1	1	84	1	4
41	1	Kali Bahadur Bamjan	1	1	53	1	6
42	1	Bhim Bahadur Bamjan	1	1	48	1	8
43	1	Ratna Tamang	0	1	46	1	11
44	1	Jit Raj Tamang	1	1	77	1	6
45	1	Gyan Prasad Bhandari	1	3	28	3	6
46	1	Danda Pani Neupane	1	3	62	3	10
47	1	Data Ram Acharya	1	3	55	1	8
48	1	Kedar Baral	1	3	55	1	9
49	1	Panmaya Tamang	0	1	69	1	8
50	1	Sukmaya Tamang	0	1	50	1	3
51	1	Sudarshan Acharya	1	3	50	1	6
52	1	Narayan Prasad Baral	1	3	44	3	8
53	1	Gyaniram Acharya	1	3	46	3	7
54	1	Sajan Tamang	1	1	38	3	3
55	1	Arun Baral	1	3	42	3	8
56	1	Buddhalal Tamang	1	1	28	3	1
57	1	Padamkanta Subedi	1	3	52	1	3
58	1	Dinesh Kumar Bamjan	1	1	33	1	11
59	1	Padam Magar	1	1	38	3	5
60	1	Anup Tamang	1	1	36	3	4

SN	Cooperatives	Name	Gender	Caste/ Ethnicity	Age	Education	Motivational factors
61	1	Kul Bahadur Magar	1	1	32	3	8
62	1	Purna Bahadur Tamang	1	1	30	1	4
63	1	Hiralal Magar	1	1	55	1	8
64	1	Chatur Bahadur Magar	1	1	86	1	9
65	1	Punya Prasad Sapkota	1	3	55	1	6
66	1	Mohan Karki	1	3	36	1	10
67	2	Chiranjivi Kattel	1	1	52	3	6
68	2	Surya Prasad Sapkota	1	3	33	3	8
69	2	Gopal Poudel	1	3	35	3	9
70	2	Nirmala Baral	0	3	34	3	6
71	2	Dipak Magar	1	1	32	3	4
72	2	Chhatra Bahadur Limbu	1	1	52	1	8
73	2	Amit Bral	1	3	35	3	11
74	2	Moti Maya Bhattarai	0	3	65	1	5
75	2	Ganga Bahadur Goutam	1	3	52	1	2
76	2	Hem Kumari Pariyar	0	2	38	3	5
77	2	Ramila Pokharel	0	3	32	3	4
78	2	Radha Krishna Kattel	1	3	56	3	6
79	2	Khadananda Adhikari	1	3	53	3	1
80	2	Krishna Kumar Khawas	1	3	54	1	6
81	2	Jharendra Prasad Pokharel	1	3	57	1	6
82	2	Tek Prasad Baral	1	3	43	2	4
83	2	Mani Kumar Limbu	1	1	60	3	8
84	2	Rudra Prasad Neupane	1	3	71	2	9
85	2	Rom Nath Adhikari	1	3	46	3	6
86	2	Chandra Kala Pariyar	0	2	42	2	3
87	2	Barek Kumari Pariyar	0	2	49	1	6
88	2	Kedar Prasad Adhikari	1	3	48	2	8
89	2	Upendra Prasad Neupane	1	3	62	1	6
90	2	Bhanu Bhakta Neupane	1	3	64	3	5
91	2	Tulasi Ram Dahal	1	3	61	1	2
92	2	Thir Prasad Baral	1	3	43	2	10

93	2	Gita Baral	0	3	38	3	8
94	2	Dhan Maya Pariyar	0	2	69	1	9
95	2	Tanka Maya Adhikari	0	3	56	1	1
96	2	Chetamani Kattel	1	3	44	3	3
97	2	Radha Devi Giri	0	3	36	2	5
98	2	Yam Kumari Limbu	1	1	40	3	4
99	2	Kamal Bahadur Mabo	1	1	46	1	6
100	2	Jharendra Baral	1	3	32	3	6
101	2	Bhim Maya Loringden	0	1	34	3	4
102	2	Laxmi Kuri Kattel	0	3	53	1	8
103	2	Indira Acharya	0	3	38	3	9
104	2	Durga Prasad Acharya (Ka)	1	3	57	2	8
105	2	Jibnath Baral	1	3	44	3	3
106	2	Gayatra Baral	0	3	40	1	11
107	2	Mitra Lal Baral	1	3	56	1	10
108	2	Bhupendra Baral	1	3	34	3	5
109	2	Sangita Adhikari	0	3	36	2	5
110	2	Madhu Maya Khatri	0	3	44	1	2
111	2	Gayatri Prasad Baral	1	3	43	1	4
112	2	Gouri Maya Limbu	0	1	46	1	8
113	2	Bhami Devi Kattel	0	3	36	3	9
114	2	Bhuwan Khanal	1	3	28	3	8
115	2	Jibnath Neupane	1	3	43	3	3
116	2	Netra Prasad Dahal	1	3	30	3	6
117	2	Agam Singh Magar	1	1	49	1	1
118	2	Nabin Baral	1	3	32	3	5
119	2	Jog Maya Limbu	0	1	30	2	10
120	2	Sujata Limbu	0	1	30	2	5
121	2	Santosh Giri	1	3	40	3	4
122	2	Hom Bahadur Karki	1	3	54	1	6
123	2	Prakash Dhakal	1	3	36	3	8
124	2	Narbada Khatiwada	0	3	30	3	3
125	2	Shevanta Khatri	1	3	24	3	10
126	2	Lila Bahadur Karki	1	3	39	2	8
127	2	Guru Kumari Bhattarai	0	3	39	2	9

