CHAPTER – I

INTRODUCTION, OBJECTIVES AND METHODOLOGY

1.1 Introduction

Nepal is an agro based developing country. It is highly depended on agriculture. Agriculture contributes 36% of total GDP and more than 67% people are engaged in agriculture sector in 2006/07. The total agriculture land in Nepal is 18% and out of the 18% land, 27% land is in Terai which is more fertile and 73% is in Hills and Mountain where production is lower than Terai (Economics Survey, 2007/08)[1].

Two types' crops, -cereal crops and cash crops are produced in agriculture. Cash crops have very important role in national economy. Cash crops like tobacco, jute, sugarcane, tea, coffee, and Cardamom are cultivated from the business point of view. The first three crops are mainly grown in the Terai, Cardamom, is grown in mountain and Tea is grown in both regions. Contribution of tea is notable in Nepalese economy. Historically, tea cultivation in Nepal started in 1843 A.D. before the period, people planted tea in their garden as a flower Gaja Raj Singh Thapa was the founder of tea plantation in the eastern part of Nepal. He established two oldest tea gardens, Soktim and Ilam and slowly and gradually tea production is developed. The tea plantation environment is more suitable in Jhapa, Ilam, Panchthar, Terhathum and Dhankuta district of Nepal. These districts are favorable for tea cultivation. Ilam and Jhapa are some significant achievements in the history of Nepalese tea industry than other district of Nepal like Nuwakot, Ramechhap, Kaski (NTCDB, 2008)[2].

Although the development of tea in Nepal was started 142 years ago i.e. during the period of Ranas, sufficient encouragement was not provided to it. The government of Nepal declared five districts of eastern region. (Jhapa, Ilam, Panchthar, Dhankuta, Terathum) as Tea Area in 1982 A.D. After the declaration of the Tea Areas: the establishment of the tea industry got some speed. In the same line, Vaidya's group established *Guranse Tea Estate* Private Limited in Dhankuta, Hile. *Guranse Tea Estate*

[1] E.S. (2007/8). Economic Survey. Government of Nepal, Ministry of Finance

[2] S.N, Singh (2008), Tea A Tea, National Tea and Coffee Development Board, P.34

covers 250 hectaes and situated in the eastern hills of Nepal at an altitude of 3,300 feet to 7,300 feet. This tea estate has succeeded to produce world class tea with sweet smell, having been to earn popularity in different other developing countries too (NTCDB, 2010)[3].

There are mainly three sectors which are actively involved in tea production in Nepal, they are: government, private and small farmers. Nepal tea development Corporation had been producing tea in Nepal at the government sector but which has been privatized now. On the other hand, More than 100 private estates have been producing tea in Nepal. Private tea estates are mostly located in Jhapa, Ilam, Dhankuta and Morang district. The third types of producers are farmers who depend on small farming development project. The project is implemented in Ilam (Fikkal, Jasbire and Mangalbare), panchthar (Lalikharka), Terhathum (Solma) and Dhankuta (Guranse) (Tea-a-Tea 2008)[4]. Private sectors have become effective then government in tea production.

1.2 Statement of Problem

Tea is one of the major exportable cash crops and a habitual consuming crop in Nepal. It plays a significant role in the economic life and development process. Tea production plays a major role in economy of eastern Hills and Terai districts of Nepal. There is high demand for tea in national and international markets. The soil and environmental conditions are suitable for tea in eastern hilly areas of Nepal.

Guranse tea estate is one of the leading tea industry in orthodox tea production. There are many problems in orthodox tea production. Lack of market, transportation, awareness etc. are some major problems of orthodox tea production. The study covers the following research question.

a. What is the status of tea production in Nepal?
b. What is the production situation of orthodox tea in *Guranse tea estate*?
c. How is the market condition of orthodox tea?

[3] NTCDB, (2010), Tea A Tea, National Tea and Coffee Development Board, P.36
[4] ibid

d. What are the major problems and prospects of orthodox tea production?

1.3 Objectives of the study

The general objective of the study is to examine the status of tea production in *Guranse Tea Estate* in Dhankuta District and its future prospects. The specific objectives are as follows.

1. To examine the status of tea production in *Guranse Tea Estate* in the Eastern Hills.
2. To identify the problems and prospects for the orthodox tea production.
3. To examine the market condition of orthodox tea.

1.4 Significance of the study

This study is to visualize the problems and prospects of orthodox tea production of the study area. It gains knowledge about the orthodox tea production. In this context this study is important to show the current studies of the orthodox tea production. It provides suggestion to solve problems which are found in the area of tea production. This study helps to make plan and strategies to improve the production of orthodox tea and on what will be done for development of orthodox tea in future.

1.5 Limitations of the study

This is a study based on the officially published data within some boundaries. The limitations of the study are as follows:

1. Because of the time and resource constraints only the secondary data and primary information has been included in the analysis.
2. This study is only selected to orthodox productions of the study area. So this study may not be generalized to all orthodox tea production.

1.6 Methodology:

Research design

General objective of this research study is to examine and evaluate the problems and prospectus of orthodox tea especially that of *Guranse Tea Estate*. In order to achieve

the objective, both descriptive and analytical research design have been followed. The study focuses on the examination of relationship between those variables that influence- production and marketing decisions of the sampled organization hence; it is an ex-post factor research.

Population and Sample

The population for this study comprises 19 currently registered tea factories in the country. The sample consists of one judgmentally selected factory i.e. *Guranse tea estate.* These units represent 5.3% of the total population and are comparable to each other in various aspects. Easy access of the researcher to conduct survey, because of the residential area of researcher is the main cause for choosing *Guranse tea estate* as a sample.

Sources of Data

Although present study is based on secondary data and primary data, necessary suggestions are also taken from various experts both inside the organization whenever required. The necessary data is obtained from the head office of the *Guranse Tea Estate* such as statement of accounts as well as the annual reports of the respective organization. Likewise, other related necessary information are also obtained from the publication of Nepal Tea and Coffee Development Board, Ministry of Agriculture and other publications which are used for the purpose such as book & booklets magazine, journals, newspaper, school of thought etc.

Data Collection Procedure

With the view of obtaining the data, the researcher made several visits to the sampled organization. In the first visit, the researcher consulted the concerned authority of the organization and explained about the objectives of the study. Similarly, researcher obtained economic surveys, annual and periodic reports from NTCDB. Many visits in Economics department and various sections of central library, T.U. led the researcher in successfully conducting this study.

Data Processing

According to the nature of data, they have been inserted in meaningful tables. Homogenous data have been sorted in one table and similarly various tables have been prepared in understandable manner. Using statistical tools data have been analyzed and interpreted. Statistical tools include least square linear trend to see the future trend of production and supply using MS excel.

1.7 Organization of the study

For the successful research work, the study of problems and prospects of orthodox tea production in Guranse tea estate has been chapter zed as follows:

First chapter i.e. Introduction deals and includes the background of the study, statement of the problem, objectives of the study, significance of the study, limitations of the study, research methodology and organizations of the study.

Second chapter deals with the review of available literature. It takes in review of the related books, journals, articles and previous unpublished Masters Degree thesis etc.

Third chapter explains the History of Tea Cultivation including Genesis, nutritional and medical value of orthodox tea, world market and issues facing Tea cultivation and marketing.

Fourth chapter explains the evolution of tea cultivation in Nepal including Tea cultivation before 1951, 1951-1990 and after 1990.

The fifth Chapter explains the tea cultivation in *Guranse Tea estate* including organizational structure, marketing, production, export and its potentiality in the market place.

The Sixth Chapter explains the problems and prospects of tea cultivation in *Guranse tea estate.*

The seventh chapter explains the summary, Conclusion and Recommendation.

Bibliography and appendices

CHAPTER II

LITERATURE REVIEW

Review of literature is basic stocktaking of available literature in the field of research. The textual constraints would help the researcher to support the area of research in order to explore the relevant and true facts for the reporting purpose. While conducting the research study, previous studies cannot be ignored, as that information would help to check the chances of duplication in the present study. Thus, one can find what research study has been conducted and what remains to go with.

Therefore, under this chapter, review of the previous study is done followed by five international books, four SAARC region research paper, three research paper for developing countries and in the context of Nepal two unpublished masters degree thesis, one Journal and two articles published in Tea and Coffee Development Board Yearly bulletin has been followed.

2.1 Reviews in Global Context:

Tea production and cultivation are not new phenomena. Both Nepalese and foreign people have made a series of study on tea. For preparing this thesis, the selected books, dissertations, reports and articles have been reviewed, which are mentioned below:

Asopa, In his book; Competitiveness in Global Tea Trade (2004)[5] aims at gaining an understanding of the competition and competitiveness in global tea trade. This has been achieved though detailed country specific global analysis of production, export and imports. The analysis is for tea in commodity form since data available on valued added tea are limited. Using that analysis, competitive positions in the import markets have been studied. In the final step, product market strategies are discussed and illustrated though a case study of India. This report is based on secondary data and published information sources. The ITC annual Bulletin of Statistics and the commodity and Trades Division.

[5] Asopa, (2004), Competitiveness in Global Tea Trade, New Delhi, Oxford University Press

The Major Findings of the book are as follows.

- World black tea production and consumption would both increase to 2700 million kg level by 2005.
- In 2005, the net export availabilities are projected to reach 1292 million kg and most of this increase would come from Asia.
- World tea imports are projected to increase to 1270 million kg in 2005. Developing countries would import more tea, reaching 626 million kg level.

Finally Asopa has concluded the books on the following ground.

- Consequences of uncompetitive ness could be disastrous for all countries as well as firms depending upon how important tea exports are to their economies.
- Global competition in black tea is mainly between India, Sri Lanka and Kenya.

Reddy, Global Tea Scenario: 2001 AD, Economic and Political Weekly, Vol. 26, No. 48 (Nov. 30, 1991)[6]. This paper examines global demand for and the supply of tea by estimating semi-log trends separately using data of the recent past, 1974 to 1988, on the area under cultivation of tea, production, exports and the retention of tea for domestic consumption.

Major Findings of the study are as follows:

- The tea production data of three countries viz India, China and Sri Lanka during the period 1974 to 1988 reveal that tea production in India and China have been increasing annually at percent compound growth rates of 2.39 and 7.50 respectively. In the case of Sri Lanka, the production itself is stagnant around 215 million kg. As of now, India is the largest tea producing country. These three countries together account for about 60 per cent of the global production of tea.
- Kenya is the principal tea producing country.

[6] G., Reddy (1991), Global Tea Scenario: 2001 AD, Economic and Political Weekly, Vol. 26, No. 48 (Nov. 30, 1991)

- The share of Kenya in the world production of tea has been increasing from around 3.5 per cent in 1974 to about 6.5 per cent in 1988.
- The global area under cultivation of tea has been increasing at a compound growth rate of 0.69 per cent per annum.

Based on the above major finding the author has concluded his study with the following conclusion.

- The global demand for tea exceeds the global supply of tea in future years as a result of which tea prices will rise.
- The gap between the demand for and supply of tea as percent of expected production would be about 1 in 1993, 2 in 1996 and 4 in 2001.
- Global export performance of tea during 1974 to 1988 indicates that about 2.3 per cent annual increase in the volume of exports with a stagnant annual export price ($) per kg of tea.
- Country-wise phenomena reveal (i) India's annual tea export volume is stagnant with about 4.3 percent annual increase in its export price ($) per kg, (ii) both the annual tea export volume and annual export price ($) per kg of tea are stagnant in the case of Sri Lanka, (iii) about .7 per cent annual increase in the tea export volume of Kenya with stagnancy in its annual tea export price ($) per kg and (iv) about 8.7 per cent annual increase in the tea export volume of China with stagnancy in its annual tea export price ($) per kg

A study was carried by **Carmen Cabrera**, Beneficial Effects of Green Tea—A Review, with the major objective of finding out the benefit of Green tea in human health. He has find out following findings[7].

- Black tea appears to inhibit the bioavailability of non-home iron by 79% to 94% when both are consumed concomitantly;

[7] Carmen Cabrera (2006). Beneficial Effects of Green Tea - A Review. Journal of the American College of Nutrition. Vol 25. No.2, 79-99

- The impact of this interaction depends on the iron intake and iron status of the individual.
- Likewise, green tea catechins may have an affinity for iron, and green tea infusions can cause a significant decrease of the Fe bioavailability from the diet.
- On the one hand, some authors affirm that tea should not be consumed by patients suffering from anaemia. For example, iron deficiency anaemia among children in Saudi Arabia and the United Kingdom may be exacerbated by the regular consumption of tea with meals.
- On the other hand, this effect may be of benefit to patients with genetic hemochromatosis. It is worth noting that the interaction between tea and iron can be mitigated by the addition of lemon or consuming tea between meals.

The study concluded that,

- Green tea is considered as one of the most promising dietary agents for the prevention and treatment of many diseases and consequently, it is being studied extensively worldwide.
- Numerous studies in a variety of experimental animal models have demonstrated that aqueous extract of the mayor GTP designed as catechins (EGCG, EGC, ECG and EC) possess antioxidant, antimutagenic, antidiabetic, anti-inflammatory, antibacterial and antiviral, and above all, cancer-preventive properties.

The author recommended the following point regarding his study.

Since green tea beneficial health effects are being increasingly proved, it could be advisable to encourage the regular consumption of this widely available, tasty and inexpensive beverage as an interesting alternative to other drinks, which do not only show the beneficial effects of green tea, but are also more energetic, do contain more caffeine (green tea contains less caffeine than black tea, coffee or cola soft-drinks), are rich in additives and/or CO2.

- While no single food item can be expected to provide a significant effect on public health, it is important to note that a modest effect between a dietary component and a disease having a major impact on the most prevalent causes of morbidity and mortality, i.e., cancer and heart disease, should merit substantial attention.
- Taking all this into account, it would be advisable to consider the regular consumption of green tea in Western diets.

2.2 Reviews in the Context of Developing Country

Ratri & Widiyanti (2007)[8], Research on supply chain in the tea sector in Indonesia, submitted To SOMO the Business Watch Indonesia (2007) with following objectives of the study.

- To document tea state of trade of the Indonesian tea commodity at the national and international levels.
- To increase knowledge of supply chain and market of the Indonesian tea commodity.
- To analyze the extent of social responsibility of tea companies on the supply chain, particularly towards smallholders in the tea sector.
- To analyze critical issues in the tea sector and give recommendation for these.

This study reaches to the following major findings:

- The supply chain in the Indonesian tea sector puts the highest pressure on small holder smallholders/growers. The market structure characteristic of monopsony puts smallholders at the bottom end of a long supply chain without bargaining power to set prices of their own product.
- The government hardly intervenes in the tea sector favoring free market regulation which seems beneficial to the more powerful actors in the supply chain.

[8] Ratri & Widiyanti (2007), supply chain in the tea sector in Indonesia, SOMO the Business Watch, Indonesia

- The industry has limited capacity to create value added to products. Indonesia exports mostly bulk tea, while imports of more value added products are increasing. This has been aggravated by the government policy of VAT 10%.
- Most actors in the tea sector know little about CSR and CSR initiatives. Only few export-oriented companies know of CSR and CSR initiatives. CSR is still at the level of discourse among the management of large tea companies, who interpret it as incidental, philanthropic activities, instead of structural well-managed programs directed at core business level
- CSR initiated by multinationals receives little response from stakeholders because standards are created in a top-down fashion and do not lead to fairer prices and little to the sustainable development of the tea sector. CSR is relegated to fulfillment of procedural requirements.
- Blending and packing companies are the most influential actors in the supply chain especially in price setting. The reverse, however, is nearly impossible.
- Most of worker in the Indonesian tea sector are non-permanent. Most of them are female. Because of their background, they acquiesce in working in the field and being paid low wages.
- The position of pickers is threatened with replacing the cutting leaf machines.
- The main constraint of this research is on access to the Indonesian tea company. They did not give permit the researchers to interview and collect data of the company.

This study recommends that:

- The government intervenes (shows concern and lend support) to create conducive climate for development of the tea sector, especially through incentives and subsidies to actors with weak bargaining position in the market structure.
- The government encourages large national and private estates– and especially blending and packing companies to take up and implement CSR in the supply chain.

- Consumers need to be encouraged to take position against malpractices in this sector by addressing corporate accountability of the packing and blending companies which through their influence and bargaining power are best equipped to positively contribute to a more sustainable tea sector.
- Promotion of and campaign on CSR should be conducted more intensively in the Indonesian tea sector.

Klasra et.al (2007)[9], History of Tea Production and Marketing in Turkey, International journal of agriculture and Biology, Department of International Trade, Faculty of Economics and Administrative Sciences, Cankaya University, Turkey has conducted the research with major objective to know history of tea production and marketing in turkey. The paper reports slow but steady rise and popularity of tea cultivation in the Eastern Black Sea region of Turkey. The report covers the time when it was not accepted by the farmers due to large number of socioeconomic factors and lack of proper technical guidance, to a time when it is considered a highly profitable and economic crop of the region.

At the start of tea cultivation in Turkey, the primary goal was to meet the domestic demand only. It looked very difficult to introduce the new crop in the area and it was popularly understood that the effort was going to end up in fiasco. However, in a relatively brief space of time, the tea trade and industry have undergone sweeping changes due to the consistence efforts. Today, Turkey holds a significant place among the world's largest tea producers and ranks sixth in world production of tea (FAO, 2003) such that the farmers have no reservations about tea cultivation.

Terry & Sampanvejsobha (2008)[10], Development of the tea industry in Thailand, Asian Journal of Food and Agro-Industry have conducted a research on the development of tea industry in Thailand. This paper attempts to explain in simple

[9] Klasra et.al (2007), *History of Tea Production and Marketing in Turkey*, International journal of agriculture and Biology, Department of International Trade, Faculty of Economics and Administrative Sciences, Cankaya, University, Turkey.

[10] Terry & Sampanvejsobha (2008), *Development of the tea industry in Thailand*, Asian Journal of Food and Agro-Industry, Thailand.

terms how tea came about, what is involved in tea cultivation, processing and marketing, as well as point the way for what might be done in support of the industry.

The authors concluded the study that,

The Tea production and marketing is a growth area for Thailand. While the fad for bottled cold tea has diminished somewhat, tea retains an important role in the beverage sector. For Thailand to become a major player in world markets, several factors are necessary. The first is government attitude and support for the industry, which could be greatly enhanced if all involved formed some sort of association. The second is the possible intervention for biotechnology to improve yield and quality for smallholders, similar to what Indonesia has undertaken. Finally, as more evidence comes forward regarding the health benefits of tea, innovative ideas and products should be tested and introduced, according to market demands. The possibility of soaps for spas is but one example.

2.3 Reviews in the context of SAARC Region:

Gupta and Dey (2010)[11], Development of a productivity measurement model for Tea industry, Department of Mechanical Engineering, National Institute of Technology, Silchar, Assam, conducted a research on productivity improvement strategy to overcome the challenge of high competition from other emerging tea producing countries like Srilanka, Kenya, China, Bangladesh and Indonesia in the global level. With this backdrop this paper attempts to propose a relatively simple productivity measurement model suited to tea industry.

For this, productivity accounting model is used and suitably given the form so as to fit for a tea industry. A case study, conducted in a tea industry in Assam, India, to analyze the performance of the model is presented.

The study reveals that the model is comprehensive and satisfies the six criteria of measurement theory such as validity, comparability, completeness, timeliness,

[11] Gupta & Dey (2010), *Development of a productivity measurement model for Tea industry*, Department of Mechanical Engineering, National Institute of Technology, Assam

inclusiveness and cost-effectiveness. Further, the study reveals that the proposed model identifies the areas of poor resource utilization responsible for measured total productivity decline in the tea industry. These resources are labour, material and energy and a number of suggestions have been put forward as a mitigating measure.

Alam & Azim (2008)[12], Attractiveness of Tea Industry in Bangladesh: A Projection Based on Porter's Five Forces Model, Adjunct Faculty, School of Business, Independent University, Bangladesh, Chittagong Campus conducted a study to determine the attractiveness of Tea Industry (producers/gardeners) in Bangladesh based on the well known Porter's Five Forces Model of Industry Analysis. The study includes identifying the barriers to entry, understanding the rivalry among established companies, determining the bargaining power of buyers, verifying the bargaining power of suppliers, and tracing the substitute products and their threats.

As far as the barriers to entry in Tea industry is concerned, it is found that suitable land for tea production in Bangladesh is inadequate. In last 25 years, there were investments only in two new estates. Extent of brand loyalty of buyers is limited in tea industry though buyers are loyal to Sterling Companies due to better quality tea. Existing tea gardens have cost advantages - especially Sterling gardens, due to skilled or trained workforce, high reinvestment in gardens, and efficient management system. Investment in tea industry is a long term investment which requires huge amount to investment with longer pay back period. Some gardens have labor surplus and some have labor shortages which also increase cost of production. Thus threat from new entrants is rather low in Bangladesh Tea Industry.

Bangladesh tea industry is a fragmented industry in which certain companies, most notably the Sterling Companies, are in a position to dominate. Rivalries among the companies are not that intense as the demand for tea is increasing. Tea is difficult to differentiate, but there is some switching cost involved among some buyers if they want to switch from Sterling Companies' tea to other companies by compromising on

[12] Alam & Azim (2008), *Attractiveness of Tea Industry in Bangladesh*: A Projection Based on Porter's Five Forces Model, Adjunct Faculty, School of Business, Independent University, Bangladesh

quality. The Sterling gardens get higher prices for their crops compared to others. Increasing tea consumption provides opportunity for the tea companies to earn greater revenue without increasing the extent of rivalry. So rivalry among the producers is not that intense.

Buyers are not in a position to dominate the tea industry as buyers need to compete in the auction to purchase tea by bidding for higher price than their competitors. Due to the auction system, buyers cannot use their purchasing power for price reduction. The tea producers have less dependency on buyers for large percentage of total orders. Even though, in auction, buyers can switch orders between firms (gardens) at a low cost but they (buyers) can not force down prices in every situation. Tea buyers are also not in a position to threaten the supply of their own needs through vertical integration as a device for forcing down prices, since all firms must purchase tea from the auction. Therefore, the bargaining power of buyers is limited.

The industrial structure limits the power of suppliers. Tea producers procure their inputs and logistics from suppliers through competitive bidding. The tea producers have alternatives in selecting the suppliers, and the rivalry of the supply industry limits the power of suppliers. As the buyer's (tea gardeners) industry is not that important customer for the suppliers, the buyers are, in a sense,

Hasid & Khan (2002)[13], an over view of tea plantation in Pakistan, Asian Journal of Plant Sciences, conducted a research with the major objective to study the economic feasibility of tea in Pakistan from start to till date. The study found out the following findings,

- The flourishing of the tea industry in Pakistan in its present form, many attempts have been made so far on Government level and in private sector as well from the last 50 years.
- The serious efforts began in the late 80's.

[13] Hasid & Khan (2002), *an over view of tea plantation in Pakistan*, Asian Journal of Plant Sciences, Pakistan

- With the governmental encouragement tea was started to its blooming and the replacements of other crops in the area were made accordingly.
- Recently new and more extensive plantations are being built-up, under the auspices' of PARC/NTRI in the Northern part of Pakistan.

Based on the above findings the following conclusion and recommendation were traced out.

- The successful growths of tea plants in the area have been ascertained.
- The yield potential and quality of made-tea have been assessed to be economically viable, the extent of suitable area has been indentified and finally, the production package from growers has been evolved.

2.4 Reviews in Nepalese Context:

Rai, Economic Contribution of Himalaya Goodrick Pvt. Ltd (2000)[14] has done a descriptive research that was submitted to Department of Economics, Faculty of Humanities and Social Sciences of Tribhuvan University with the following objectives.

- To show the current Production trend of Himalaya Goodrick Pvt. Ltd.
- To access the employment situation in Himalaya Goodrick Pvt. Ltd
- To analyze its contribution in revenue generation
- To show the share of Himalaya Goodrick Pvt. Ltd in the total supply of tea

Based on the above objectives Rai found the following major findings.

- Economic contribution is comparatively better other than private tea farming.
- Due to royal tea farming its tea market is very widely in domestic market.
- Himalaya Goodrick Pvt. Ltd is suffering from lack of trained manpower, tea specialist, lack of chemical fertilizer, irrigation etc.

[14] R.K., Rai (2000), Economic contribution of Himalayan Goodrick Pvt.Ltd, Damak, Jhapa, M.A. Thesis, Department of Economics, Tribhuvan University, Post Graduate Campus, Biratnagar, Nepal.

He has concluded his study with the following conclusion.

- The production of tea is gradually increasing, employment status is very satisfactory
- If government would help in financial, technical and other aspects of the tea industry, it will ultimately reduce the import from India. This would increase the government revenue by creating employment opportunities.

Based on the above conclusion Rai recommended the following point to be considered in his study:

- Himalaya Goodrick Pvt. Ltd has very low productivity due to this price of tea is very high than other tea farming. For this tea farming Goodrick must increase in productivity of labor by providing training and better equipments.

Khanal, Problems and Prospects of Organic Tea Production in Panchthar (2009)[15] has done a descriptive research work that was submitted to Central Department of Economics, Faculty of Humanities and Social Sciences of Tribhuvan University. The objectives of the study are divided into two parts viz, general and specific. The general objective of the study is to show the status of tea plantation and production. However its specific objectives are given below:

- To show the status of tea production in Nepal
- To assess the production of organic tea in Ranitar VDC.
- To examine the market condition of organic tea production
- To find out the problems and prospects of organic tea production

Khanal found the following major findings based on his objective.

- Tea is one of the major cash crops for the farmers of eastern part of Nepal
- Private and small farmers are two sectors involved in tea production.

[15] K. Khanal (2009), *Problems and Prospects of Organic Tea Production in Panchthar*, Unpublished M.A. thesis submitted to Central Department of Economics, Faculty of humanities and Social Sciences of Tribhuvan University, Nepal

- Nepal has started to export tea for long time. However, the amount of the tea export is fluctuating.
- Consumption in local market is slowly increasing every year. In 2007, 11768 kg of tea is consumed which is 28 % of total production.
- Ranitar VDC has sustainable condition for organic tea production.
- Organic farming is prospective in every aspect although there are some problems like technical knowledge, lack of market, irrigation etc.
- Demand of organic tea is very high in local and international market. In 2007 the export of organic tea production in Ranitar VDC is about 72% of its total production.

Based on the above major finding the author has recommended the following points.

- Training, seminar and workshop should be provided by the KTE and other supported institutions for organic tea production and its important in health.
- Transportation facilities should be extended in tea growing area.
- There must be the easiest and cheapest way of getting loan for small farmers. For this financial institution should be established in the growing area.
- The improvement in irrigation should be done by related sector. The water form Namdu Khola and Phemekhola should bought for irrigation in tea garden by pipeline.
- There are small numbers of organic tea producer. Therefore, it is necessary to encourage other farmer for organic production.
- Awareness program should be lunched for organic tea production area.

Thapa, Concept Paper on Study of Nepalese Tea Industry -Vision 2020 (2005)[16], Nepal Tree Crop Global Development Alliance (NTCGDA) Winrock International a desk review and field study report is on future of tea industry in Nepal in 2020 AD with the following objectives.

[16] B., **Thapa (2005),** *Concept Paper on Study of Nepalese Tea Industry -Vision 2020*, Nepal Tree Crop Global Development Alliance (NTCGDA) Winrock International

- To identify the suitable geographical areas for expanded tea cultivation and set production targets,
- To study on cultivation practices (planting, pruning, irrigation, use of pesticides, fertilizer, plucking, processing etc) for the production of quality organic tea,
- To develop human resource for the industry (managerial/technical/manual) and explore employment opportunities for rural women and unemployed poor,
- To make a comprehensive study about financial requirements to meet the production targets for 2020 and about financing methods and credit facilities,
- To study about the institutional and physical infrastructure development including R&D, certification facilities, and extension services required for the industry,
- To study and develop policies and effective measures for the marketing and export of tea in national and international markets and set marketing targets and
- To study existing tea enterprises (both plantation and processing) with a view to increase their productivity, improve quality and profitability.

The Major Findings of the study are as follows:

- Studying the credit requirement of small tea growing farmer and tea estates.
- Provision of loan to buy land and to establish tea gardens in a nominal interest rate with long grace period.
- Encourage the banks other than ADB/N to invest in tea cultivation.
- Establishment of cooperative tea processing factory with public and private involvement.
- Develop an institution to fix and reliable price of green leaves throughout the region.
- Establishment of separate Bank/setting up of a Tea Development Fund for tea cultivation and its trade promotion.

Based on the above major finding Thapa has concluded his study with the following conclusion and recommendations.

- Development of tea industry as an important income-generating sector in the designated tea-producing districts.
- Development of the whole tea-growing region as a tourism area.
- More numbers of small farmers should be encouraged for tea cultivation.
- Increased involvement of women in tea plucking.
- Expanding of tea plantation area especially in hill region for organic orthodox tea.
- Use of organic manures, botanical pesticides and IPM techniques for disease and pest management.
- Proper use of fallow land in hill area.
- Study of proper marketing mechanism of made tea.
- Establishment of training and research institute with the involvement of private sector for the development of skilled manpower.

Sapkota, A brief economic analysis of Green leaves (2010)[17], published by National Tea and Coffee Development Board. The main objective of this paper is to have study of green leaves economics. Besides this there are other specific objectives as mention under.

- To study the economics of green leaves like productivity of tea.
- To study the price trend of tea
- To study the cost of production
- To study the average revenue and benefit cost ratio
- To study the marketing of green leaves.

Based on the above objectives the study found the following major findings.

- The productivity shows a gradual increase with the increase of age of cultivation.

[17] K., **Sapkota (2010),** *A brief economic analysis of Green leaves*, published by National Tea and Coffee Development Board.

- The productivity of CTC and Orthodox tea type is different. The productivity of CTC is 2447 kg/ha which seem to three fold higher approximately than the Orthodox in study area.
- Average green leaves price was 14.67 Rs/kg for CTC in the year 1998 which increase to 16.31 in the year 1999 whereas price for Orthodox was 33.36 and increased to 33.40 in the year 1999.
- About 60 percent of total cost is incurred in labor cost.
- The cost and the revenue difference in CTC type is higher than Orthodox type tea
- The benefit cost ratio of CTC (1.48) was found higher than orthodox tea (1.11) type.

Based on the above major finding the author has recommended the following points to be considered.

- Information of concrete program and policy for tea sector which should be farmer's oriented.
- Lunching the subsidy program, technical manpower development, research center establishment, laboratory establishment for testing the quality and pesticide residual level and market searching support and quality inputs availability with reasonable rate and price fixation of green leaves as according to their cost with participating in farmers representative and stakeholders.

Yadav, et al (2009)[18], Sustainable bio tea farming and its implication; published on Tea & Coffee Development Board Yearly Bulletin in 2010 with the following objectives and conclusion.

- To enhance every tea planters towards the importance of sustainable bio tea farming.
- To increase the productivity of tea per unit area as well as total production of bio tea based on eco friendly environmental conservation activity.

[18] **Yadav, et al (2009),** *Sustainable bio tea farming and its implication*; published on Tea & Coffee Development Board Yearly Bulletin, Nepal

- To develop pests management strategy for bio tea production.

Yadav has found the following major findings in his study.

- Chemosynthetic pesticides and fertilizers are major causal factors of toxic to made tea.
- It encompasses all possible plant protection and soil nutrients and soil fertility management measures

The following conclusions were also derived from the study.

- Bio tea farming is burgeoning day-by-day worldwide including Nepal.
- Bio dynamic farming is an eco friendly management.
- Integrated usages of all possible organic and inorganic sources of plant nutrients and pesticides in balanced level on the basis of tested, screened and recommended that enhance the bio tea promotion in sustainable manner.
- Bio farming is the pathway that leads us to live in harmony with nature.

Based on the above findings and conclusion the author has recommended the following points to be considered.

- The chemosynthetic fertilizers and pesticides need to be used selectively on the basis of test, screening and recommendation by the research institutes.
- Research on bio pesticidal and multipurpose usages of plants and plant products (e.g.wild sunflower,Tithonia diversifolia, Gundhe Ageratum sp. , Bhati Clerodendrum viscosum, Vetiver grass, Simali Vitex negundo Gumma Leucas aspera, Neem Azadiracta indica, Bethe Chenopodium sp., Bojho, Bakaono Melia azedarach, Tetepati Artemesia vulgaris, Sisnu Urtica dioca, Tulsi, Bamara Epatorium glandulosum, Chrysanthemum, Marigold Tagest erecta, Dhungriful Lantana camera, Ban kurilo, pudina, wild garlic, ghonda macha Thymus linearis, cattle urine, ash, etc.) is essential to generate organic technology.

- There is an urgent need to regulate a National Standard Policy (NSP) about organic tea farming at the national level with pro-active involvement of relevant experts/scientists.
- IPM approaches a Farmers Field School to be established to build up the need based decision-making skills among tea planters.
- The tea planters farmers field school button up, participatory, discovery style learning approach helps to planters to understand why they do and what they do and what to be.
- For effective implementation, a complete set of multidisciplinary approach is needed to set up for successful and sustainable organic tea farming in Nepal.

Although there has been extensive research made on orthodox tea production and its problem and prospectus on global market place, it is not going as it should be. In case of Nepal different research paper has been published to identify the problems and prospectus of orthodox tea covering different area as a research area. During this literature review it is found that there is no any research done by taking Guranse Tea estate as a case study. Therefore, this study would have great prospect to examine and identify the objective carried in chapter one.

CHAPTER-III

HISTORY OF TEA CULTIVATION

3.1 History of tea

Tea drinking originated in China and the word tea is derived from t'e of the Chinese Fukien dialect. The Dutch introduced it to Europe. In Cantonese, tea is known as Ch'a and this is the name by which this wonderful beverage came to be known in Japan, India, Russia, Iran and the Middle East. The first authentic reference to tea was made in an ancient Chinese dictionary revised by Kuo P'o, a celebrated Chinese scholar in AD 350. At that time a medicinal decoction was made by boiling tea leaves. Use of tea as a beverage commenced towards the close of the sixth century. During the two succeeding centuries tea gained enormous popularity. The first exclusive book on tea, Ch'a Ching meaning 'Tea classic' by the Chinese tea expert Lu Yu was published in AD 780 in which he has described various kinds of tea, their cultivation and manufacturing in China.[19]

However, apart from Japan, tea drinking did not spread to other parts of the world until about the middle of the seventeenth century. The opening of a sea route to India and the East by the Portuguese in 1497 facilitated large-scale trading between Europe and the Oriental countries. Other European nations soon followed the Portuguese in establishing trade centres in different countries of the East. The Dutch in Java established one such depot. They bought tea from Japan and the first consignment was transhipped from Java to Europe in 1610. This marked the beginning of the lucrative tea trade between Europe and the East. The Dutch dominated the tea trade for more than a century finally yielding to the British. China was the sole supplier of tea to Europe till the middle of the nineteenth century.[20]

Tea gained a strong foothold among the affluent sections in Europe within 50 years of its first introduction into the continent. In about another 100 years it became an article

[19] www.wikipedia.org/history
[20] ibid

of daily use in a large part of Europe and Britain. Tea also became popular in America, which was then a British colony.