SN	Cooperatives	Name	Gender	Caste/ Ethnicity	Age	Education	Motivational factors
128	2	Kamala Dhakal	0	3	40	3	6
129	2	Lila Rai	1	1	45	2	3
130	2	Bed Prasad Bhattarai	1	3	45	3	6
131	2	Tara Devi Ghimire	0	3	43	3	11
132	2	Tek Bahadur Dahal	1	3	46	1	9
133	2	Chetan Kattel	1	3	24	3	1
134	2	Raju Kattel	1	3	20	3	3
135	2	Keshav Regmi	1	3	36	3	6
136	2	Hari Khawas	1	3	42	2	8
137	2	Kosh Ballav Regmi	1	3	51	3	9
138	2	Bhim Rai	1	1	41	2	5
139	2	Chet Prasad Ghimire	1	3	54	1	4
140	2	Sumitra Magar	0	1	37	2	6
141	3	Dawa Tamang	1	1	46	3	10
142	3	Tej Bahadur Katuwal	1	3	49	2	10
143	3	Dik Bahadur Tamang	1	1	43	3	9
144	3	Pasang Sherpa	1	1	43	2	1
145	3	Bhoj Bahadur Katuwal	1	3	41	1	6
146	3	Shree Bdr Katuwal	1	3	44	1	10
147	3	Bed Prasad Dudharaj	1	2	46	1	8
148	3	Nar Bahadur Tamang	1	1	56	1	8
149	3	Mani Kumar Tamang	1	1	48	3	5
150	3	Kumar Sherpa	1	1	41	1	2
151	3	Man Bahadur Katuwal	1	3	55	1	4
152	3	Bhim Prasad Poudel	1	3	61	1	4
153	3	Liladhar Acharya	1	3	65	1	10
154	3	Padam Prasad Katuwal	1	3	49	2	11
155	3	Pasang Sherpa	0	1	65	1	10
156	3	Dhan Bahadur Katuwal	1	3	56	2	3
157	3	Ram Bdr Rana Magar	1	1	61	3	6
158	3	Hom Nath Thapa	1	3	76	1	8
159	3	Tilman Tamang	1	1	59	2	4

SN	Cooperatives	Name	Gender	Caste/ Ethnicity	Age	Education	Motivational factors
160	3	Bal Krishna Dhungana	1	3	63	3	8
161	3	Gopal Rana	1	1	65	3	8
162	3	Khadga Bdr Thapa	1	3	33	3	5
163	3	Debi Prasad Thapa	1	3	62	1	4
164	3	Rup Bahadur Khadka	1	3	49	1	8
165	3	Ran Bahadur Tamang	1	1	55	3	4
166	3	Krishna Karki	1	3	66	3	8
167	3	Khadga Bdr Katuwal	1	3	74	1	10
168	3	Surendra Katuwal	1	3	41	2	1
169	3	Sitaram Katuwal	1	3	42	3	6
170	3	Indra Katuwal	1	3	56	2	6
171	3	Ram Bahadur Tamang	1	1	40	2	10
172	3	Hom Bahadur Katuwal	1	3	35	3	2
173	3	Tilak Dudharaj	1	2	46	2	4
174	3	Bipin Bahadur Karki	1	3	57	3	8
175	3	Dipak Acharya	1	3	31	3	9
176	3	Pancha Bdr Tamang	1	1	28	2	1
177	3	Tek Bir Tamang	1	1	29	3	11
178	3	Data Ram Ghimire	1	3	68	2	8
179	3	Resh Bahadur Dudharaj	1	2	34	3	8
180	3	Hari Prasad Tamang	1	1	65	2	5
181	3	Ningma Sherpa	1	1	28	3	4
182	3	Narbada Katuwal	0	3	30	3	6
183	3	Hom Bahadur Katuwal	1	3	42	2	4
184	3	Mina Kumari Biswakarma	0	2	42	3	8
185	3	Anil Dudharaj	1	2	29	3	9
186	3	Man Bahadur Tamang	1	1	48	1	6
187	3	Liladhar Acharya	1	3	33	1	3
188	3	Mira Devi Tamang	0	1	44	1	6
189	3	Bishal Tamang	1	1	23	2	10
190	3	Padam Prasad Acharya	1	3	47	3	2
191	3	Chhatra Bdr Magar	1	1	45	2	4

192	3	Hari Prasad Acharya	1	3	51	2	8
193	3	Jit Bahadur Katuwal	1	3	55	2	8

Note :

1. Name of the cooperatives: 1= Ajambare Tea Cooperative Society Ltd. Jeetpur- 2, Ilam, 2= Nawami Tea Producer Cooperative Society Ltd., Jeetpur-4, Ilam, 3= Hilltop Tea Producer Cooperative Society Ltd. Deumai Municipality-5, Ilam
2. Gender : 0= Female, 1= Male
3. Caste/Ethnicity: 1= Janajati, 2= Dalit, 3= Other (Brahnman/Chhetri)
4. Education: 0= Illitarate, 1= Literate, 2= School Level, 3= College/University
5. Motivational factors for organic farming: 1= Environmental protection,2= Reduction of soil erosion, 3= Better soil fertility, 4= Good image of Nepalese tea in the international market, 5= Satisfying the need of the processors, 6= Sustainability in production, 7= Better profitability, 8= Easy and better marketing, 9= Healthy product for the consumers, 10= Maximum utilization of internal farm resources, 11= All of the above

(Source: Field Survey, 2014)

APPENDIX-IV

List of key Informants (Tea Experts and Promoters)

1. Pradhan, SK. (M. Pradhan is an organic program coordinator and consultant of Gorkha Tea Estate, Fikkal, Suryodaya Municipality, Ilam.), Nepal.
2. Rai, Sunil. (Mr Rai is a Chairman of the Non-Governmental Organization Tea Sec. (Tea Sector Service Centre), Nepal.
3. Gajamer, Padam (Mr. Gajamer is a former manager of Mangalbare Chiya Bistar Yojana, Panitar , Deumai Municipality, Ilam)
4. Dahal, Govinda (Mr Dahal is a Chairperson of Central Tea Cooperative Federation (CTCF) Ltd. Nepal)

APPENDIX-V

Questions for Farmers (Translated into English)

1. When did you begin to convert to organic production?
2. What is organic tea agriculture? How is it different from conventional tea agriculture?
3. For tea agriculture, why organic?
4. Do you like organic agriculture? Why or why not?
5. For you, has organic tea agriculture been thriving? Why or why not?
6. What is the future of organic tea agriculture in this area? Is the future good?