The New Encyclopedia Britannica (15th) edition has described Tea is known when tea plant, botanically known as "camellia sinensis," was first domesticated and grown. Three thousand years ago, people were already cultivating, processing and drinking tea in China. Encyclopedia Britannica states that ancient Chinese and Japanese Legends refer to a beverage made from an infusion of dried tea leaves during emperor shen Nung period about 2737 B . C. Tea was said to be discovered by chance by the king Shen Nung during huting. A leaf was dipped or fell in his hot water and imparted red color. Since there was no water, he had no choice except to drink the water. He found the water tasty and did not harm to his health. From then tea drinking was believed to be started.[21]

According to legend, the use of tea was discovered by Emperor Shen Nong of China about 2737 B.C. the earliest known mention of tea appeared in Chinese literature of about A.D. 350. The custom of tea drinking spread to Japan around A.D. 600. The first known shipment of tea to Europe was made about 1610 by Dutch (The world book, Vol. 19).

According to Mondal (2007, p. 519): "Camellia sinensis originated in southeast Asia, specifically around the intersection of latitude 29°N and longitude 98°E, the point of confluence of the lands of northeast India, north Burma, southwest China and Tibet. The plant was introduced to more than 52 countries, from this 'centre of origin'."

Based on morphological differences between the Assamese and Chinese varieties, botanists have long asserted a dual botanical origin for tea; however, statistical cluster analysis, the same chromosome number (2n=30), easy hybridization, and various types of intermediate hybrids and spontaneous polyploids all appear to demonstrate a single place of origin for Camellia sinensis (Yamamoto et al, 1997)[22].

[21] The New Encyclopedia Britannica (15th) edition
[22] Yamamoto, Kim & Juneja, (1997), the origin of tea

Yunnan Province has also been identified as "the birthplace of tea…the first area where humans figured out that eating tea leaves or brewing a cup could be pleasant." (Fuller, Thomas 2008)[23]. Fengqing County in the Lincang City Prefecture of Yunnan Province in China is said to be home to the world's oldest cultivated tea tree, some 3,200 years old (Kunming, 2006)[24].

(A Ming Dynasty painting by artist Wen Zhengming illustrating scholars greeting in a tea ceremony).

Source: Internet search

Tea is the most widely consumed beverage in the world after water (Tea Association of USA, 2007), Discovered in China more than 5000 years age, tea s a beverage began to be immensely popular throughout the world in the last 2000 years. Today more than 45 countries grow tea which is marketed and consumed the world over.[25]

All tea plants are derived from two basic types of tea plants: Camellia sinesis (or chinesis) (meaning Chinese in origin and Camellia Assamica meaning Assamese in origin (Rana, 2006). Camellia sinensis grows in hot and humid climates with regular rainfall. Typical of the cool mountains regions of China, while Camellia assamica is an offshoot of Camellia sinesis introduced in India and which can withstand the regions extremely hot temperatures which can go up to 45^0C.

[23] Thoms,Fuller (2008-04-21). *"A Tea From the Jungle Enriches a Placid Village"*. *The New York Times* (New York: The New York Times Company): p. A8.
[24] Kunming, (2006), *The Oldest Tea Tree on the Earth*
[25] ibid

3.2 Tea Plant and its Origin:

In its wild state the tea plant is a small tree or shrub. It was first named Thea sinensis, and is now known as Camellia sinensis. According to Nguyen Ngoc Kinh (1979)[26] tea can be classified into the following four types:

- Chinese big leaf tea (Camellia sinensis var. macrophylla).
- Chinese small leaf tea (Camellia sinensis var. bohea)
- Shan tea (Camellia sinensis var. Shan)
- Indian tea (Camellia sinensis var. assamica)

According to Muraleedhara (1991)[27] the tea plant originates from the triangle formed by Naga, Manipuri and Lushai along the border between Assam and Burma, stretching to China, and southeast to the hilly areas of Burma to Thailand and Viet Nam.

Djemukhatze (1976)[28] did a survey on wild tea plants in a number of places in Viet Nam (Ha Giang, Nghia Lo, Lao Cai, and Tam Dao) and based on the biochemical evolution of the tea, he concluded that the tea was originates from Viet Nam.

In summary, the tea plant originally grew in mountainous forest areas, and then gradually moved to lower areas, where the ecological systems are different from.

Definition of Orthodox tea:

Orthodox tea refers to either hand-processed tea or tea that is rolled with machinery in a manner that mimics hand-rolling. Most specialty tea is made with orthodox production methods. Also known As handmade tea, hand-processed tea, rolled tea. The opposite of orthodox tea is CTC tea, which is machine-processed in way that chops the leaves into uniformly-sized bits that are typically used for low-grade teabags. Orthodox tea is generally known for being more nuanced and complex than CTC tea. All whole-leaf tea is made with orthodox production methods.

[26] Nguyen Ngoc Kinh (1979), tea plants and its origin, Vietnam
[27] ibid
[28] ibid

3.3 Nutritional and Medicinal Value of Tea:

Tea, the world's second most popular beverage (next to water) is prepared from the leaves of Camellia sinensis plant. There are mainly six types of teas, which are made from the same species of plant, but with different processing techniques. They are known as white tea, green tea, black tea, yellow tea, oolong tea and pu-erh tea. Tea has a long history of being used as a beverage and it was widely used in ancient China to treat a number of health conditions. In modern times, tea has become a subject of extensive scientific research and studies, many of which have highlighted some unique and important qualities of tea, which can help to lower the risk for a wide range of diseases and disorders. So, let's take a brief look at tea nutrition facts, including nutritional value of tea and its health benefits.

Tea Nutritional Value

Tea prepared without adding milk and sugar has no calorie. Only when milk and sugar is added, tea contains calories. 1 cup of brewed tea, i.e. about 237g of tea can contain approximately 7.1mg magnesium, 2.4mg phosphorus, 87mg potassium, 7mg sodium and 884 mcg fluoride. In addition to these, it contains about 11.9 mcg of folate. Tea can provide a significant amount of dietary requirement for fluoride, which is essential for healthy bones and teeth. Other nutrients found in tea are, vitamin C, thaimine, riboflavin and vitamin B6. Tea also contains catechins, polyphenols and flavonoids, all of which exhibit strong antioxidant properties.[29]

Tea Health Benefits

Studies on tea have observed that much of the health benefits of tea is due to its strong antioxidant properties, which can be attributed to the presence of substances like, catechins, polyphenols and flavonoids. All these substances have been observed to be powerful antioxidants, which can help in minimizing the damaging effects of free radicals on the body cells and tissues. Free radicals are known to be highly reactive and to oxidize the cells and tissues of the body. Antioxidants help to prevent such oxidative damage caused by free radicals. This in turn can prove immensely helpful in reducing

[29] www.wikipedia.org/nutritional

the risk for certain life threatening diseases. Tea, if taken in moderation can provide a number of health benefits, which are enlisted below:

- Tea can help to manage the level of cholesterol in the body. This in turn, can help to reduce the risk for heart attack and strokes.
- Tea can increase the rate of metabolism, which may prove helpful for those trying to lose weight.
- Green tea can be especially helpful to burn extra calories. Know more about green tea benefits.
- Tea may also be beneficial for preventing diabetes, as it can improve insulin sensitivity or glucose tolerance.
- Tea, if taken regularly can help to provide protection against cardiovascular diseases. It can reduce the stiffness of the blood vessels and lower blood pressure, which can improve cardiovascular health.
- Due to its antioxidant properties, tea can provide some protection against cancer, especially gastric, skin, ovarian and esophageal cancer.
- In addition to these, tea can strengthen the immune system, make the bones stronger, increase mental alertness, treat the depression symptoms and lower the level of stress hormones in the body.

However, a discussion about nutrition facts of tea would be incomplete without mentioning some of the possible adverse effects, associated with over consumption of tea. Excessive consumption of tea and other caffeinated beverages can cause several side effects, which are usually associated with caffeine overdose or addiction. Apart from caffeine, tea contains oxalate, which in excess amount can adversely affect the kidneys. Even fluoride, which is found in tea, can cause several health problems, if present in a high level. So, tea should be taken only in moderation to realize its wonderful health benefits, as well as to avoid the side effects that can result from over consumption. [30]

[30] ibid

3.4 World Tea Market

The Asian region produces a varied range of teas and this, together with a reputation in the international markets for high quality, has resulted in Asia enjoying a share of every importing market in the world. Africa, South America and the Near East also produce quantities of tea. Huge populations of Asia, UK, EU, Middle East, Africa and countries of the CIS consume tea regularly and throughout the day (Hicks 2001)[31].

The common tea plant is the evergreen shrub, Camellia sinensis. There are several varieties of this species of plant, a well known one being the Indian Assam tea (C. sinensis var. assamica Kitamura). Traditionally, tea is prepared from its dried young leaves and leaf buds, made into a beverage by steeping the leaves in boiling water. China is credited with introducing tea to the world, though the evergreen tea plant is in fact native to Southern China, North India, Myanmar and Cambodia (Hicks 2001)[32].

Low-grown teas are produced from 0 to 600 m., mid-grown from 600 to 1200 m., while the high-grown teas are cultivated between 1,200-2,000 m. The mid-grown and the high-grown in some areas can be divided into "western" and "eastern" according to the location of the estates. High-grown teas have a bright liquor and superb flavour. This superior quality is caused by the cooler temperatures at these altitudes which induce slower growth than in the hot, moist, low country. The seasonal monsoons, of course, also greatly affect the quality of tea (Hicks 2001)[33].

Although there are a growing number of countries that produce teas in a multiplicity of blends, there are essentially three main types of Camellia tea, which are Green, 'Oolong' and Black. The difference lies in the 'fermentation', which actually refers to oxidative and enzymatic changes within the tea leaves, during processing. Green tea is essentially unfermented, Oolong tea is partially fermented and Black tea is fully

[31] R. Hicks (2001),*Global tea,* Melway Publishing Pty Ltd, NewYork
[32] ibid
[33] ibid

fermented. Black tea, which represents the majority of international trade, yields an amber coloured, full-flavour liquid without bitterness (Hicks 2001)[34].

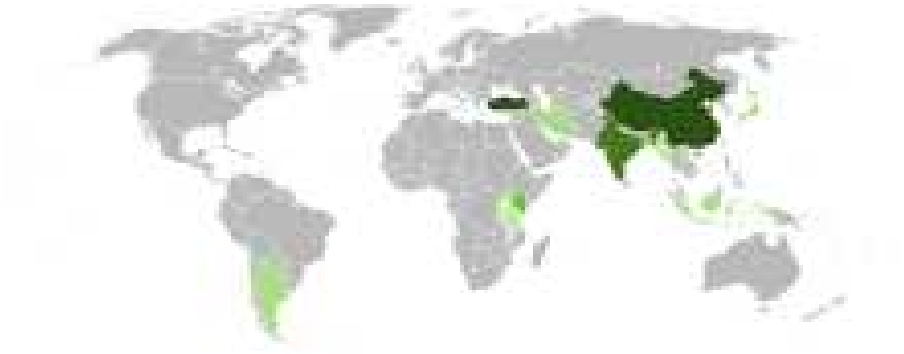


Figure: World tea production/wikipedia.com

The shaded area in the world map indicates Tea producing regions

[34] ibid

CHAPTER IV

EVOLUTION OF TEA CULTIVATION IN NEPAL

4.1 Historical Review

4.1.1 Tea Cultivation before 1951

Some time around 1873, Colonel Gajraj Singh Thapa, son-in-law of the famous Rana Prime Minister, Jung Bahadur, was on a tour of Darjeeling. The sight of the young tea plants and the tasty drink he was offered everywhere he went impressed him. Having a fond travel memory was not enough, so upon his return he was determined to grow the beverage in his own. The colonel soon set up two plantations - the Ilam and Soktim tea estates, 103 acres each - and so began Nepal's tea industry. The first production of Nepalese tea was Orthodox. And for more than 100 years, Nepal's tea industry remained largely under government/ruling class domain.[35]

4.1.2 Tea Cultivation during 1951-1990[36]

Over the years, Nepal's tea industry has grown steadily. In 1920 there were only two estates occupying 233 acres producing a little over two tons.

In 1985, the government declared the five eastern districts of Nepal i.e. Jhapa, Ilam, Panchthar, Terhathum and Dhankuta a "tea-zone" (except Jhapa, all are situated in the hills). After the liberalisation of the economy the private sector began to invest the tea industry.

Today's tea gardens are situated at an elevation ranging from 3000ft to nearly 7000ft above sea level producing some of the most exquisite teas in the world. However like all precious things, the tea available, is in small quantities. The total area under the hill plantation is estimated at 2,153 hectares consisting of 300 hectares of public estates/gardens, 700 hectares under private estate/garden and 1,153 hectares under small holders. At present, the national production volume of the hill orthodox tea is estimated at about 2,44,000 kg per annum.

[35] www.teadirect.org/history.htm
[36] ibid

Nepal offers a diverse range of teas including seedling and clonal varieties. Greens and blacks are mostly manufactured in CTC style however, Orthodox styles, with a very few gardens producing organic and Fair Traded teas are becoming increasingly more prominent. The high altitudes of the Himalayas and the close proximity of Darjeeling across the Indian border means Nepal teas have Darjeeling-like characteristics. Of unique distinction to Darjeelings, Nepali tea liquor can be darker and typically offers a more delicate and very lightly sweet flavor.

4.1.3 Modern Tea Cultivation after 1990[37]

With reform in the early nineties, Nepalese tea is grown by primarily by small holders unlike tea grown in some other countries. The benefit of small producers is artisan quality and care. However the challenges of lack industry infrastructure and dependence on exportation out of Calcutta have produced challenges that have limited the ability of Nepal teas to gain consistent access to international markets and to protect their unique identity. But that is changing …

To better improve the opportunities of these small tea farmers and others working in the Nepal tea industry, national and international organizations have emmerged to support and provide broad-based foundations for long-term growth, economic self-reliance and on-going social-programs development. For example, Winrock International helped establishe the Himalayan Tea Producers Cooperative Limited (HIMCOOP) in 2003 to meet the needs of improving international market access, promoting self-sustainable agricultural practices and developing international trade networks, along with many other projects to increase the production of high-quality tea and effectively bring it to market. Cooperative funds range in use from acquiring irrigation equipment to supporting labor issues like the empowerment of women (more than 60% of the workers employed in the Nepal tea industry are women) and banning child labor.

[37] ibid

4.1.4 Orthodox Tea Subsector Development Stakeholders:

As the development stakeholders (meso/macro level stakeholders) in orthodox tea subsector following groups of stakeholders are operating and /or extending technical and financial supports or services.

A. Commodity association and Marketing Cooperatives
B. Private sector facilitator
C. Development Service Provider
D. Government Agencies
E. Donor organizations and INGOs
F. Tea Development Alliance

There are score of farmers' organization, cooperatives, and associations involved in promoting tea in the project area. Establishment of farmers organizations like producer‘s cooperatives and district cooperative unions are a new phenomenon and are in a process of development.

A) Commodity Association and Marketing Cooperatives:

Himalayan Orthodox Tea Producers Associations (HOTPA) was established in 1998 as an association of small tea growers, tea factories and tea estates. It seeks to promote Nepal‘s Orthodox Tea as a major export commodity and envisions producing the best quality orthodox tea while supporting the growth of a niche industry largely dependent on small entrepreneurs and producers. This association has currently 23 members comprising of tea enterprises of three categories- tea estates (10), tea estates and tea factory combined(4), and bought leaf tea factories(8). From its inception, the HOTPA has been focusing on policy advocacy, training for small farmers on best plantation practices; unified marketing of Nepal tea in international markets through brand promotion, CoC implementation and trade fair participation and buyer seller meets in Nepal and abroad etc.

Himalayan Tea Producers Cooperative Limited (HIMCOOP) is the cooperative formed in 2003 for market promotion and marketing of orthodox tea. It is actively promoting the sales of Nepalese tea through various events, through participation at

trade fairs around the world and direct contacts with buyers. It is acting as a joint marketing office, strongly committed to promoting Nepal tea in the international tea market. For this, HIMCOOP together with tea producers have developed a network of importers, sending tea samples and providing other necessary assistances (quality control, product information, price reassurance, marketing/trade fair participation, operational supports and advocacy etc.). The financial sustainability is maintained by charging nominal fees to the exporters. HIMCOOP is a not-for-profit marketing arm for 13 of Nepal's leading tea industries (HIMCOOP, 2009).