APPENDIX-VI

World Production of Tea (Metric Tons)

SN	Countries	2007	2008	2009	***2010***	***2011***
1	India	944912	980818	978999	966403	988328
2	Bangladesh	57955	58818	59242	59272	59162
3	Sri Lanka	304613	318697	289778	331427	328370
4	Indonesia	149510	137499	136481	129200	123700
5	China	1165500	1200000	1358642	1475060	1550000
6	Taiwan	17502	17384	16780	17467	18000
7	Iran	17000	18080	17500	16800	16000
8	Japan	100000	93000	93100	83000	78000
9	Korea, Rep.	4080	4100	4200	4300	4400
10	Malaysia	2450	2350	2491	2400	2300
11	Myanmar	18400	18600	18700	19000	19400
12	Nepal	13700	16127	16607	16608	16900
13	Turkey	178000	155000	153000	148000	145000
14	Vietnam	148270	166375	154000	170000	178000
Total Asia		**3121892**	**3186848**	**3299520**	**3438937**	**3527560**
15	Burundi	6700	6400	6600	6800	7000
16	Cameroon	4200	4300	4300	4400	4400
17	Congo	3200	3300	3300	3400	3400
18	Ethiopia	5200	5400	5600	5600	5700
19	Kenya	369606	345817	314198	174025	159359
20	Malawi	48141	41639	52559	51591	47056

21	Mauritius	1563	1668	1489	1467	1400
22	Mozambique	3400	6400	6500	6500	6600
23	Rwanda	17200	17300	22400	22249	23500
24	South Africa	3655	2960	3720	3400	3600
25	Tanzania	34863	31606	32092	31646	32775
26	Uganda	44913	42752	50982	56468	44000
27	Zimbabwe	13463	8300	12125	14293	12000
Total Arica		**556104**	**517842**	**515865**	**381839**	**350790**
28	Azerbaijan	1980	2000	2050	300	280
29	Georgia	3478	4000	4200	4300	4400
30	Russia, Fed.	3100	3100	3200	3300	3400
Total CIS		**8558**	**9100**	**9450**	**7900**	8080
31	Argentina	90000	72000	90000	90000	93000
32	Brazil	5200	5200	5300	5400	5500
33	Ecuador	1970	1990	2000	2050	2100
34	Peru	2880	2900	2930	2950	2980
Total S. America		**100050**	**82090**	**100230**	**100400**	**103580**
35	Australia	1630	1640	1660	1670	1680
36	Papua New Guinea	6730	6450	6770	6800	6900
Sub Total		**8360**	**8090**	**8430**	**8470**	**8580**
Grand Total		**3794964**	**3803970**	**3933495**	**3937546**	**3998590**

Source: NTCDB, 2012

APPENDIX-VII

Percentage Share of World Exports of Tea Metric Tons

SN	Countries	2007	2008	2009	2010	2011
1	India	8.90	12.19	1.34	10.55	9.89
2	Bangladesh	20.83	0.51	0.22	0.05	0.07
3	Sri Lanka	14.93	17.93	19.83	17.14	17.53
4	Indonesia	4.24	5.86	6.54	5.00	4.36
5	China	14.68	18.08	21.47	17.37	18.77
6	Taiwan	0.10	0.14	0.17	0.15	0.16
7	Iran	0.25	0.32	0.67	0.27	0.23
8	Japan	0.09	0.11	0.14	0.02	0.02
9	Korea, Rep.	0.01	0.02	0.02	0.13	0.14
10	Malaysia	0.02	0.02	0.02	0.02	0.02
11	Nepal	0.36	0.52	0.63	0.49	0.51
12	Turkey	0.15	0.27	0.28	0.23	0.22
13	Vietnam	5.63	6.33	6.73	7.35	8.32
Total Asia		**70.20**	**62.31**	**58.06**	**58.77**	**60.24**
15	Burundi	0.30	0.32	0.35	0.34	0.31
16	Cameroon	0.22	0.25	0.31	0.24	0.24
17	Congo/Zaire	0.12	0.15	0.18	0.16	0.16
18	Ethiopia	0.08	0.10	0.20	0.16	0.17
19	Kenya	17.44	23.35	24.27	25.32	24.51
20	Malawi	2.36	2.44	3.30	2.79	2.61
21	Mauritius	0.00	0.00	0.00	0.00	0.00
22	Mozambique	0.06	0.12	0.16	0.13	0.13

23	Rwanda	0.66	0.81	1.47	1.45	1.43
24	South Africa	0.03	0.15	0.14	0.10	0.10
25	Tanzania	1.48	1.51	1.74	1.46	1.58
26	Uganda	2.21	2.58	3.40	2.92	2.33
27	Zimbabwe	0.39	0.34	0.53	0.49	0.40
Total Africa		**25.35**	**32.14**	**36.05**	**35.56**	**33.97**
28	Georgia	0.04	0.05	0.06	0.06	0.06
29	Argentina	3.77	4.70	4.90	4.90	5.02
30	Brazil	0.17	0.18	0.16	0.15	0.11
31	Ecuador	0.06	0.07	0.09	0.07	0.07
Total S. America		4.02	5.01	5.22	5.17	5.26
33	Papua New Guinea	0.29	0.37	0.47	0.33	0.34
34	Other Countries	0.13	0.17	0.21	0.17	0.18
Total		**0.43**	**0.54**	**0.67**	**0.51**	**0.52**
Grand Total		**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source: NTCDB, 2012

APPENDIX-VIII

Existing Tea Cooperatives (District: Ilam)

SN	Name of the Cooperatives	Address	No. of

			Farmers
1.	Deurali Tea Producer Cooperative Society Ltd	Jeetpur-2	74
2.	Himsikhar Tea Producer Cooperative Soc. Ltd	Panchakanya-8	68
3.	Laligursh Tea Producer Cooperative Society Ltd	Laxmipur	56
4.	Ajambare Tea Producer Cooperative Society Ltd	Jeetpur-2	61
5.	Batase Tea Producer Cooperative Society Ltd	Laxmipur-6	50
6.	Barboteli Tea Producer Cooperative Society Ltd	Barbote-6	66
7.	Boudham Tea Producer Cooperative Society Ltd	Pasupatinagar-1	77
8.	Uchapahadi Tea Producer Cooperative society	Sakhejung-5	141
9.	Greenhill Tea Producer Cooperative Ltd	Sakhejung-6	133
10.	Siddithumka Tea Producer Cooperative Ltd	Siddithumka-3	44
11.	Triyuga Tea Producer Cooperative Society Ltd.	Shantidanda-6	52
12.	Charkola Tea Producer Cooprative Society Ltd.	Mangalbare-3	63
13.	Eco Tea Producer Cooperative Society Ltd	Kolbung-2	117
14.	Gogane Tea Producer Cooperative Society Ltd	Kanyam-8	72
15.	Kanyam Tea Producer Cooperative Society Ltd	kanyam-2	141
16.	Sayapatri Tea Producer Cooperative Society Ltd	Kanyam-1	67
17.	Sanimai Tea Producer Cooperative Society Ltd	Sulubung-5	110
18.	Sakhejung Tea Producer Cooperative Ltd	Sakhejung-7	59
19.	Sundarpani Tea Producer Cooperative Ltd	Fikkal-3	95
20.	Nawami Tea Producer Cooperative Society Ltd	Jeetpur-4	107
21.	Tinjure Tea Producer Cooperative Society Ltd	Phakphok-6	199
22.	Saghubesi Tea Producer Cooperative Society	Goprkhe 2	94
23.	Shihadevi Tea Producer Cooperative Society	Mangalbare 5	47
24.	Shidda Pokari Tea Cooperative Society Ltd.	*Nayabazar 8*	50

25.	Sriantu Organic Tea Producer Cooperative Ltd.	*Sriantu 8*	68
26.	Kanchan Himal Tea Producer Cooperative Ltd.	Kanyam 4	76
27.	Mangmalung Tea Producer Cooperative Ltd.	Bajo-4	39
28.	Hariyali Jakibk Tea Producer Cooperative Ltd.	Maipokhari-1	212
29.	Him Sikar Tea Producer Cooperative Ltd.	Jogmai-4	50
30.	Ratna Chok Tea Producer Cooperative Society	Fikkal-8	60
31.	Ilameli Tea Producer Cooperative Society Ltd.	Fikkal-6	42
32.	Sulubung Tea Producer Cooperative Ltd.	Sulubung-2	29
33.	Hill Top Tea Producer Cooperative Society Ltd	Mangalbare-4	94
34.	Tincule Tea Producer Cooperative Society Ltd.	Phakphok-3	30
35.	Hurhure Tea Producer Cooperative Society Ltd	Kanyam-5	29
36.	Durlap Kanchan Tea Cooperative Society Ltd	Puwamajhuwa-3	54
37.	Singha Lila Tea Producer Cooperative Society	Ilam-2	26
38.	Kattebung Tea Cooperative Society	Pasupatinagar- 2	27
			2911

Tea Cooperatives in Nepal

SN	District	Number of cooperative	Share member		Total
			Female	Male	
1	Ilam	38	665	2219	2884
2	Panchther	13	164	606	770
3	Dhankuta	9	58	344	402
4	Therthum	9	64	336	400
5	Lalitpur	8	29	254	283
6	Taplejung	1	33	20	53
7	Udayapur	1	57	54	111
8	Bhojpur	1	20	7	27
9	Shankhuwasava	2	69	25	94
10	Solukhumbu	1	24	3	27
11	Ramechap	1	28	11	39
12	Jhapa	5	97	262	359
13	**Total**	**89**	**1308**	**3976**	**5449**

APPENDIX-IX

Cooperatives with Mini/Small Tea Factories

SN	Name of the Cooperatives	Address		Contact Person	No. of Farmers
		VDC	District		
1.	Kanyam Tea Producer Cooperative Ltd	Kanyam-1	Ilam	Nar Kr. Shrestha	141
2.	Tinjure Tea Producer Cooperative Ltd	Phakphok-6	Ilam	Padam Tamang	199
3.	Siddithumka Tea Cooperative Soc. Ltd	Siddithumka-3	Ilam	Nir Bdr Chamlagai	44
4.	Ajambare Tea Cooperative Ltd	Jeetpur-2	Ilam	Hiralal Magar	61
5.	Ilameli Tea Producer Cooperative Ltd	Fikkal-6	Ilam	Krishna Subedi	42
6.	Hariyali Tea Producer Cooperative Ltd	Maipokhari-1	Ilam	Purna Mukhiya	212
7.	Panchakanya Tea Cooperative Soc. Ltd	Hathikarka	Dhankuta	Bhim Bdr Limbu	27
8.	Ramche Tea Producer Cooperative Ltd		Dhankuta	Yogmaya Chhetri	63
9.	Singha Devi Tea Cooperative Soc. Ltd	Solma-3	Terhathum	Shankar Khanal	112
10.	Pathivara Tea Pro. Cooperative Soc. Ltd		Taplejung	Ran Bdr Karki	53
11.	Makalu Tea Producer Cooperative Ltd	Tamafok	Sangkhuwasava	Tek Bdr Magar	64
12.	Sagarmatha Tea Cooperative Soc.Ltd	Chilaune	Udayapur	Prem Rai	115
13.	Tajelung Tea Producer Cooperative Ltd	Ektin	Panchthar	Nanda Aangthopo	107
14.	Lali Tea Producer Cooperative Ltd	Phidim	Panchthar	Tanka Rai	62

APPENDIX-X

Individual Mini/Small Tea Factories

SN	Factories Name	Address		Proprietor Name	Contact No.
		VDC	District		
1.	Miteri Organic Hand-made Industry	Siddithumka-3	Ilam	Nir Bahadur Chamlagai	9817957649
2.	Jalakanya Tea Industry	Mangalbare-7	Ilam	Hem Lal Dhakal	9844656519
3.	Singha Devi Tea Processing Unit	Mangalbare-5	Ilam	Ram Krishna Subedi	9742613760
4.	Laligurash Handmad Tea Industry	Jitpur-	Ilam	Meg Bahadur Bista	9842776245
5.	Kanchanjanga Organic Handmade Processing Unit	Sakhejung-7	Ilam	Dambar Bahadur Khatri	9842646934
6.	Ambote Handmade Processing Unit	Jitpur	Ilam	Hiralal Magar	
7.	Dipam Tea Processing Unit	Kanyam	Ilam	Dillip Kumar Subba	9742030150
8.	Matribhumi Tea Estate Pvt	Morang	Morang	Narayan Rai	9805343709
9.	Suryadhaya Organic Handmade Tea Industry	Kanyam-2	Ilam	Kamal Khadka	9842636326
10.	Sakura Handmade Tea Industry	Shreeantu-6	Ilam	Saran Rai	9842639520
11.	Kiran Orthodox Tea Industry	Kanyam-4	Ilam	Kamal Poudel	9842748139
12.	Kanchan Tea Industry	Fikkal-7	Ilam	Dipak Rai	9852681889
13.	Dewrali Organic Handmade Tea Industry	Kanyam-6	Ilam	Tikaram Adhikari	9844613435
14.	Ruchebung Tea Processing Unit	Puwamajhuwa-8	Ilam	Dilli Prasad Rai	9842729023
15.	Chahana Handmade Tea Industry	Kanyam-2	Ilam	Narendra Prasad Koirala	9844631522s