B). Private sector facilitators:

Agro Enterprise Centre (AEC/FNCCI): It is a private sector facilitating partners in the tea subsector development. It was established in 1991 by the Federation of Chambers and Commerce and Industry (FNCCI) with the cooperative agreement support from USAID in 1991. It had played a very crucial role in bringing small tea producer farmers, private sector stakeholders like estate owners, processors, and exporters into a single platform by extending its support in the formation and capacity building of HOTPA, at the beginning as Orthodox Tea Producers Association (OTPA) in September 1998,(AEC, 2008; AEC, 2002a,). AEC also supported HOTPA in participating series of different international exhibitions like in annual events of Tea and Coffee World Cup, ANUGA in Germany etc. It was also instrumental in policy advocacy that facilitated adoption of National Tea Policy and reform in fiscal and export related policy specific to Tea subsector. It played a leading role in organizing two international tea events in Nepal (one in 2001 and other in 2004) which helped initially to highlight Nepal tea in major tea markets of the world. AEC is a Tea Development Alliance partner and is currently functioning as the Alliance Secretariat. It is also assisting HOTPA in its CoC implementation program as a core technical team member.

C) Development Service Provider:

Tea Sector Service Centre (TEASEC); is the first development service provider organization for small tea producing farmers of the Eastern Development Region in Nepal. It was formally started in 2008. Within a short period of four years, TEASEC had already carried out a sizable number of program activities in support of small farmer

tea producers, their institution building and is assisting HOTPA in its effort to implementation of CoC at the farmers' level. Some of the major activities included:

- Conducted training on organic tea farming, bio-fertilizers/compost and bio-pesticides production, educating farmers about CoC program and practice in Ilam, Tehrathum, Dhankuta, Panchthar districts, between 2007 and 2009,
- Took responsibilities to provide technical service to the farmers who have signed in for adopting CoC practices, and tea plantation management aiming at enhanced production.
- Formed tea farmer groups/associations initially and converted these groups/associations to small tea producer cooperatives and the capacity enhancement of those cooperatives. By 2009 TEASEC has converted many of the existing farmers groups /associations into 48 cooperatives in Ilam, Dhankuta Terathum, and Panchthar. Also, four Tea Farmers' District Cooperative Federations have also been formed in the above districts.

D) Government Agencies:

National Tea and Coffee Development Board (NTCDB): One of the major facilitating government organizations working in the field of tea is NTCDB formed under the chairpersonship of Minister of Agriculture, Government of Nepal. The NTCDB is the commodity board established on 1993/06/02 originally under Tea Development Board Act 1992 in Nepal. The objective of this board is to promote and strengthen Tea and Coffee sector through policy formulation, Technical and managerial support. Currently, major activities of the NTCDB include:

- Encouraging tea farmers for tea plantation,
- Conduct observation tours, trainings for tea farmers
- Tea promotion and publicity activities like Observing National Tea Day,
- Distribution of subsidized tea cutting (50% subsidy) and other materials
- Technical services related to tea farming through its extension programs stations at different places.

- GON has arranged a capital subsidy of 25% (on equipments/machineries) for establishing six orthodox tea processing factories at cooperative level
- For commercialization of tea, it is extending financial supports to the tea stakeholders to participate in national and international trade fairs and organizing seminars, and interactions
- Nepal Tea brand promotion with Nepal Tea Logo
- International Tea Committee membership (Nepal got Associate membership in the Committee)
- Tea database publication
- National Tea sector Development Strategy(2010-2014) preparation

Trade and Export Promotion Centre (TEPC) *:*The Government of Nepal, under the Ministry of Commerce and Supplies, has established "Trade and Export Promotion Centre", a national trade promotion organization of the country in November 2006. In line with its functional objectives, before merger into TEPC, the Export Promotion Council had actively supported tea export promotion activities, working together with private sector agencies like AEC/FNCCI, HOTPA and also with NTCDB. Its supports were mainly focused on awareness programs on WTO /SPS and TBT measures, international trade fair participation (Tea and Coffee world Cup Fairs), joint organization of international tea events in Nepal etc. It is expected that any support forthcoming from Ministry of Commerce and Supplies in the future, as committed in the Commerce Policy (2009), will be initiated through TEPC.

E). Donor Agencies and INGOs:

United States Agency for International Development/Nepal (USAID/Nepal): USAID's involvement in orthodox Tea sector development is the longest amongst all bilateral/multilateral donors from 1996 to 2009. Its support started through AEC/FNCCI in consolidating the efforts of private sector actors in orthodox tea development- since 1996. Establishment of HOTPA, strengthening of HOTPA, privatization of NTDC, bringing in National Tea Policy and market introduction of Nepal Tea through sponsoring participation in international tea fairs (Barcelona,

Singapore, Germany), organization of two international level tea events in Nepal are some of the major activities supported by USAID/Nepal.(AEC, 2002a)

German Technical Cooperation (**GTZ/PSP-RUFIN later as GTZ/INCLUDE):** German Technical Cooperation (GTZ has been extending its technical and financial supports for the orthodox tea subsector development since 1998 through its different programs. Through its various programs in due courses like, PSP and PSP/RUFIN and INCLUDE, GTZ extended its support to HOTPA and HIMCOOP in their efforts to promote Nepalese tea in the major world markets. As a founder member of the TDA, the GTZ/PSP-RUFIN Program had actively assisted streamlining the efforts of all donors and stakeholders towards a single coordinated value chain upgrading strategy for the development of Nepali orthodox tea (Nepal Tea) as a premium product in the specialty tea segment. It helped HOTPA and HIMCOOP in developing Nepal Tea Brand and Logo and extending brand promotional supports including launching the brand/logo in Germany. It has played a crucial role in conceptualizing and implementation of CoC encompassing the various stages of the tea value chain from production and processing to marketing (GTZ/PSP, 2007a; GTZ/PSP, 2007b).

Netherlands Development Organization in Nepal – SNV/Nepal: Since 2007, SNV took orthodox tea as one of the commodity area for program support as a part of thrust area on increasing production, income and employment opportunities. It got involved in the orthodox tea value chain development programme by supporting stakeholders - from farms to processing units, in implementation and promotion of the Code of Conduct (CoC) and incorporation of environmental and ethical principles throughout the value chain. Its prime interest is to ensure that all actors in the tea value chain, particularly small holder tea farmers and labourers profit from the expansion of the industry. SNV/Nepal has also extended its support to HOTPA and HIMCOOP in implementing its CoC program and to TEASEC for launching awareness and training programs for farmers in connection with implementation of CoC practices at the plantation level. It is also helping TEASEC in the formation, institutionalization and strengthening of nearly 50 tea producer cooperatives and 4 district tea producer cooperative federations. In order to improve the enabling environment of the tea

sector, SNV has also supported NTCDB for the development of National Tea Sector Development Strategy 2009-2014. SNV/Nepal is also one of the major partners of TDA.

Japan International Cooperation Agency, Nepal (JICA/Nepal): It has extended its program support to HOTPA as Himalayan Tea Technology Outreach and Extension Program (HIMTEX) as well as a mini project of Peace Building through Agriculture, between 2004 to 2006 for conducting the ToT on tea plantation, and establishment of extension and outreach stations in Ilam and Panchthar, focussing programs for small tea producer farmers. HIMTEX also managed to install a soil testing laboratory with basic facility of NPK and Organic Carbon analysis facility at Fikkal, Ilam. Presently, the laboratory and equipments supported by JICA has been handed over to NTCDB. As an exit strategy of HIMTEX, JICA provided support to TEASEC to implement a mini project for a period of 14 months from 2006-2007. The Mini project focused on Training of Trainers from areas hit hard by conflict in Ilam and Panchthar.

Winrock International (WI), through its agriculture unit and with support from USAID, initiated the Nepal Tree Crop Global Development Alliance (NTC-GDA) in 2002. In partnership with private firms, government agencies and nongovernmental organizations, NTC-GDA extended its assistance to boost exports of specialty tea produced in the hills of Nepal. The WI/NTCGDA team has trained tea farmers in organic methods and helped them to meet international standards for sanitation, pesticide use and quality and together with other alliance partners the WI was also involved in CoC implementation, Nepal Tea brand promotion in US, through sponsoring participation in Tea and Coffee World cup, World Tea Expos and arranging meetings with US tea buyers in US and inviting US tea buyers and US Tea Council Officials in Kathmandu and ly joint organization of International Tea Events in Kathmandu. (WI, 2007).

SIMI Project of USAID: After completion of NTCGDA project run by WI, the SIMI-Nepal project worked with the TDA partners to give continuity in the implementation of the Code of Conduct (CoC) practice started by HOTPA and HIMCOOP. It had also supported HOTPA members to participate in various World Tea and in Intergovernmental Group

on Tea Forum meeting held in China. The SIMI project supported HOTPA in its strategic planning and preparation of Vision 2020 document. Till the end of the project period, SIMI /Nepal continued to promote the tea CoC. In order to facilitate CoC inspection and certification process, a database of CoC farmers, production, processing and sales was developed. Under the CoC market linkage, certified CoC teas was showcased in International Trade shows. Further, tea buyers from the International market arena were invited to Nepal to visit CoC Certified Tea Farmers and processing units (SIMI, 2009).[38]

International Development Enterprises (IDE) is making strong contributions in high-value sub-sectors, including tea. As an implementing partner of SIMI-Nepal project, it had been an active partner in the TDA from 2004 to till today and is also financially assisting the alliance secretariat, after the USAID project completed in 2009. It is currently undertaking five years IPM CRSP Project centrally funded by USAID through Virginia Tech consortium for comprehensive IPM package for agricultural crops including Tea. IDE has already started some field testing of integrated organic package of technology (bio fertilizer and bio pesticides) in tea and has already generated data for one year and result seems to be encouraging in terms of enhancing the yield of green tea leaf. More pilot testing is planned during the remaining period of the IPM/CRSP.

F) The Tea Development Alliance (TDA):

Tea Development Alliance (TDA) is an alliance of stakeholders from the tea industry. The TDA members share a common vision of developing Nepal's orthodox tea sub-sector to increase the incomes of small-holder farmers, generate employment and alleviate poverty through the environmentally and socially sustainable development of the tea industry according to the norms set out in the HOTPA Code of Conduct. The TDA strives to increase the number of training opportunities, especially at the farmers' level, with a view to compliance with the Code of Conduct. The TDA also works together to raise the visibility, awareness, appreciation and support of the Nepal Tea

[38] www.usaid.gov/pdf_docs/PDACP099.pdf

brand. (WI,2007; SIMI., 2009). The TDA was originally started by WI as Nepal Tree Crop Global Development Alliance (NTCGDA) in 2002 as per its cooperative agreement with USAID. At the end of the project period, in order to give continuity to GDA, the tea development alliance later endorsed AEC/FNCCI to take up the role of GDA Secretariat. The objective of the GDA Secretariat is to provide a common ground for coordination and build linkages among tea and coffee alliance partners for overall development of Nepal tea (and coffee) through developing the capacity of farmers and apex organizations to expand production of specialty tea with a focus on lucrative export markets. And the key programs included:

- Build linkages with the alliance partners for smooth operation of activities for the development of tea and coffee in Nepal.
- Facilitate tea Codes of Conduct (CoC) implementation program at field level, and
- Facilitate tea related trainings/seminars and workshop for the development of Nepali orthodox tea.

Initial partners of Tea Alliance

- Agro Enterprise Center/Federation of Nepalese Chamber of Commerce and Industry (AEC/FNCCI)
- Winrock International (WI)
- Himalayan Orthodox Tea Producers Association (HOTPA)
- GTZ Private Sector Promotion Project (GTZ/PSP) now (GTZ/INCLUDE)
- National Tea and Coffee Development Board of Nepal (NTCDB)
- Himalayan Tea Producers Cooperative Ltd. (HIMCOOP)

Partners joined later

- International Development Enterprises (IDE)
- Netherlands Development Organization (SNV)
- Tea Sector Service Center (TEASEC)
- Japan International Cooperation Agency (JICA)

3. Current Efforts of Private sector in Sub sector Growth and Development

Much of the past initiatives in the growth and development of orthodox tea subsector was taken up by the private sector, starting from mobilization of small farmer tea producers to the establishment of tea estates and processing industries and also in the tea market promotion in the international markets. Role of the GON particularly through NTCDB, the key organization responsible for tea development, so far remains to be bare minimal because of the limited fund availability, lack of clear-cut strategy and priority from the Nepal government.

The role of HOTPA from 1998 is pivotal in overall subsector development. Its role, together with HIMCOOP, after 2003 in linking farmers, processors and exporters, continuous market promotional activities and policy advocacy have in fact resulted in shaping up the subsector growth and development.

Based on a study undertaken for TDA (Thapa, 2005)[39], HOTPA, has adopted Nepalese Tea Industry-Vision 2020. The Vision 2020 has set targets to expand tea plantation, primarily in four districts of eastern development region of Nepal (Ilam, Panchthar, Tehrathum & Dhankuta) to 23,400 ha and production of orthodox tea to reach 23.4 million kg by 2020, with the estimated investment of around Rs. 15.7 billion. The vision document has also set following six strategic interventions:-

1. To strengthen HOTPA, HIMCOOP and other actors
2. To effectively lobby for government commitment and support
3. To carry out CoC/Organic implementation
4. To have in place an effective extension system and technical human resources
5. To get Nepal Tea Brand internationally recognized
6. To establish and have in operation and R&D Centre

As a part of strategic intervention, it has also identified 29 specific activity areas, which are reflected in the table:

[39] B. Thapa (2005), *Concept Paper on Study of Nepalese Tea Industry -Vision 2020*, Nepal Tree Crop Global Development Alliance (NTCGDA) Winrock International

Table No. 4.1
Major Activity Areas for each Specific Indicator

1.1 Conduct an assessment of HR needs . 1.2 Hire personnel with clear job descriptions (1 technical person for COC, and 1 for admin and accounts) 1.3 Design and implement training and other capacity building 1.4 Create a pool of technical experts for sub-contract work to support when necessary. 1.5 Prepare clear programs and budgets 1.6 Improve review current financial condition. 1.7 Strengthen HIMCOOP's capacity.	* Form a core group within HOTPA for policy anvoc. * Tea policy implementation * Suitable line of credit for tea entrepreneurs * Subsidy for the sector. * Removal of land ceiling. * Autonomous R & D facility. * Promotional support.	3.1 Develop the capacity of COC. 3.2 Provide support to establish COC unit in each interested factory with one person as a focal point. 3.3 Develop farmer's COC groups in co-ordination with factories and farmer's groups. 3.4 provide training to the focal person in each in COC organic. 3.5 Develop training materials and conduct TOT's using approved manuals. 3.6 Certify trainers through CTEVT's skill testing. 3.7 Conduct TOT's focusing on farmer's groups and factories.	4.1 Provide support to establish Extension unit in each interested factory with one staff as the focal point. 4.2 Facilitate expert sourcing through Alliance partners. 4.3 Work with Alliance and Government to establish an autonomous Tea School for organic certification on and skilled technical human resources.	5.1 Get the designed logo registered nationally and internationally 5.2 Participate in at least two fairs in Europe Asia and USA. 5.3 Appoint brand ambassadors in appropriate locations 5.4 Organize international events in Nepal every 3 years. 5.5 Diversify tea products (oolong, hand made white etc.)	6.1 Conduct feasibility study for establishment of 2 centers in Ilam and Dhankuta) 6.2 Mobilize resources though initiatives of Alliance partners. 6.3 Support clone development. 6.4 Conduct regular soil tests, chemical residue tests (fee charging basis). 6.5 Conduct research for organic inputs.

Source: Himalayan Orthodox Tea Producers Association

Recent initiatives of TEASEC as a service provider, for trainings and extension services; building trust and linking or establishing working relationship between farmers and factories; and consolidating farmer‘s efforts through formation of producers‘ cooperatives, have also made a considerable impact. This has brought positive changes in the tea plantation culture and promotion of CoC practices.

All three institutions, stated above, were backed by bilateral donor agencies like USAID, GTZ, SNV/Nepal and JICA for technical and financial supports in carrying out some specific programs , directly or through other agencies like AEC/FNCCI, WI, SIMI/Nepal etc,. Supports from the donors were particularly focused in the areas like – trainings to farmers and tea estates personnel for tea plantation managements, IPM; soil testing services; implementation of COC programs for quality assurances ; organic farming practices and awareness programs , tea producers groups/ cooperatives formation etc.

Some of the major activities initiated in the recent years by the private sector, working together with GON, are:

- Nepal Tea Brand Promotion
- CoC Implementation
- Organic Tea production Movement

"Nepal Tea" Brand Promotion in International Markets:

HOTPA and HIMCOOP are branding Nepal tea in the international market as —Quality from the Himalayas. With the help of GTZ /PSP's support they were successful in creating a brand to be used for the export promotion the —Nepal Tea trade mark with logo as in the Figure below:

Source: www.hopta.org.np

Code of Conduct (CoC) Implementation:

As the second and concurrent step in the branding strategy, a Code of Conduct (CoC) was formulated by HOTPA for producers of orthodox tea for self regulating the production, processing and marketing of tea in Nepal.

The concept of CoC was officially agreed and endorsed during the International Tea Event, held in Kathmandu in November 2004, wherein all the tea industry stakeholders had given their consent by being the signatory of CoC that those who sign the CoC contract will have the privilege of using the ‗Nepal Tea' logo. Based on this, Nepal Tea brand was launched first time in Hamburg during the World Tea and Coffee World Cup in September 2005. Later on, in many international tea forums and conventions (in Sri Lanka, US , Austria and China), efforts have been made to appraise the international tea buyers about the Nepal's private sector initiatives in CoC program to take care of social, environmental, processing and quality related aspects of tea industry and promote Nepal Tea in international market. Significant growth in the export of orthodox tea from Nepal to countries overseas has been observed after that.