16.	Demach Handmade Tea Industry	Kanyam-4	Ilam	Mukunda Poudel	9842623346
17.	Sandakphu Tea Processing Unit	Maipokhari-1	Ilam	Sarad Subba	9852681846
18.	Singha Devi Orthodox Tea Industry	Chamaita-3	Ilam	Hari Basnet	9816088390
19.	Antu Gorkha Tea Industry	Shreeantu-4	Ilam	Abhinanda Giri	9852674396
20.	Jhulkegam Tea Industry	Kanyam-1	Ilam	Kajiman Kagate	9852605119
21.	Nepal Organic Tea Industry	Phuyatappa-6	Ilam	Debendra Regmi	9752605102
22.	Daju Bai Tea Industry	Nayabazar-5	Ilam	Arjun Poudel	9842730302
23.	Durga Laxmi Orthodox Tea Industry	Mangalbare-5	Ilam	Narayan Pr Khanal	9742610582
24.	Sagarmatha Orthodox Organic Tea Industry	Shantidanda-6	Ilam	Chandra Kumar Rai	9842740538
25.	Lali Tea Producer Cooperative & Processing Society	Phidim-8	Pancthar	Tanka Prasad Rai	9816005168
26.	Agejung Tea Producer Cooperative Society Ltd	Panchami-1	Pancthar	Harkawali Lingden	9814967666
27.	Maipokhari Organic Small Tea Industry	Sulbung-4	Ilam	Yogendra Subedi	9742612681
28.	Himsikhar Tea Processing Industry	Mangalbare-1	Ilam	Gobinda Shree Krishna Mani Pradhan	9742614843
29.	Ajambare Himchuli Processing Tea Industry	Jitpur-2	Ilam	Dirga Bahadur Pakharin	9742615196
30.	Ramche Tea Producer Cooperative Society Ltd	Pakharibas-3	Dhankuta	Yog Maya Poudel	9742066354
31.	Mangmalung Tea Processing Unit	Bajo	Ilam	Jitman Rai	9742611146
32.	Tinjure Orthodox Tea Processing	Solma-3	Therthum	Tek Bahadur Magar	
33.	Greenhill Orthodox Tea Processing Industry	Sakhejung-4	Ilam	Tanka Prasad Dahal	9842634751

34.	Lekali Organic Tea Processing Industry	Rake	Ilam	Mukti Acharya	9807998103
35.	Trishakti Pathivara Tea Processing Industry	Fikkal	Ilam	Mahesh Aryal	9842635772
36.	Gajurmukhi Handmade Processing Industry	Sakhejung-7	Ilam	Khetinath Khatri	9742634751
37.	Lighthill Orthodox Tea Processing Industry	Sakhejung-6	Ilam	Mohan Kumar Dahal	9842636151
38.	Brothers Orthodox Tea ltd	Mangalbare	Ilam	Raju Katuwal	9752605418
39.	Pathivara Orthodox Tea Processing Industry	Sakhejung-6	Ilam	Motiram Dahal	9852681204
40.	Sagarmatha Tea Processing Industry	Fikkal-8	Ilam	Gayni Limbu	9842686228
41.	Aroma Tea Nepal Processing Pvt,ltd	Ravi	Pancthar	Raju Serma	9851034216
42.	Ajambare Tea Producer Cooperative Ltd	Jitpur-2	Ilam	Partap Shing Taman	9816969654
43.	Ilam Star Tea Processing Uddog	Fakfok -6	Ilam	Hari Prasad Koilra	9816009271
44.					

APPENDIX-XI

Extention Programme with Farmers/ Area

Tea Extention Programme	Districts	No. of VDCs/ Municipalities	No. of Farmers	Plantation area in ha.	Plantation area in Ropani
Fikkal	Ilam	18	3624	2525	50491
Jasbire	Ilam	11	1020	626	12580
Mangalbare	Ilam	18	1493	1050	20997
Lalikharka	Panchthar	31	1053	50	10185
Hile	Dhankuta	21	471	235	4700
Solma	Tehrathum	19	631	235	4792
Ranipouwa	Nuwakote	11	475	59.5	1190
Total			8767	4780.5	104935

Source: NTDCB, 2014

Production of Orthodox and CTC Tea

FY	Orthodox Plantation (ha.)	Production (kg.)	Plantation (ha.)	CTC Production (kg.)	Total Plantation (ha.)	Production (kg.)
2003/04	6689	1591097	8323	10060107	15012	11651204
2004/05	6949	1666911	8951	10939170	15900	12606081
2005/06	7036	1655150	8976	12033087	16012	13688237
2006/07	7424	1976749	8996	13190994	16420	15167743
2007/008	7598	2079082	8996	14048408	16594	16127490
2008/009	7620	2079477	9088	14118650	16708	16198127
2009/010	8039	2135939	9088	14471616	17127	16607555
2010/011	8272	2242736	9179	15195197	17451	17437933
2011/012	8660	2354868	9429	15954956	18089	18309824
2012/013	8786	3037694	10250	17550451	19036	20588145
	77073	**20819703**	**91276**	**137562636**	**168349**	**158382339**

Source: NTDCB, 2014

APPENDIX-XII

Tea Importers

SN	Name of Countries	Name of Importers	Address
1	Austria	Demmer tea	kari torny Grasse 34 A-1230,austria, tel+431699830
2	Belarus	Ikartime	Ul lenninskaya 46 Ostrosbizky gorodok, Minskaja Oblast 223054, Belarus, tel: +3752911, 68678, Fax: 3751
3	Egypt	Mufaddal Enterprises	Ste. 74 Marouf Bldg- 33B ramis st, Cairo Egypt, Tel : +202761825
		Van Rees B.V. (Cario)	11 Gamal Eldin Abul Manhasen St. Apt. #10 Carden City Cairo Egypt
5	Finland	Aromix Erikoiskahvi Oy	Lemmnkaisenkatu 36, 20520, Tarku, Finland Tel : 35822345033 Email : aromix@aromix.fi Dersonnel : Petri Pulli, C60
6	France	Kawa Import Export	163 Rue de La Re-publique, 93000 Bobigny France. Tel : +33141832020 Fax : +33141832030 Email : tea@kawa.fr. Dersonnel : Buon- Huona Tan.
7	German	Cha Do Teehandelsgesel l schaft mbH	Her-mannstr. 106-109 D-28201 Bermen Germany Tel : +494215366766. Fax : +494215366777 Email : e-mail@cha-do.de. Personnel : Lutz E. Tonnis, Managing director.
		Sin Ass	Bornstr. 14/15, 28195 Bremen, Germany. Tel : +494213042350 Fax : +494713042215 Email : vertrieb@sinass.de. Personnel : Sonja truemper, Product Development, Tobis kuhl, sales Manager : Ottwin Rave, Managing Director

		Tea Peter Kaffee Gmbh	Oltmannstrasse 24, Freiburg 79100, Germany. Tel : +49761409974. Fax : +49761407338 Email : info@tee-deter-kaffee.de.
		Garner Food & Beverages Pvt. Ltd.	Gimar Comples, Kureshinagar, Kurla (E) Mumbai. 400070, India. Tel: +912224056400 Fax: +912224056513 Email: tea-exdorts@girnar.com
10	India	Jivraj Tea Ltd.	G-9 APMC market 1 phase II Turbhe, Navi, Mumbi, Maharastra 400703, India. Tel: +912226188880. Fax: +912226134902 Emai: mumbai@jivrajtea.com
		J.S. Tea Products Pvt. Ltd.	16, India Exchange Pl., R. No. 43. Ground Fl., Kolkata, W.B. 700-001, India. Tel: 913334590959 Fax: +913322828387. Email: contact@isteas.com
		J. Thomas & Co. Pvt. Ltd.	Tel:+913322486201 Fax:+913322435342. Email: cal@ithomas-india.com
14	Ireland	Bewley's Ltd.	Tel: +35318160712 Fax: +35318160681 Email: info@gewleys.ie
15	Japan	Kobe Tea Co. Ltd.	16-2 Sumiyoshi Hamamachi, Higashinadaku, Kove, Hyogo Pref. 6580042 Japan. Tel :+788517281. Fax : +788413100. Email : gin@kobetea.co.jp

		All Nepalese Tea & Coffee Pvt. Ltd.	Kupandol 10, Lalitpur, GPO Bo: 20421, 198 Okharbot marga New Baneswor, GPO Box 167 Kathmandu Bagmati Nepal. Tel: +97715548201 Fax: +97715531659 Email: info@allnedaltea.com
16	Nepal(TeaExporter)	Himalayan Tea Export Co. Pvt. Ltd.	Lagimpat, Kathmandu GPO Box:8975. Email: teahimalayan@wlink.com.np
		Kuwadi Devi Tea Estate	Bhadrapur, Jhapa, Nepal. Tel: +97702320072
		Mittal Tea Estate Pvt. Ltd.	Bhadrapur, Jhapa, Nepal. Tel: +97702320183
		Sarita's Nepal Tea Emporium	P.O Box 21086, Kathmandu, Nepal, Tel: +9771271772. Fax: +9771257536
		HIMCOOP Nepal	Tel : +97712110604 Email : himcoop@wlink.com.np
10	Netherland	NTM Koffee & Thee B.V.	Industrieweo Oost 23. Elst 6662 N, Netherland. Email : info@dreistreif.nl
11	Norway	Black Cat Kaffe ogthus A/S	Email: wenche@blackcatcaffeootehus.no
12	Pakistan	Asif Rahaman Paracha & Co.	Email: arp-tea@paknet3.ptc.pk
13	Saudi Africa	I & M Smith Pvt. Ltd.	Email: ims@zol.cozw
14	Turkey	Evcay Gide San. Paz. A.S.	Tel: +902263532490 Fax:+902263534144
15	Vietnam	Tea Land Vietnam Co. Ltd.	Tel: +8442661667 Fax: +8442661669

Source: NTDCB, 2014

APPENDIX-XIII

Bought Leaf Factories in Nepal

S.N.	Name of Factories	Address
1	Guranse Maipokhari Tea Industries Pvt. Ltd.	Jasbire, Ilam
2	Himalayan Sangri-la Tea Industries Pvt. Ltd.	Nepaltar, Ilam
3	Mistvalley Tea Processing Industries Pvt. Ltd.	Jitpur, Ilam
4	Jagadamba Tea Processing Pvt. Ltd.	Maheshpur, Jhapa
5	Haldibari Tea Processing Pvt. Ltd.	Haldibari, Jhapa
6	Maibensi Tea Producers Pvt. Ltd.	Fikkal, Ilam
7	Buttabari Tea Processing Pvt. Ltd.	Anarmani, Jhapa
8	Modern Tea Industries Pvt. Ltd.	Maheshpur, Jhapa
9	Danfe Tea Processing Industries Pvt. Ltd.	Chandragadi, Jhapa
10	Parajuli Tea Industries Pvt. Ltd.	Maheshpur, Jhapa
11	Nitin Tea Processing Pvt. Ltd.	Sanishchare, Jhapa
12	Himali Chiya Prasodhan Kendra	Garamani, Jhapa
13	Kankai Tea Processing Industries Pvt. Ltd.	Bhadrapur, Jhapa
14	Rakura Tea Processing Pvt. Ltd.	Haldibari, Jhapa
15	Star Tea Industries Pvt. Ltd.	Maheshpur, Jhapa
16	Sandakfu Process Pvt. Ltd.	Jasbire, Ilam

Source: NTDCB, 2014

Tea Estate in Nepal

SN	Name of Factories	Address
1	Budhakaran & Sons Tea Company Pvt. Ltd.	Maheshpur, Jhapa
2	Bajgain Tea Processing Pvt. Ltd.	Bahundangi, Jhapa
3	Mittal Tea Estate Pvt. Ltd.	Pathriya, Jhapa
4	Kalika Tea Estate Pvt. Ltd.	Jamirgadi, Jhapa
5	Khusbu Tea Estate Pvt. Ltd.	Maheshpur, Jhapa