The four main features of the Code of Conduct are:

Table No 4.2
Features of the Code of Conduct

1. Respect to Nature • Good Agriculture Practices • Soil Fertility • Bio Diversity	**2. Transparent Process** • Standard Operating Procedures • Labour • Good Business Practice • Mutual Trust
3. Respect to People Social and human values	**4. Commitment to Quality** • Quality of Products • Integrity of Products • Satisfaction to Consumers • Monitoring of Critical Control Points

Source: Himalayan Orthodox Tea Producers Association

Farmers Groups, Cooperatives and Tea Factories signed in for CoC implementation (2008-2009):

Table No 4.3
Farmers Groups, Cooperatives and Tea Factories signed in for CoC implementation (2008-2009):

S.N	Processing Unit	Group	No. of Farmers	Plantation Area. (Ha.)
1	Kanchanjunga Tea Estate Pvt. Ltd.	1. Tinjure Tea Coop.	106	145
		2. Lekalu Organic Tea Procedures Coop. Group	56	
2	Himalaya Shangrila Tea Procedures Pvt. Ltd.0	1. Shantry Dands	26	10.65
		2. Green Hill Tea Producers Coop.	88	57.5
		3. Uchha Pahadi Tea Coop.	55	46.5
		4. Triyuga Tea Coop.	28	14.3
3	Mist Valley Tea Estate	1. Ajambare Tea Producer coop.	54	65.15
		2. Nawabi Tea Producers Coop.	50	
4	Kuwapani Tea Plantation	1. Arun Valley Tea Group	17	17.5
	Total Farmers		480	356.6

Source: Himalayan Orthodox Tea Producers Association

Organic Tea Production Movement

With the growing consumer awareness regarding food safety, health and environmental issues, organic tea (a value added product) sector has been emerging as an attractive area for the exporters of Nepalese tea. Organic tea producers could seize the emerging opportunity of the niche world market. In Nepal, the cultivation of organic tea started in 1994 and spread to the three tea estates and large no. of small farmer‘s tea plantations. By now, four tea factories are producing organic tea.

Table No 4.4
Organic Tea Production Movement

S.N	Party	Product	Certifying Party	Certified For	Certifications Years	Area Coverage	Production in 2009
						Ha	kG
1	Nepal Small Tea Producers Ltd.	Tea	Control Union Certification	Organic Production method	2008	66	850
	Doctor Khola Fikal Ilam			EU 2092/91			
2	Guranse Tea Estate Pvt. Ltd	Tea	NAASA, Austrilia	Crop Certification Organic Tea	2002	250	30,000
	Kuwapani, Dhankuta						
3	Kanchanjunga Tea Estate P. Ltd.	Black Tea and	NAASA, Austrilia JAS, USDA (NOP)	Crop certification and	1997	94	34,000
	Rantiar Phidim, Panchhar	Green Tea		Exportation of Tea			
4	Gorkha Tea Estate Pvt. Ltd.	Tea	IMO Swiss	Crop Certification	2008	50	10,000
	Sunderpani, Ilam						

Source: Himalayan Orthodox Tea Producers Association

Table No. 4.5
Management system certification process adopted by some Tea Industries:

S.N	Industry	Product	Type of Certification	Certifying Party	Certified For	Certification start Year
1	Nepal Green Tea Pvt. Ltd. Pashupati Nagar, Ilam	Green Tea	Dutch HACCP Code: 2002	BSI Management System India	Manufacturing and Export of Green Tea	2008
2	Himalayan Shnagrila Tea Producers Pvt. Ltd., Nepal Tar, Ilam	Tea	HACCP	BSI Management System India	Manufacturing of Orthodox Black Tea	2008
			ISO 9001:2000	KVON/Norsk Akkridat Ering	Plantation and Manufacturing	
3	Guranse Tea Estate Pvt. Ltd. Kuwapani, Dhankuta	Tea	ISO 9001:2000	TUV Cert		2002
4	Kanchanjunga Tea Estate, Rantiar Phidim, Panchtar	Black Tea and Green Tea	FLO	Fair Trade Foundation		2005

Source: Himalayan Orthodox Tea Producers Association

4. Existing Support Policies and Programs of the Government of Nepal for the Subsector Development

By now, there are four policies brought forward by the Government of Nepal which directly and indirectly supports the growth and development of tea subsector, giving thrust on farmers mobilization, production, processing and marketing of tea. These policies are:

- National Tea Policy 2057 (2000)
- National Agriculture Policy, 2061 (2004)
- Agribusiness Promotion Policy, 2063 (2006)
- Commerce Policy,2065 (2009)

National Tea Policy,2057(2000): Government of Nepal has approved and implemented National Tea Policy 2057 as per the intention of National Tea and Coffee Development Board Act, 2049(1992) for the development of Tea. This policy had set very ambitious targets to achieve within 10 years period as shown in the table below.

Table No 4.6
National Tea Policy ambitious targets

Type of Tea	Area in Hector s	Total Production in Million Kg.	Domestic Consumption in Million Kg.	Export in Mil. Kg.	Value of Export in Million US $	Value domestic consumption in million US $	Total Value in Million US $
Orthodox	30133	30.13	3.01	27.11	197.95	13.2	211.15
C.T.C	10652	15.98	9.4	6.57	14.4	20.59	34.99
Total	40785	46.11	12.41	33.68	212.35	33.79	246.14

Source: National Tea & Coffee Development Board

N**ational Agriculture Policy, 2061(2004):** This Policy was promulgated in 2004 with the central aim of making agriculture more dynamic and profitable to help reduce rural poverty and focused on effective implementation of the APP, the policy has set one of the objective as rendering agriculture sector competitive in the global and regional markets through the promotion of commercial and competitive agriculture systems. With a vision to transform the current subsistence-oriented farming system into a commercial and competitive farming system, GoN introduced National Agricultural Policy (2061). The objectives of the policy to bring in sustainable economic growth through:

(1) Agricultural production and productivity will be increased.
(2) The bases of a commercial and competitive farming system will be developed and made competitive in the regional and world markets.
(3) Natural resources, as well as the environment and bio-diversity, will be conserved, promoted and properly utilized.

Agribusiness Promotion Policy,2063 (2006): Keeping in line with the National Agriculture Policy, for further specificity, this policy was promulgated by the GON to enhance the participation of private sector in the infrastructure development of

agricultural market, trade and agro-based industries in order to diversify, commercialize and promote agricultural sector (MOAC,2006). It has also envisages establishing business promotion centres (growth centres, special economic zones, commodity production areas, agricultural product export area, organic production area etc) based on geographical diversities and business potentials to provide quality agricultural inputs and services. Furthermore, the policy seeks partnership between the private sector and the government in exporting quality goods and developing market networks to tackle challenges faced and take advantages from the WTO membership.

Commerce Policy 2065 (2009): In order to take advantage from the current world trade regime and to expand the international trade, GON has felt the need for new and broad based commerce policy and hence this policy was brought in making the expansion of export trade as the major basis of the policy. In this context, GON had recently brought out Commerce Policy (2065) in 2009. The policy aims at promoting exports of agricultural products also, in an integrated fashion. The policy also envisaged the establishment of coordination amongst the concerned agencies of the government and private sectors for improving the competitive capacity by increasing the production of highly export potential agricultural products as emphasized under the thrust area development. The Policy has specifically considered tea as one of the thrust areas for development whereby extensive production and increasing competitiveness will be focused through coordinated efforts between concerned public and private agencies and creating conducive environment to expand export trade of tea.

The Tea Development Strategy (2010-2014): NTCDB has formulated a Tea sector Development Strategy (2010-2014) and adopted this strategy in the early part of FY 2066/67. This strategy has identified six priority areas for initiating program activities and proposed to the GON for the support budget of Rs 1 billion for five years. Some details of the strategy are mentioned below:

1. Production, productivity and quality enhancement
2. National, regional and international markets for Nepal Tea promoted, developed, expanded and diversified
3. Coordination and management for sustainable tea sector development (establishing and strengthening linkages between tea stakeholders and different agencies like national/international agencies; financial institutions etc.)
4. Establishment of Tea Research and Training Centre for Research and training in the field of tea production, processing and make the centre effectively functional,
5. Capacity building of various stakeholders Associations , private sector, farmers groups/cooperatives etc)
6. Management and organizational capacity of NTCDB strengthened

Table No 4.7
Tea sector Strategic Plan 2010-2014

Target Parameter	Unit	2009	2014	% Increase
Productivity Increase	Kg. made tea/ha	315	700	
Production Increase	Kg. made tea			10% per annum
Organic Certified area	Ha	487	2,000	
CoC/Organic certified Factories	%		100	
Export	Million kg.	1.6	3.6	50% to India
Per Capita Consumption	Kg./yrs/person	0.35	0.6	
No. of Producers Coops	No	31	80	
Additional direct employment			15,000	
Indirect Employment			8,000	

Source: Nepal Tea & Coffee Development Board

Table No 4.8
Estimated cost proposed by NTCDB for the planned strategic intervention (for 5 years):

S.N.	Strategic Interventions	Cost (in Million Rs.)
1	Production, Productivity and quality	250
2	Marketing and Promotion	268.5
3	Coordination for tea sector development	20.5
4	R & D Center and Training Institute	220
5	Capacity building of Stakeholders	25
6	NTCDB Strengthening	216
	Total	**1,000**

Source : Nepal Tea & Coffee Development Board

Although there has been various policies formulated by the Government of Nepal, it is still in paper format. The development of various infrastructure and support are lacking in the tea sector. However, the policies can be seen as a green signal for the development of tea sector as a national priority. There are certain programs conducted by the government such as tea plantation, tea area development centre, introducing Nepal tea brand, market extension etc.

CHAPTER V

TEA CULTIVATION IN GURANSE TEA ESTATE

5.1 Introduction:

VOITH or Vaidya's Organization of Industries & Trading Houses is one of the most dynamic business houses in Nepal and is dedicated to integrity, excellence and leadership. It represents a wide range of integrated trading houses, industrial enterprises, services, construction activities and educational academies.

VOITH is committed to the development of the country in its entirety and, therefore, supports those business activities that help shape the future of Nepal. The organization has given priority to industries that contribute greatly to the social upliftment of the Nepali people. Hence, labour-intensive, agro-based industries are VOITH's priority as we are convinced that such undertakings help raise the living standard of Nepal's poorest people, the bulk of whom are farmers.

The VOITH organization today employs more than 7,000 people and prides itself in its staff who represent some of the best managerial potential in the country. Currently Voith's organization is engaged in the following sectors.

Automobiles

- United Traders Syndicate (UTS) Pvt. Ltd.
- Subirasa Incorporated Pvt. Ltd.
- Vijaya Motors Pvt. Ltd.
- Agni Incorporated Pvt. Ltd.

Tea

- Guranse Tea Estate Pvt. Ltd.
- Mai-Ilam Guranse Tea Industries Pvt. Ltd.
- Nirvana Tea Processing & Packaging Pvt. Ltd.

Agri-Products

- Agri Breeders Pvt. Ltd.
- Nepal Wellhope Agri-Tech Pvt. Ltd.

Constructions

- Nepal Singha Construction Pvt. Ltd.

Education

- Vijaya Academy of Health and Science

5.2 Guranse Tea Estate Pvt. Ltd:

Guranse Tea Estate Pvt. Ltd. is one of the subsidiary industries of the Vaidya's Organization of Industries and Trading House (VOITH), established 1988 and it started producing made tea in 2001 A.D. It employs 45 people which consists of 34 male and 11 female including 20 technician, 17 administrator and 8 security personnel. There are 150 seasonal workers also engaged in plantation to production process. For over four decades, VOITH remains at the forefront of the country's private sector development; well known for its commitment to quality, excellence and professionalism. At *Guranse Tea Estate,* VOITH taps Nepal's nature's best - poised to make a difference to the quality of our consumer's lifestyle in the millennium.

Sprawled over an area of 250 hectares in Dhankuta, Hile, *Guranse Tea Estate* garden abounds with spectacular natural beauty. It offers rich, virgin alluvial soil, lush green forests that are home to unique species of flora, and towering mountain ranges with its grace and symmetry framed against a backdrop of a clear azure sky.

Guranse Tea's guiding principle in its operation is total satisfaction of tea lovers. Thus, only high quality, pure, fresh tea leaves are selected and processed at its factory which incorporates the latest, state-of-the-art equipment and technology. Enthroned amidst gently rolling hills stretching up to the snow-capped peaks and trailing down to crystal clear, running mountain streams, nothing but the best is produced here. Guranse Tea

adds another dimension to technology, in which science harmoniously blends with nature.

Because Guranse Tea aims at producing only the finest high grown orthodox tea, its scientific method of cultivation is totally bio-organic.

All teas are packed in wooden chest box with net kg from 35 to 40. Tea of small quantities is also available upon request.

Picture: Researcher at GTE premises at Dhankuta

Guranse Tea Estate has planted pure young and vibrant cloned bushes which are developed after years of extensive research and development in tea research industries. Only two leaves and one bud is maliciously plucked by skilled hands and processed in the factory under intensive quality control. This ensures premium teas rich in flavor and aromas keeping in mind the choice of international buyers on taste and health importance.

Guranse Tea Estate: A legacy of Excellence

Guranse Tea Estate is one of a subsidiary industry of the VOITH. For over four decades, VOITH remains at the forefront of the country's private sector development, well

known for its commitment to quality, excellence and professionalism. At *Guranse Tea Estate*, VOITH taps the best from Nepal's nature, poised to make a difference to the quality of its consumer's lifestyle.

Picture: Factory building view

Guranse Tea Estate, Certified Organic by NASAA (National Association for Sustainable Agriculture Australia Ltd.), ISO 9001:2000 by Premier Certification Body TUV Rheinland in the year 2001, A member of American Premium Tea Institute (APTI), and a member of the 2001 Specialty Tea Registry (STAR) A division of the Tea Association of the USA., Inc.

Organizational Chart of VOITH:

A Board of Directors, headed by its Chairman Vijaya G. Vaidya, sets the overall policy and management guidance to each of the divisions - Trading and Services, Industry, Construction - of VOITH. Each division is headed by an Executive Director.

Regular staff meetings guarantee total managerial involvement in the day-to-day operation of VOITH as well as its future planning needs.

5.3 Tea Production Process

5.3.1 Tea production process in Guranse tea Estate:

PLANTATION

Young tea plants are grown in the shade of a nursery for at least a year before being transplanted into the garden or high quality tea seeds are planted right into the garden. Moisture is a key factor in tea cultivation. Plants require regular, steady rainfall. It is believed that tea plants can grow for as long as 100 years (although there is no scientific fact that supports this) all tea plants belong to the same species - Camellia sinensis.

Source: www.guransetea.com.np

PLUCKING & PRUNING

Pruning is a way of balancing the top surface of the tea bush for easier plucking as we well as to enforce tea branches to shoot new leaves. Once every 7 days of plucking, tea branches develop another batch of fresh young tea leaves which are ready for plucking again.

Source: www.guransetea.com.np

TRANSPORTATION TO FACTORY

Once picked, tea is immediately dispatched to the factory where it is processed. Transportation time is kept to a minimum to retain the freshness of the tea. Many factories are located on the tea plantation areas and most tea garden holders have their own tea processing factory.

Plucking is a crucial operation that determines the ultimate quality of the brew. It requires a great deal of dexterity and care. The highest grade of top-quality tea is the product of a "fine plucking" in which only the terminal leaf-bud and first two leaves are picked.

Source: www.guransetea.com.np

WITHERING

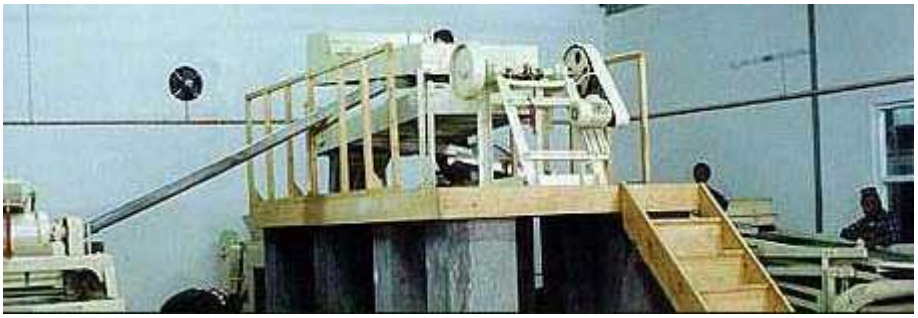
Producing black tea requires five successive operations. After the tea is withered, it is macerated (or rolled) - the leaves are rolled or crushed to release essential oils. Leaves are then sorted according to size and form (whole or broken leaf). The next operation is the fermentation, which transforms green leaves into black tea; the leaves are spread in thin layers and exposed to warm, humid air at a constant temperature for several hours. The final stage entails drying (or "firing") the leaves to halt fermentation.

The next operation is the fermentation, which transforms green leaves into black tea; the leaves are spread in thin layers and exposed to warm, humid air at a constant temperature for several hours. The final stage entails drying (or "firing") the leaves to halt fermentation. Then the tea is again sorted (graded) based on whole or broken leaf.

Source: www.guransetea.com.np

ROLLING

Once tea leaves are withered, they are passed on to these machines which roll the leaves to remove the essential oil.



Source: www.guransetea.com.np

SORTING

Once tea leaves are withered, they are passed on to these machines which roll the leaves to remove the essential oil.

Source: www.guransetea.com.np

FERMENTING

This process transforms the green leaves into black tea. Leaves are spread on thin layers and exposed to warmth. This fermentation process usually takes 12 hours.