6	Tokla Chiyabagan	Mechi Municipality, Jhapa
7	Sattighatta Tea Estate Pvt. Ltd.	Jamirgadi, Jhapa
8	Raj Tea Estate Pvt. Ltd.	Mechi Municipality, Jhapa
9	Giribandu Tea Estate Pvt. Ltd.	Anarmani, Jhapa
10	Kuwadidevi Tea Estate Pvt. Ltd.	Kumarkhod, Jhapa
11	Bansal Tea Estate Pvt. Ltd.	Jamirgadi, Jhapa
12	Nakalbanda Tea Estate Pvt. Ltd.	Mechi Municipality, Jhapa
13	Himalayan Mahalaxmi Tea Estate Pvt. Ltd.	Damak, Jhapa
14	Aroma Tea Estate Pvt. Ltd.	Prithivinagar, Jhapa
15	Loknath & Sons Tea Estate Pvt. Ltd.	Khajurgachhi, Jhapa
16	Shyam Sundar Tea Estate Pvt. Ltd.	Bhadrapur, Jhapa
17	Barne Chiya Bagan	Shantinagar, Jhapa
18	Kanchanjunga Tea Estate	Panchathar
19	Nepal Organic Chiya Udhog	Mangalbare, Ilam
20	Gharati Tea Estate Pvt. Ltd.	Jasbire, Ilam

Source: NTDCB, 2014

APPENDIX-XIV

Greenleaf Production in FY 2011/012

kg.	Frequency	Percent	Valid Percent	Cumulative Percent
2100	4	1.6	1.6	1.6
2200	6	2.4	2.4	4.0
2300	29	11.6	11.6	15.6
2400	7	2.8	2.8	18.4
2500	11	4.4	4.4	22.8
2600	11	4.4	4.4	27.2
2700	18	7.2	7.2	34.4
2800	6	2.4	2.4	36.8
2900	25	10.0	10.0	46.8
3000	8	3.2	3.2	50.0
3100	1	.4	.4	50.4
3200	1	.4	.4	50.8
3300	1	.4	.4	51.2
3400	2	.8	.8	52.0
3500	4	1.6	1.6	53.6
3600	8	3.2	3.2	56.8
3700	3	1.2	1.2	58.0
3800	6	2.4	2.4	60.4
3900	3	1.2	1.2	61.6
4000	2	.8	.8	62.4
4100	2	.8	.8	63.2
4200	1	.4	.4	63.6
4300	2	.8	.8	64.4
4400	2	.8	.8	65.2
4500	2	.8	.8	66.0
4600	2	.8	.8	66.8
4700	7	2.8	2.8	69.6
4800	3	1.2	1.2	70.8
5000	3	1.2	1.2	72.0
5100	3	1.2	1.2	73.2
5200	7	2.8	2.8	76.0
5300	3	1.2	1.2	77.2
5400	5	2.0	2.0	79.2
5500	2	.8	.8	80.0

5600	3	1.2	1.2	81.2
5800	2	.8	.8	82.0
5900	4	1.6	1.6	83.6
7400	1	.4	.4	84.0
7700	2	.8	.8	84.8
7800	1	.4	.4	85.2
8400	2	.8	.8	86.0
8600	1	.4	.4	86.4
8700	3	1.2	1.2	87.6
8800	1	.4	.4	88.0
8900	1	.4	.4	88.4
9000	2	.8	.8	89.2
9800	1	.4	.4	89.6
10300	2	.8	.8	90.4
10500	4	1.6	1.6	92.0
10600	1	.4	.4	92.4
10700	10	4.0	4.0	96.4
10800	4	1.6	1.6	98.0
10900	4	1.6	1.6	99.6
12300	1	.4	.4	100.0
Total	250	100.0	100.0	

Source: Field Survey, 2014

Greenleaf Production in FY 2012/013

kg	Frequency	Percent	Valid Percent	Cumulative Percent
1900	5	2.0	2.0	2.0
2000	9	3.6	3.6	5.6
2100	11	4.4	4.4	10.0
2200	13	5.2	5.2	15.2
2300	17	6.8	6.8	22.0
2400	13	5.2	5.2	27.2
2500	21	8.4	8.4	35.6
2600	8	3.2	3.2	38.8
2800	3	1.2	1.2	40.0
2900	10	4.0	4.0	44.0
3000	10	4.0	4.0	48.0
3100	19	7.6	7.6	55.6
3200	4	1.6	1.6	57.2

3300	1	.4	.4	57.6
3400	4	1.6	1.6	59.2
3500	3	1.2	1.2	60.4
3700	1	.4	.4	60.8
3800	2	.8	.8	61.6
3900	5	2.0	2.0	63.6
4000	5	2.0	2.0	65.6
4100	4	1.6	1.6	67.2
4200	2	.8	.8	68.0
4400	3	1.2	1.2	69.2
4500	2	.8	.8	70.0
4600	6	2.4	2.4	72.4
4700	4	1.6	1.6	74.0
4800	5	2.0	2.0	76.0
4900	8	3.2	3.2	79.2
5100	2	.8	.8	80.0
5200	1	.4	.4	80.4
5300	3	1.2	1.2	81.6
5400	5	2.0	2.0	83.6
7300	1	.4	.4	84.0
7500	3	1.2	1.2	85.2
8300	3	1.2	1.2	86.4
8400	1	.4	.4	86.8
8500	3	1.2	1.2	88.0
8600	3	1.2	1.2	89.2
9800	1	.4	.4	89.6
10100	6	2.4	2.4	92.0
10200	7	2.8	2.8	94.8
10300	5	2.0	2.0	96.8
10400	7	2.8	2.8	99.6
12100	1	.4	.4	100.0
Total	250	100.0	100.0	

Source: Field Survey, 2014

Greenleaf Production in FY 2013/014

kg	Frequency	Percent	Valid Percent	Cumulative Percent
1800	33	13.2	13.2	13.2
2000	32	12.8	12.8	26.0
2500	32	12.8	12.8	38.8
2800	17	6.8	6.8	45.6
3100	37	14.8	14.8	60.4
3800	14	5.6	5.6	66.0
4000	10	4.0	4.0	70.0
4500	23	9.2	9.2	79.2
5000	11	4.4	4.4	83.6
7000	4	1.6	1.6	85.2
8000	10	4.0	4.0	89.2
10000	26	10.4	10.4	99.6
12000	1	.4	.4	100.0
Total	250	100.0	100.0	

Source: Field Survey, 2014

Tea Plantation Area (2011/012-2013/014)

Area in ropani	Frequency	Percent	Valid Percent	Cumulative Percent
10	32	12.8	12.8	12.8
12	33	13.2	13.2	26.0
15	32	12.8	12.8	38.8
20	37	14.8	14.8	53.6
22	17	6.8	6.8	60.4
24	10	4.0	4.0	64.4
30	11	4.4	4.4	68.8
32	14	5.6	5.6	74.4
35	23	9.2	9.2	83.6
40	10	4.0	4.0	87.6
50	5	2.0	2.0	89.6
70	26	10.4	10.4	100.0
Total	250	100.0	100.0	

Source: Field Survey, 2014

Greenleaf Production in Sampled Area

SN	Types	2011/012	2012/013	2013/014
1	Inorganic	183100	188500	196800
2	Conversion	228600	215300	192000
3	Organic	699000	643800	608600

Source: Field Survey, 2014

GLOSSARY

Assessment: A study to determine whether, and to what extent, labour practices comply with the provisions of a code of labour practice. The term can refer to the study of a workplace but can also apply to more general studies, such as industry within a country. A 'study' means a systematic investigation covering all relevant code points. Where this concerns a workplace, it means a study involving gathering robust verbal, documentary, visual, and physical evidence. Preliminary studies intended to detect the likelihood that code provisions are not being observed are referred to as risk assessments and are understood to be less robust. Where such assessments do not involve the actual inspection of the workplace, they are referred to as desk-based risk assessments.

Auction: Sale of tea in an auction room on a stipulated date and at a specific time. Tea auctions are held in India, Sri Lanka, Indonesia, Kenya, and Malawi. These auctions only sell teas from their particular areas. The London Tea auction, held every Monday morning (barring public or bank holidays) in London, is the only true international tea auction where teas from all over the world are sold.

Black tea: Fresh-picked green tea leaves are withered, spread out on racks to dry, and then crushed by rollers to release the juices from them (fermented or oxidised). The leaves turn brown and are then fired (or dried) by hot air and sorted into grades.

Blend: A mixture of teas from several different origins to achieve a certain flavour profile. Most branded teas in the United States use 20 or more origins to achieve their desired taste.

Blender: Tea taster who decides on the proportions of each different tea required to produce the flavour of a given blend.

Broker: The person who negotiates the buying and selling of tea from producers, or for packers and dealers, for a brokerage fee from the party on whose behalf he acts.

BOP-Broken Orange Pekoe: Full-bodied black tea comprises broken segments of coarse leaves without tips. The smallest among leaf grades, it gives good colour in the cup and is used for several blends.

BP: **Broken Pekoe:** Full-bodied black tea comprising broken segments of coarse leaves without tips.

Brick tea: Chinese and Japanese teas mixed and moulded into bricks under high pressure, once used as a currency.

Child labour: A youngster under the age of 15 is considered to be working unless a higher age has been set by local law.

Code of practice/conduct: In the context of ethical trading, a code of practice (or code of conduct) is a set of standards concerning labour practices adopted by a company and meant to apply internationally, and in particular, to the labour practices of its suppliers and subcontractors.

Collective bargaining: The right to collective bargaining refers to the right that workers' organizations have to negotiate with employers or their organizations on behalf of their members to determine working conditions and terms of employment.

CTC: Cut, Tear, and Curl, a machine process that cuts the withered leaves into uniform particles to facilitate complete oxidation. Typical of most black tea grown in India and other lowland producing countries, and used in teabags to create a stronger tea of deeper colour.

Dust: The smallest broken leaves left over after all manufacturing processes are finished.

Externality: A social cost or benefit; an adverse effect or result (of industrial or commercial activity) that has an impact on third parties but is not reflected in the price of the goods or services involved.

Fair trade: Alternative methods of conducting international trade exist, including fair trade. It is a commercial alliance with the goal of promoting the sustainable growth of

marginalized and underprivileged producers. It does this by promoting awareness, improving trading conditions, and organizing campaigns.

Fairtrade differs from ethical trading in that its primary focus is improving trading relationships rather than labour practices. It engages primarily with marginal producers and aims to establish an alternative trading model rather than working within the confines of conventional international trading relationships.

Flush: Young tea-leaf shoots. The term also refers to the various harvests. ‘First flush’ is the early spring plucking, and the ‘second flush’ is harvested in late spring and early summer. A second flush has a stronger flavour than the first flush.

Green tea: Unfermented tea that is immediately heated (or steamed) to kill the fermentation ensymes. It is then rolled and dried. Naturally low in caffeine, the brew is very light in colour. Green teas range from a light, fragrant taste to a bold vegetal flavour.

Import Quota: A form of protectionism used to restrict the import of goods by limiting the legal quantity of imports.

Oolong tea: Semi-oxidised tea from China or Formosa, a diplomatic tea in that Oolong is a compromise between black and green tea. It is more delicate than black tea and stronger than green tea. The floral Ti Kuan Yin produces a clear mellow brew and is famous for its light fragrance.

OP (Orange Pekoe): Of higher quality than Pekoe leaves, it is not a variety of tea but a term describing the leaf's size. It is a black tea comprising leaves of 8-15 mm. It has fewer tips than FOP because it is plucked later in the season and generally refers to tea from Sri Lanka (Ceylon). Leaves are long, thin, and rolled lengthwise.

Orthodox tea: Tea was processed this way for centuries, by hand, with great care. Some of today's great teas are still produced in this manner.

Pan-fired: Japanese tea steamed and rolled in iron pans over charcoal fires.

Pekoe Souchong: Black tea produced by a coarse plucking of the third leaf on the bush. Each leaf is rolled into a ball.

Pekoe: A grade of black tea produced by a medium plucking of the second leaf on the bush.

Ploughman's lunch: A meal featuring hearty meat and cheese sandwiches, pickled vegetables, and sweets served with tea as the main beverage.

Pouchong: A kind of scented China tea, so-called from the Cantonese method of packing in small paper packets, each of which was supposed to be the product of one choice tea plant.

Rooibus: Bush tea from Africa. Caffeine-free may be purchased as a variety or blended with herbs and flavourings.

Scented tea: Green, semi-fermented or black tea that the addition of flowers, fruit, or essential oils has flavoured. One of the most popular flavored black teas is Earl Grey. Madame Butterfly is a green tea with flavoring and flowers added for fragrance.

Stakeholder: Any person, group, or organization that has an impact on or is impacted by a company's operations is referred to by the term "corporate social responsibility," as it was coined for the notion of CSR. Stakeholders may be internal (e.g., employees) or external (e.g., persons performing work who are not employees, and maybe also customers, suppliers, shareholders, financiers, or the community). For instance, in the context of ethical trade, the workers whose working conditions are the subject of codes of labour practice are recognized as having the greatest 'stake' in ethical trading.

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