Source: www.guransetea.com.np

FIRING

The final stage entails drying (or "firing") the leaves to halt fermentation.

Source: www.guransetea.com.np

GRADING

Then the tea is again sorted (graded) based on whole or broken leaf.

Source: www.guransetea.com.np

TASTING

Tea Tasting is a way to ensure that only the highest quality tea reaches to customers. In general, tasting observes tea strength/color, aroma and other factors that determine tea quality.

Tasting is done for every batch of tea processing.

Source: www.guransetea.com.np

PACKAGING

Packaging is an important process in itself which requires utmost care to keep tea quality intact. Tea factory units may have their own packaging unit or they may prefer to sell their tea to external packaging agent/broker/importing agencies.

Source: www.guransetea.com.np

5.4 Overall Production of Tea:

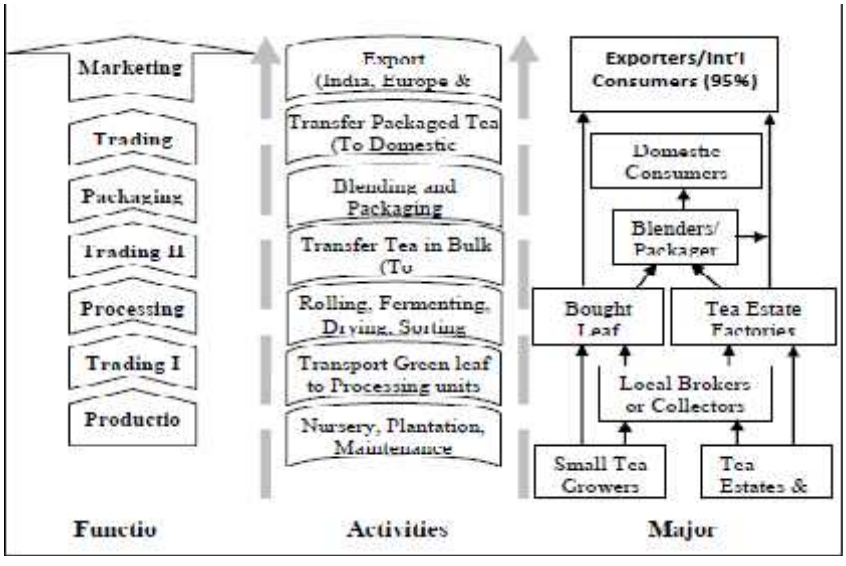
Table No. 5.1
Growth patterns of tea plantation area and production of tea

Year	Tea Plantation Area (ha)					Production of Tea (kg.)				% of GTE
	Private	GTE	Small Farmer	Total	% of GTE	Private	GTE	Small farmers	Total	
2006	6073	250	1191	7464	3.34	687000	17700	898687	1613187	1.10
2007	8869	250	3239	12308	2.03	3577857	32000	1010499	4620356	0.69
2008	9063	250	6143	15406	1.62	7714669	15300	3956535	11686504	0.13
2009	10020	250	8184	18404	1.35	9990013	22100	6218114	16230227	0.14
2010	12300	250	8652	21152	1.18	1236523	27000	6986538	8250061	0.33

Source: National Tea & Coffee Development Board & Guranse Tea Estate, (2010)

The above table showed the tea plantation area and Production of Tea of GTE in comparison to Private and small farmers in total. In the year 2006 the % of GTE plantation area was 3.34% of total plantation area whereas it is decreased to 1.18 % in the year 2010. Similarly, the production of tea was 1.10% of total production in the year 2006 and it is lowest in the year 2008 i.e. 0.13% and it increased to 0.33% in the year 2010.

5.5: Main Stakeholders of Tea sub-sector



Source: www.nepaltea.com

The figure above showed the main stakeholders of tea subsector. It includes functions, Activities and Major.

5.6 Grading and Tea Quality Aspects of Guranse Tea:

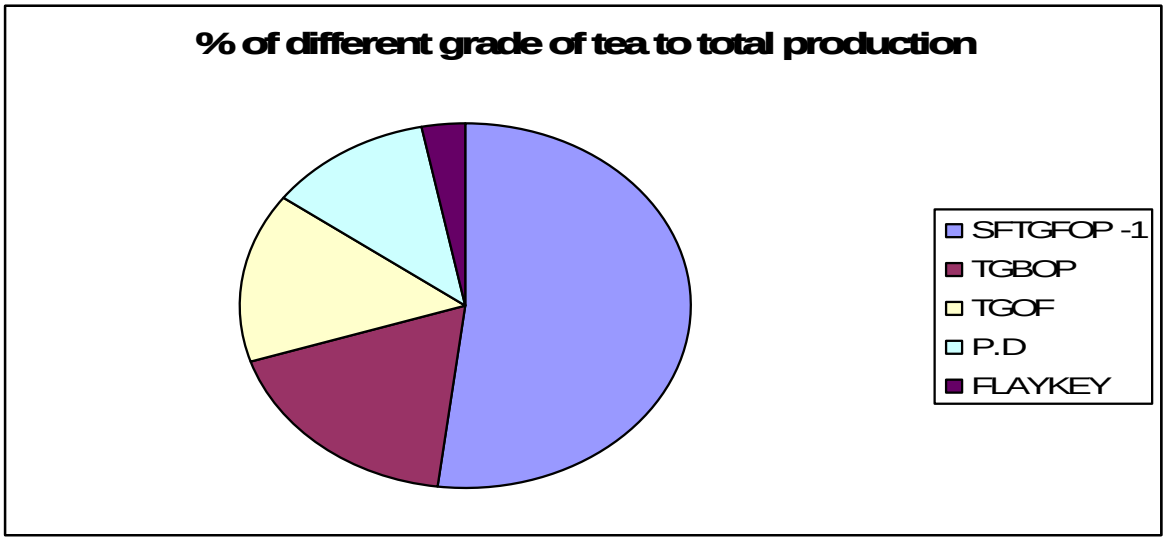
Percent yields of different physical type of orthodox tea and conversion ratio of green tea leaf to make tea during the processing of tea in a factory is found to vary significantly, based on the practice of green tea leaf plucking and processing and handling conditions used in the factory. A typical example of the yield of different categories of tea (leaf, broken, fanning and dust) in different year is reflected in the table below. A few of the factories have reported very good yield output of leaf grade tea, as high as 65 percent.

Table No. 5.2
Percentage of different grade of tea in total production

Year	**% of different grade of tea in total production**					
	SFTGFOP -1	**TGBOP**	**TGOF**	**P.D**	**FLAYKEY**	**Total**
2006	52	18	15	12	3	100
2007	52	18	15	12	3	100
2008	52	18	15	12	3	100
2009	52	18	15	12	3	100
2010	52	18	15	12	3	100
Five Year Average	52	18	15	12	3	100

Source: Guranse tea Estate

Figure No. 5.1
Percentage of different grade of tea in total production



The above chart showed the percent of different grade of tea to total production. It is seen that 52% of SFTGFOP-1 contributed to total production. Similarly, TGBOP, TGOF, P.D. and FLAYKEY contributed 18%, 15%, 12%, and 3% respectively.

5.7 Quality of Tea:

The main tea production was, and remains, black leaf grades of generally superior leaf quality. Seasonal output— first-flush, second-flush and autumnal—follows the pattern in Darjeeling. Typical average production of tea by season is shown in the table below.

Table No. 5.3
Average production of tea by season in %

Season	**Average Production %**
First Flush	52
Second Flush	18
Mansoon	15
Autumn	15

Source: Guranse Tea Estate

As indicated by companies the quality of tea and prices fetched by orthodox tea in different season differs significantly.

- First flush (February to mid April): tea is normally considered as premium tea, light tea, which has a lighter golden color and a delicate aroma and fetches very good price.
- Second-flush (May-June)- teas tend to produce a fuller, better-rounded cup, with a sweetish, honey-like finish. (The liquor is bright, the taste full and round with a fruity note)
- Mansoon flush (June-September)- Tea does not have good flavour but they have more color and are stronger, thus low quality yield, hence fetches lowest price, but maximum tea production takes place in this season.
- Autiumn Flush (October)- tea features an extraordinary combination of Muscat flavor, rich aroma and a lingering lemon to amber with the season.

5.7.1 Grading Practices:

Grades used for orthodox black tea by Guranse Tea Processors are given below.

Table No. 5.4
Grades used for orthodox black tea by Guranse Tea Processors

Leaf (1st Grade)	Broken (2nd Grade)	Fanning (3rd Grade)	Dust (4th Grade)
STGFOP: Special Tippy Golden Flowery Orange Pekoe	GFBOP: Golden Flowery Broken Orange Pekoe	T/GOF: Tippy/Golden Broken Orange Fanning	FOF: Flaky Orange Fanning
TGFOP: Tippy Golden Flowery Orange Pekoe	FBOP: Flowery Broken Orange Pekoe	FOF: Flowery Orange Fanning	FD: Fine Dust
GFOP: Golden Flowery Orange Pekoe	GBOP: Golden Broken Orange Pekoe	BOPF: Broken Orange Pekoe Fanning	
FOP: Flowery Orange Pekoe	BOP: Broken Orange Pekoe	OF: Orange Fanning	
OP: Orange Pekoe		BOP1: Broken Orange Pekoe One	
		BPS : Broken Pekoe	

Source: Guranse Tea Estate

5.8 Cost of Production of Green Leaves

Cost component is an most important aspect of any farm. Profitability/Losses of any farm depend upon their cost of production on the one hand and their price of a unit of the product on the other. The agriculture output is a function of agricultural land,

labour, capital and management. It is not possible to produce something without using these factors in the production process. For the production of tea, these factors are used. But contribution of all the variable and fixed factors is not same. Land and labour are main factors for green leave production. But the calculation of total cost in present study cost on land is not included. The following tables revealed the cost of production of green leaves for seven-year period.

Table No 5.5:
Initial Production Cost

Initial Cost		For 1 Ropani	Rate	Amount
Nursey Cost	Rs. 5/Plant	750	5	3750
Kadalo	Rs. 350	1	350	350
Land Preparation & Counter Drain	Rs. 1000/ Ropani	1	1000	1000

Source: Guranse Tea Estate

The above table showed the initial cost incurred while preparing for the tea plantation for one Ropani of land. The nursery cost is Rs. 5/plant while there are 750 plants in one ropani of land. It took Rs. 1000/ropani for land preparation and counter Drain. There is one Kadalo required for one ropani of land.

Table: 5.6
0 Year cost of production

0 year cost		**For 1 Ropani**	**Rate**	**Amount**
Plantation & Hole Digging	Rs. 1.2/ Hole	750	1.2	900
Siprang	Rs. 300	1	300	300
Manuring (30 Kgs./Doko)	3 kgs./ Hole	2250	1	2250
Mandays		4	120	480

Source: Guranse tea Estate

The above table showed the cost of tea production for 0 year time frame of production. Rs. 1.2 is required for plantation and hole digging for one ropani of land. It took 4 man days to complete the entire job. There is cost of Rs 300 for Sip rang and 3 KGs/ Hole is generated by manuring of 30 KGs/ Doko.

Table: 5.7
1st Year Cost of Production

1st Year		For 1 Ropani	Rate	Amount
Weed Control (Manually whole year)	4 Mandays/ Year	4	120	480
Sickle	@ 25 for 4	4	100	400
Irrigation cost	16 Mandays/4 Months	16	120	1920
Gallon	60 for 20 ltrs.	4	60	240
Centerout	1Mandays/Season	1	120	120
Repellant spray	400 gm/ Neem Product	0.4	250	100
Spray Machine & Mandays	Machine + Single Manday			2120

Source: Guranse tea Estate

The above table showed the cost incurred for the production of tea in first year of production in one ropani of land. It is seen that there is 4 man days is required for weed control for a year. There is Rs 25 for sickle followed by Irrigation cost, water, center out, Repellant Spray and cost for Spray Machine and Labor.

Table No: 5.8
2nd Year Cost of Production

2nd Year		For 1 Ropani	Rate	Amount
Weed Control (Manually whole year)	4 Mandays/ Year	4	120	480
Manure		2250	1	2250
Manuring	4 Mandays/ Year	4	120	480
Drain Repairing	1 Mandays/Year	1	120	120
Re-Centering	1 Mandays/Season	1	120	120

Source: Guranse Tea Estate

The above table showed the cost incurred in second year of tea plantation. It reflected the costs are incurred in weed control, Manure, Manuring, Drain Repairing and Re-centering.

Table No 5.9
3rd Year Cost of Production

3rd Year		**For 1 Ropani**	**Rate**	**Amount**
Weed Control (Manually whole year)	4 Mandays/ Year	4	120	480
Repellant spray	400 gm/ Neem Product	0.4	250	100
Drain Repairing	1 Mandays/Year	1	120	120
FFP	1 Mandays/Season	1	120	120
Plucker	5 Mandays	5	120	600
Plucking	50 gm/Plant			

Source: Guranse Tea Estate

The above table shows the cost incurred during the third year of tea plantation. The cost for weed control, repellant spray, drain repairing, FFP, Plucker and Plucking is incurred. From the table it is seen that from third year, the tea plucking process is resumed with the capacity of 50 gm/plant in one ropani of land.

Table No. 5.10
4th year Cost of Production

4th Year		**For 1 Ropani**	**Rate**	**Amount**
Weed Control (Manually whole year)	4 Mandays/ Year	4	120	480
Manure		2250	1	2250
Manuring	4 Mandays/ Year	4	120	480
Repellant spray	400 gm/ Neem Product	0.4	250	100
Drain Repairing	1 Mandays/Year	1	120	120
Plucker	5 Mandays	5	120	600
Plucking	100 gm/Plant			

Source: Guranse Tea Estate

The above table shows the cost incurred during the production of tea in fourth year. The different cost including weed control, manure, manuring, repellant spray, drain repairing, plucker and plucking are met in this period. It can be traced out from the table that plucking of tea is increasing with compared to previous year i.e. 100 gm/plant in one ropani of land.

Table No. 5.11
5th year cost of production

5th Year		**For 1 Ropani**	**Rate**	**Amount**
LP	1 Mandays/Season	1	120	120
Weed Control (Manually whole year)	4 Mandays/ Year	4	120	480
Repellant spray	400 gm/ Neem Product	0.4	250	100
Drain Repairing	1 Mandays/Year	1	120	120
Plucker	5 Mandays	5	120	600
Plucking	150 gm/Plant			

Source: Guranse Tea Estate

The above table shows the cost of production of tea in fifth year of production schedule. The cost for LP, weed control, repellant spray, drain repairing, plucker and plucking are included in this year. The significant increase in plucking can be traced out from the table i.e. 150 gm/plant in one ropani of land.

Table No. 5.12
6th Year Cost of Production

6th Year		**For 1 Ropani**	**Rate**	**Amount**
Weed Control (Manually whole year)	4 Mandays/ Year	4	120	480
Repellant spray	400 gm/ Neem Product	0.4	250	100
Drain Repairing	1 Mandays/Year	1	120	120
Plucker	5 Mandays	5	120	600
Plucking	200 gm/Plant			

Source: Guranse Tea Estate

The table above reflects the cost incurred during the period of sixth year of tea production. The cost for weed control, repellant spray, plucker and plucking is included in this year. The plucking capacity is increased to 200gm/plant in this year.

Table No 5.13
7th Year Cost of production

7th Year		**For 1 Ropani**	**Rate**	**Amount**
DS	1 Mandays/Season	1	120	120
Manure		2250	1	2250
Manuring	4 Mandays/ Year	4	120	480
Weed Control (Manually whole year)	4 Mandays/ Year	4	120	480
Repellant spray	400 gm/ Neem Product	0.4	250	100
Drain Repairing	1 Mandays/Year	1	120	120
Plucker	5 Mandays	5	120	600
Plucking	250 gm/Plant			

Source: Guranse Tea Estate

The table above shows the cost incurred in the seventh year of tea production. The different cost including DS, Manure, Manuring, weed control, repellant spray, drain

repairing, plucker and plucking are incurred. The plucking capacity is increased to 250gm/plant in this year.

Plucking Capacity:

Table No. 5.14
Plucking Capacity:

Year	Plucking per Plant
Third	50 gm
Fourth	100 gm
Fifth	150 gm
Sixth	200 gm
Seventh	250 gm

Source: Guranse Tea Estate

5.9 Cost of Made Tea:

Guranse tea estate incurres Rs. 487.57 per KG of made tea. The cost includes fixed and variable overheads.

The following tables showed the Break Even Point of *Guranse Tea estate* for the current year. It is seen that to stay in Break Even Point where no loss and no gain condition exist, *Guranse Tea Estate* must produce 34115 KG of made tea and 170575KG of green leaves in its garden.

Table No. 5.15
BEP point of Guranse Tea Estate

Particular	Current Year(2010)	Unit
Loss	3469081	Rs
Average Cost	488	Rs
Quantity Deficit	7115	KG
Current Production	27000	KG
BEP Point in KG	**34115**	**KG**
BEP Point of Grean Leaves	**170575**	**KG**

Source: Annual Report, Guranse Tea Estate

5.10 Export and Production of Guranse Tea estate:

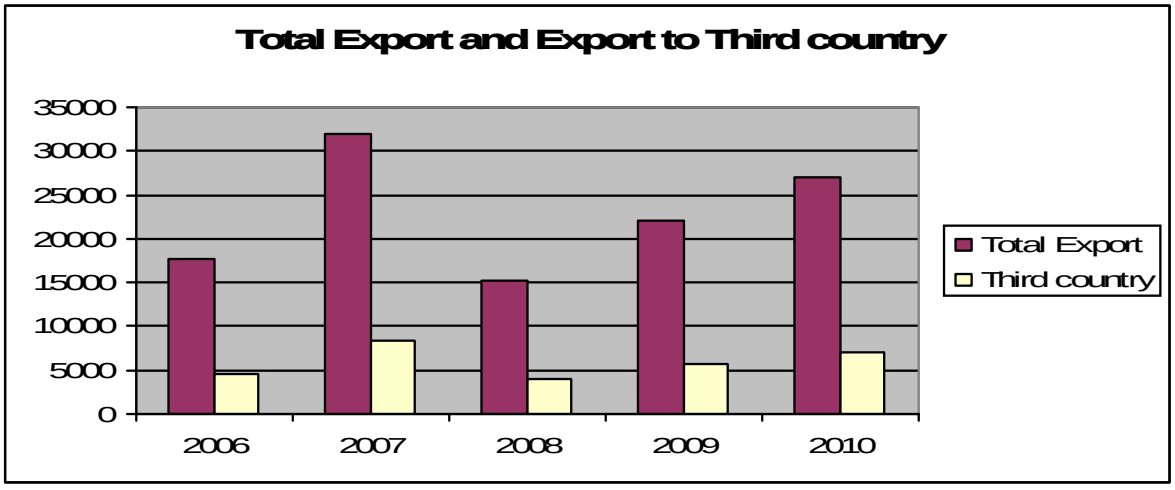
Table No. 5.16
Export and Production of Guranse Tea estate:

Year	Total Production	Export (KG)				Total Export
		Third country	%	India	%	
2006	17700	4602	26	13098	74	17700
2007	32000	8320	26	23680	74	32000
2008	15300	3978	26	11322	74	15300
2009	22100	5746	26	16354	74	22100
2010	27000	7020	26	19980	74	27000

Source: Guranse Tea Estate

The above table shows the total export made by *Guranse Tea Estate* in India and in third country. It is seen that during the study period, Guranse Tea exports 26% of total production to third country and rest to India. The table also revealed that its production is equal to its total export.

Figure No. 5.2
Total Export and Exports to Third Country

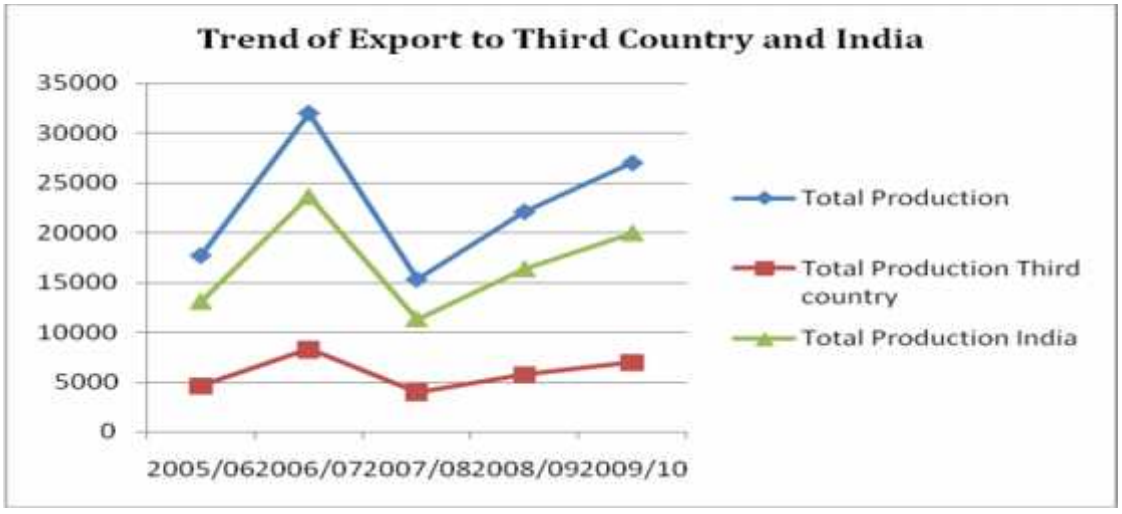


The above figure showed that the export third country was high in 2007 due to the increased in production capacity. During the study period, the export figure showed the fluctuating trend.

Figure No. 5.3
Total Export and Exports to India

The above figure showed that the export to India was high in 2007 due to the increased in production capacity. During the study period, the export figure showed the fluctuating trend.

Figure No. 5.4
Trend of Export to Third Country and India



The above figure showed that the export third country and India was high in 2007 due to the increased in production capacity. During the study period, the export figure showed the fluctuating trend.

5.11 Forecast of Production

With the total 120000 kg (*based on primary source*) of production capacity, Guranse Tea produced 14.75%, 26.67%, 12.75%, 18.41% and 22.5% in the five years of study period respectively. Its capacity utilization fluctuated during the period. The following table shows the figure.

Table No. 5.17
Yearly production (kg.) 2006 to 2010

Year	Capacity Kg	Production (KG)	%
2006	120000	17700	14.75
2007	120000	32000	26.66666667
2008	120000	15300	12.75
2009	120000	22100	18.41666667
2010	120000	27000	22.5

Source: Guranse Tea Estate

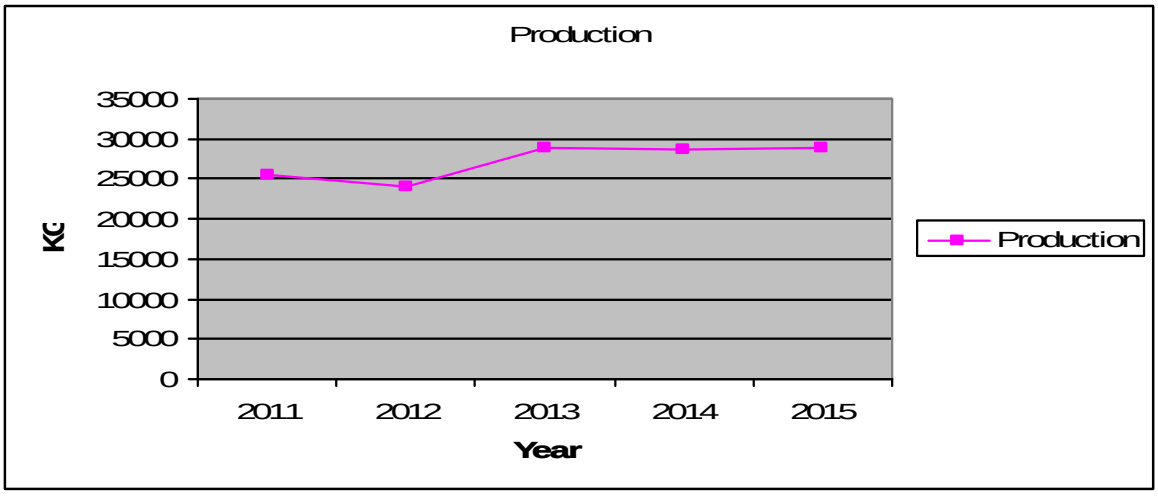
As per the data presented in above table, the data are in fluctuating trend. It affect the data forecasted. The following forecast of tea production was measure for the coming five years. The table below shows the Guranse Tea will be producing 25430 kg in the year 2011, 23934kg, 28932.2kg, 28658.76kg and 28836.90kg in the year 2012, 2013, 2014, and 2015 respectively.

Table No. 5.18
Forecast of production 2011 to 2015

Year	Production
2011	25430
2012	23934
2013	28932.2
2014	28658.76
2015	28836.908

Source: Guranse tea Estate

Figure No 5.5
Forecast trend line of production 2011 to 2015



The above figure indicates the forecast trend of tea production in different years. The figure shows that the production of tea for coming five years will also be in fluctuating trend. It is because of the fluctuation on the previous year production.

5.12. Forecast of Export

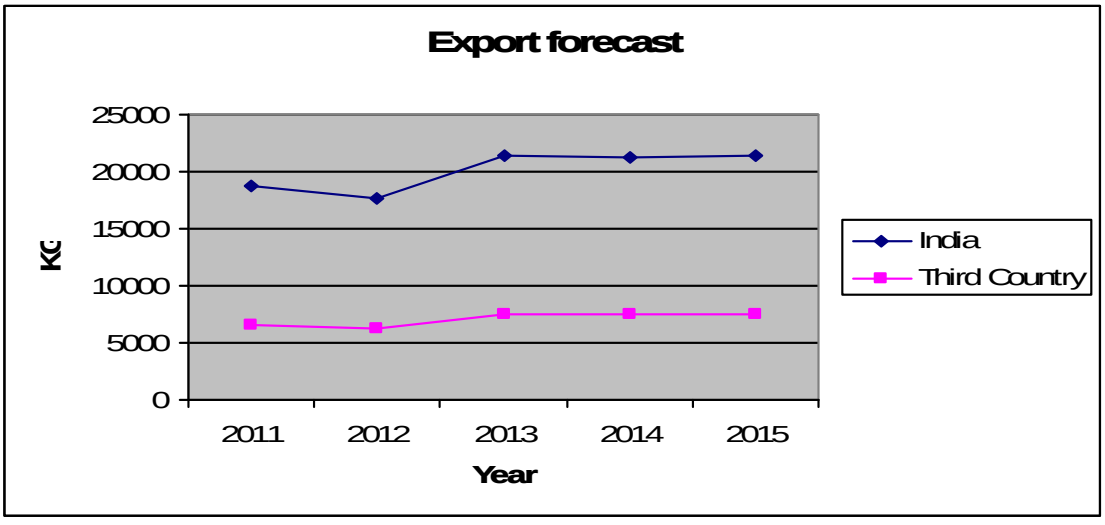
The table below shows the export forecast of *Guranse Tea Estate* for coming five years. It is seen that the export would be 18818.2kg and 6611.8 kg to India and third country respectively in the year 2011. Likewise the export will reach to 17711.16kg, 21409.82kg, 21207.48kg and 21339.31kg to India in the coming four years respectively. The export will reach to 6222.84kg, 7522.37kg, 7451.27kg and 7497.59 kg to third country for coming four years.

Table No. 5.19
Export quantity of Guranse Tea Estate (kg)

Year	Export	
	India (kg)	Third Country (kg)
2006	13098	4602
2007	23680	8320
2008	11322	3978
2009	16354	5746
2010	19980	7020
2011	18818.2	6611.8
2012	17711.16	6222.84
2013	21409.828	7522.372
2014	21207.4824	7451.2776
2015	21339.31192	7497.59608

Source: Guranse Tea Estate

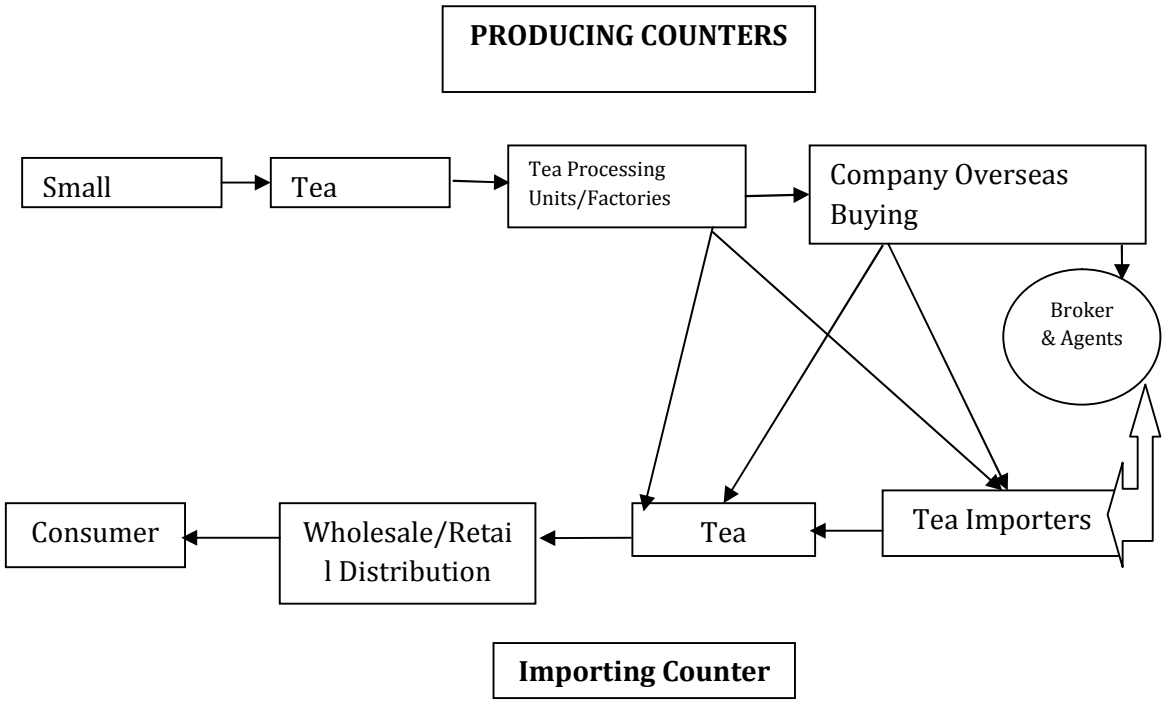
Figure No. 5.6
Export Forecast Trend Line



The figure above shows the export forecast to India and third country for coming five years. The line reflected the fluctuating trend of export. The trend line is in increasing order after the year 2012 to 2015.

5.13 Guranse Orthodox Tea Market and Market Development Efforts:

Orthodox tea produced in Guranse has a very small market within Nepal as Nepalese people use more of CTC teas as most of the general consumers are looking for cheaper segment of tea, not focusing much on flavors of tea. However, some broken grade and dust grade orthodox teas are utilized for blending by tea retailers in the local market. The normal channel of marketing of orthodox tea in international market is shown below.

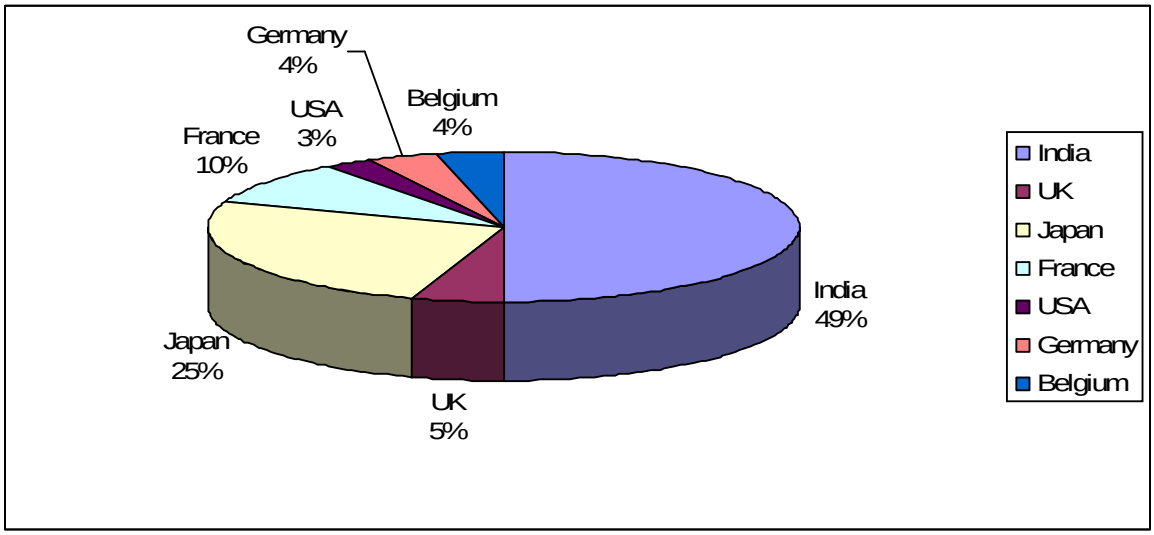


Source: www.guranseteaestate.com.np

International Market of Guranse Tea Estate:

Guranse Tea currently holds many international markets for its tea. The country including India, Japan, UK, France, Germany, USA, Belgium are the main market. The market for Guranse tea is increasing day by day. The largest market is Japan where it exports more than 50% of its total export to third country. The given pie chart below clarifies that the India is the largest market for *Guranse Tea Estate.*

Figure No. 5.7
International Market share of Guranse Tea Estate



5.14 GTE Market Share

Table No. 5.20
GTE Market Share of Nepal

(In kg)

Year	Private	GTE	Small farmers	Total	Market share % of GTE
2006	687000	17700	898687	1603387	1.10
2007	3577857	32000	1010499	4620356	0.69
2008	7714669	15300	3956535	11686504	0.13
2009	9990013	22100	6218114	16230227	0.14
2010	1236523	27000	6986538	8250061	0.33

Source: Guranse tea Estate

Figure No. 5.8
Market Share % of GTE

Source: Guranse Tea Estate

The above table and chart showed that the market share of GTE is not stable. The market share in the year 2006 is the highest until the study period. However, it is noticed that Market share has been in increasing trend since 2008.

Market Development Effort:

Market development and retaining the existing market is very much crucial for *Guranse Tea Estate.* It started with the single country in the past. The market expansion grew rapidly in the short span of time during the study period and further market is being explored by the company. It is considering other countries such as European, South American and different Asian countries too. As it exports to the world's leading country, retaining the customer is crucial. Guranse has been able to maintain and retain its customer line by maintaining tea quality. There are different tools and technique that Guranse uses to develop and retain the access market.

Contribution of GTE in Nepalese Economy

As started earlier that GTE currently have generated 45 regular and 150 seasonal employment opportunities for Nepalese society, it has contributed to the living hood of the society. Every year it is seen from the company's balance sheet and profit & loss account that GTE expenses on salary and wages, local development taxes, and other

various direct and indirect taxes has direct and indirect impact of Nepalese economy. It has also helped the Nepalese foreign market by exporting most of its production in foreign counties.

5.15 Major Findings:

- Plantation Area:
  - In the year 2006, the % of GTE plantation area was 3.34% (Table No. 5.1) of total plantation area whereas it is decreased to 1.18% in the year 2010. Similarly, the production of tea was 1.10% of total production in the year 2006 and it is lowest in the year 2008 i.e. 0.13% and it increased to 0.33% in the year 2010.
- Tea quality:
  - It is seen that 52% of SFTGFOP-1 (table No. 5.3) contributed to total production. Similarly, TGBOP, TGOF, P.D. and FLAYKEY contributed 18%, 15%, 12%, and 3% respectively in total production.
- Cost for tea plantation:
  - The initial cost incurred while preparing for the tea plantation for one Ropani of land includes nursery cost is Rs. 5/plant while there are 750 plants in one ropani of land. It took Rs. 1000/ropani for land preparation and counter Drain. There is one Kadalo required for one ropani of land.
  - The cost of tea production for 0 year time frame of production includes Rs. 1.2 is required for plantation and hole digging for one rapani of land. It took 4 man days to complete the entire job. There is cost of Rs 300 for Sip rang and 3 KGs/ Hole is generated by manuring of 30 KGs/ Doko.
  - The cost incurred for the production of tea in first year of production in one ropani of land is seen that there is 4 man days is required for weed control for a year. There is Rs 25 for sickle followed by Irrigation cost, water, Center out, Repellant Spray and cost for Spray Machine and Labor.

- Tea plucking:
    - From third year, the tea plucking process is resumed with the capacity of 50 gm/plant in one ropani of land. The plucking capacity is increased to 250gm/plant in seventh year.
- Export potential:
    - It is seen that during the study period, Guranse tea export 26% of total production to third country and rest to India.
- Production capacity:
    - With the total 120000 kg of production capacity, Guranse tea produced 14.75%, 26.67%, 12.75%, 18.41% and 22.5% in the five years study period respectively. Its capacity utilization is fluctuated during the period.
- Export forecast:
    - It is seen that the export would be 18818.2kg and 6611.8 kg to India and third country respectively in the year 2011.likewise the export would reached to 17711.16kg, 21409.82kg, 21207.48kg and 21339.31kg to India in the coming four years respectively. The export would reach to 6222.84kg, 7522.37kg, 7451.27kg and 7497.59 kg to third country for coming four years.
- Main Market:
    - The country including India, Japan, UK, France, Germany, USA, Belgium are the main market. The largest market is Japan where it exports more than 50% of its total export to third country.

CHAPTER VI

PROBLEMS AND PROSPECTS OF TEA CULTIVATION IN GURANSE TEA ESTATE

6.1 Problems:

Guranse tea estate is facing different problems associated with technology, socio-cultural factors, political factors, Legal factors, human resource, financial factors, environmental factors, and biological and geological factors. Each problem is discussed as under in different headings.

6.1.1 Market Promotional support:

In the past, Export Promotion Council of GON (currently TEPC) had extended some financial supports as a part of market promotional support. It has sponsored participation of HOTPA and HIMCOOP in International Tea Trade fairs abroad; collaborated in International Tea Events in Kathmandu, partial financial support to the organic tea exporters for paying fees for organic certification. But all these support activities had been sporadic and with no continuity.

6.1.2 Constraints Regarding Tea Production in Guranse Tea Estate

Constraints seen at different level of orthodox Tea Value Chain:

- **Inputs:** There have been many problems associated with inputs of orthodox tea production like every tea estate in Nepal. Guranse Tea Estate is facing acute shortage of professional human resource. There is few tea estate which procedure tea production professionals in our country. The second problem in terms of non skilled men power is still lacking because of brain drain. Similarly, regarding encouraging and promotional attitude of government towards Orthodox tea production.
- **Diseases :** Newer diseases like blister, threeps, Milets etc attacking the tea crops in Guranse Tea Estate has appeared to be one the major problems. Since chemical pesticides cannot be used in the estate there has been no availability of organic pesticides to lack of innovative technology.

- **Environment :** Regarding environmental constraints, the Estate suffer both from the excess of water during monsoon and shortage of proper irrigation facilities during dries seasons. Because this tea estate is located in high hills, excessive rainfall is likely to damage tea crops (quality).
- **Political Instability :** Due to political instability and lack of government' clear vision regarding orthodox tea production, various tea estates including Guranse Tea Estate appear helpless.
- **Production:** The problems associated with the production of orthodox tea include Low productivity compared to all orthodox tea, Limited knowledge of technology, Labor shortage, and Lack of smooth working relationship. Uneven quality of green leaf arriving at varied point in time resulting in inferior quality tea, Lack of technical human resources to manage the processing factory to obtain quality consistency in the product, High production cost resulting from poor management, machinery and energy use efficiencies, Electricity load shedding and frequent power supply interruption, and Frequent closer of road, and factories and excess extortion of political parties are also seen as problems of the Guranse Tea Estate.
- **Trade related Problems:** There are still various problems associated with the trade of produced tea. Some of the problems includes Brand image yet to be establish widely to make global buyers aware of Nepal tea and their quality, Inadequate market promotion, Inadequate marketing network and linkages, Not getting even minimum support in market promotion by Govt. like in India and SriLanka, Accredited and equipped laboratory is not available in Nepal to meet international testing, No research facilities including for promotional and marketing linked, No market information system available to give guidance on current trends, price movements in other auction centers, changes in consumption habits, Export is not supported by Government i.e. VAT refund problem, and Delays holdups at transit port at Calcutta/India.

6.2 Prospects

The major buyers of tea from HIMCOOP are from European community (mainly Germany, France, and UK), US and some CIS countries.

Crucial support required at this phase of development is to promote Nepalese tea in the domestic and international markets so that there will not be serious setbacks in the production front for want of market. Recently adopted Commerce Policy (2009) has recognized the need for coordinated approach between different line agencies and tried to address many missing policy measures for making Nepalese tea more competitive in the international market. It has also spelt out the need for institutional capacity development of private sector agencies like commodity associations and private sector or cooperative export houses and has promises to extend necessary supports to these organizations in this line.

As concerned with GTE, it has a great prospect on the side of production, distribution and employment creation in the country. The Government Strategic plan 2010-14 showed the various opportunities in the tea sector development. Guranse tea estate must cash up the strategy to build the Nepalese tea market in the world. Although, GTE is currently producing less than 30% of its total production capacity; it has a huge prospects ahead if it expands its current production to boost up its profit and quality.

The following table of strategic plan 2010-2014 reflected the number of prospects in the field of tea sector that GTE can enjoy.

Strategic Plan and Activities (2010-2014):

Strategy/Activity Area	Strategy/Activity Area
1. Production Productivity and quality 1.1 Review, update, endorse and implement the national Tea Policy (including issues related to incentives & subsides for inputs) 1.2 Review current status of existing co-operatives and strengthen those with the potential for growth. 1.3 Support expansion of tea plantations and manufacturing capacity of industries 1.4 Promote and implement organic system production. 1.5 Strengthen monitoring system for quality production. 1.6 Develop quality certification mechanism in the private and public sector.	**4. R & D Centre** 4.1 Establish Tea Research & Training Institute (TRTI) 4.2 Strengthen capacity of TRTI for effective management and operation. 4.3 conduct study/research on soul profile, climatic situation and carry out GIS mapping of tea growing areas. 4.4 Establish internationally recognized made-tea analysis lab. 4.5 Support TRTI to develop sustainable tea technology (including organic farming practices) and extension management. 4.6 facilitate establishment of nurseries and quality clone development. 4.7 Facilitate adoption of improved technologies and monitor this.
2. Marketing and Promotion 2.1 Develop a comprehensive strategy for marketing and promotion of Nepal Tea. 2.2 Establish an international standard tea cleaning and blending facility (with support from the private sector and GON) 2.3 Provide support for product diversification, creative packaging and value addition to the private sector stakeholder. 2.4 Support visit of Nepal Tea delegation and participation in trade fairs, seminars/workshops to selected countries such as UK, Germany, Japan, Australia, Middle-East etc. 2.5 Organize campaigns for promotions of Nepal Tea through NRN's, Nepalese embassies and other diplomatic channels, Continue interactions with Tea Associations and similar bodies in importing countries. 2.6 Establish a Tea Auction Centre after a study of regional and international best practices in similar efforts. 2.7 Mobilize and advocates for government support for transportation subsides (air and land transport) 2.8 Support establishment of collection centers from small holders/farmers.	**5. Capacity Building** 5.1 Conduct needs assessment of various stakeholders. 5.2 Develop appropriate curricula and training programs. 5.3 Conduct training programs and other capacity building measures. 5.4 Regularly review and update training programs based on emerging needs and requirements of the stakeholders.. 5.5 Enhance skills and expertise for quality practices for tea at all levels (added) **6. NTCDB Strengthening** 6.1 Conduct an externally facilitated in-depth self assessment and organizational needs assessment. 6.2 formulate an OD (organization development) and HRD (human resource development) Strategy. 6.3 Re-design the organizational structure of NTCDB based on this strategic plan (including establishing departments such as Promotion, Research, and Licensing etc). 6.4 Recruit and train additional competent human resource (e.g. Program Manager, Tea Marketing Officer etc). 6.5 Mobilize and acquire resources for implementation of this plan (from GON, international agencies etc..) in collaboration with Associations.

3. <u>Tea Sector Development</u> 3.1 Strengthen producers associations and co-operatives. 3.2 Establish database for tea sector and update regularly. 3.3 Establish and maintain linkages with national and international agencies. 3.4 Facilitate establishing linkage between financial institutions and tea stakeholders. 3.5 Support formation of Tea Coordination Committee with active participation of all stakeholders for the implementation of this strategic plan. 3.6 Advocate with financial institutions for easier access to finance for farmers and private sectors.	6.6 Construct appropriate infrastructure for Tea Board (cent5er, regional and extension points). 6.7 Establish and operationalize an effective monitoring system. 6.8 Strengthen networking (nationally and internationally), lobbying and advocacy functions of NTCDB.

The above table showed that the prospective plans has been formulated by the government to boost up the tea sector of Nepal on various issues relating to Production Productivity and quality, R & D Centre, Marketing and Promotion, Capacity Building, Tea Sector Development and NTCDB strengthening. This can ultimately leads every tea estate to the greater prospects and GTE would not be bias from those prospective measures.

The following major prospects can be traced out based on the above table:

- GTE has a prospect on Employment creation in the country
- GTE can contribute to the Economic development of the nation.
- Using modern tools and technique for tea plantation, GTE can enjoy the competitive advantage.
- GTE can run on its full capacity in the near future.
- Can enjoy the position of market leader in the field of orthodox tea production sector.

Thus it can be concluded that GTE would be benefited by the strategic plan of government as well as by utilizing its own internal resources in an optimum level.

CHAPTER-VII

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Summary

This study is carried to visualize the problems and prospects of orthodox tea production of the study area. It gains knowledge about the orthodox tea production. *Guranse tea estate* is one of the leading industries in orthodox tea production. There are many problems in orthodox tea production. Lack of market, transportation, awareness etc. is some major problems of orthodox tea production. The study covered the following research questions.

a. What is the status of tea production in Nepal?
b. What is the production situation of orthodox tea in Guranse tea estate?
c. How is the market condition of orthodox tea?
d. What are the major problems and prospects of orthodox tea production?

General objective of this research study is to examine and evaluate the problems and prospectus of orthodox tea especially that of *Guranse Tea Estate,* in order to achieve the objective, both descriptive and analytical research design has been followed. The study focuses on the examination of relationship between those variables that influence-production and marketing decisions of the sampled organization hence; it is an ex-post factor research.

Tea production and cultivation are not new phenomena. Both Nepalese and foreigner people have made a series of study on tea. For preparing this thesis, the selected books, dissertations, reports and articles have been reviewed.

A book on Competitiveness in Global Tea Trade (2004) and Global Tea Scenario: 2001 examines global demand for and the supply of tea by estimating semi-log trends separately using data of the recent past, 1974 to 1988, on the area under cultivation of tea, production, exports and the retention of tea for domestic consumption. Likewise another book the Japanese Way of Tea described about the history of tea in the world.

Similarly, Development of a productivity measurement model for Tea industry, a research conducted by Department of Mechanical Engineering, National Institute of Technology, Silchar, Assam, proposed a relatively simple productivity measurement model suited to tea industry.

Another study on Attractiveness of Tea Industry in Bangladesh: A Projection Based on Porter's Five Forces Model, determined the attractiveness of Tea Industry (producers/gardeners) in Bangladesh based on the well known Porter's Five Forces Model of Industry Analysis. The study includes identifying the barriers to entry, understanding the rivalry among established companies, determining the bargaining power of buyers, verifying the bargaining power of suppliers, and tracing the substitute products and their threats.

Although there has been extensive research made on orthodox tea production and its problem and prospectus on global market place, it is not going as it should be. In case of Nepal different research paper has been published to identify the problems and prospectus of orthodox tea covering different area as a research area. During literature review it is found that there is no any research done by taking *Guranse Tea estate* as a case study.

Going back to the history of tea, Tea drinking originated in China and the word tea is derived from t'e of the Chinese Fukien dialect. The Dutch introduced it to Europe. In Cantonese, tea is known as Ch'a and this is the name by which this wonderful beverage came to be known in Japan, India, Russia, Iran and the Middle East. The first authentic reference to tea was made in an ancient Chinese dictionary revised by Kuo P'o, a celebrated Chinese scholar in AD 350.

Tea, the world's second most popular beverage (next to water) is prepared from the leaves of Camellia sinensis plant. There are mainly six types of teas, which are made from the same species of plant, but with different processing techniques. They are known as white tea, green tea, black tea, yellow tea, oolong tea and pu-erh tea. Tea has a long history of being used as a beverage and it was widely used in ancient China to

treat a number of health conditions. In modern times, tea has become a subject of extensive scientific research and studies, many of which have highlighted some unique and important qualities of tea, which can help to lower the risk for a wide range of diseases and disorders.

Regarding production of tea, the Asian region produces a varied range of teas and this, together with a reputation in the international markets for high quality, has resulted in Asia enjoying a share of every importing market in the world. Africa, South America and the Near East also produce quantities of tea. Huge populations of Asia, UK, EU, Middle East, Africa and countries of the CIS consume tea regularly and throughout the day.

Though tea has a long history worldwide, but in Nepal, sometime around 1873 A.D., Colonel Gajraj Singh Thapa, son-in-law of the famous Rana Prime Minister, Jung Bahadur, was on a tour of Darjeeling. He was impressed by the sight of the young tea plants and the tasty drink he was offered everywhere he went. Having a fond travel memory was not enough, so upon his return he was determined to grow the beverage in his own. The colonel soon set up two plantations - the Ilam and Soktim tea estates, 103 acres each - and so began Nepal's tea industry.

The first production of Nepalese tea was Orthodox. And for more than 100 years, Nepal’s tea industry remained largely under government/ruling class domain. With reform in the early nineties, Nepalese tea is became grown by primarily by small holders unlike tea grown in some other countries. There are score of farmers' organization, cooperatives, and associations involved in promoting tea in the project area. Establishment of farmers organizations like producer‘s cooperatives and district cooperative unions are a new phenomenon and are in a process of development.

Nepal offers a diverse range of teas including seedling and clonal varieties. Greens and blacks are mostly manufactured in CTC style however, Orthodox styles, with a very few gardens producing organic and Fair Traded teas are becoming increasingly more prominent. The high altitudes of the Himalayas and the close proximity of Darjeeling

across the Indian border means Nepal teas have Darjeeling-like characteristics. Of unique distinction to Darjeeling's, Nepali tea liquor can be darker and typically offers a more delicate and very lightly sweet flavor.

In this study *Guranse Tea Estate* Pvt. Ltd. is taken as a sample company that is one of the subsidiary industries of the Vaidya's Organization of Industries and Trading House (VOITH). For over four decades, VOITH remains at the forefront of the country's private sector development; well known for its commitment to quality, excellence and professionalism. Because Guranse Tea aims at producing only the finest high grown orthodox tea, its scientific method of cultivation is totally bio-organic. *Guranse Tea Estate* is Certified Organic by NASAA (National Association for Sustainable Agriculture Australia Ltd.), ISO 9001:2000 by Premier Certification Body TUV Rheinland in the year 2001, A member of American Premium Tea Institute (APTI), and a member of the 2001 Specialty Tea Registry (STAR) A division of the Tea Association of the USA, Inc.

The production process includes plantation, plucking & pruning, withering, rolling, sorting, fermenting, firing, grading, tasting and packaging of the tea. With the total 120000 kg of production capacity, Guranse tea produced 14.75%, 26.67%, 12.75%, 18.41% and 22.5% in the five years study period respectively. Its capacity utilization is fluctuated during the period. In the year 2006, the % of GTE plantation area was 2.68% of total plantation area whereas it is decreased to 0.95 % in the year 2010. Similarly, the production of tea was 1.10% of total production in the year 2006 and it is lowest in the year 2008 i.e. 0.13% and it increased to 0.33% in the year 2010. It is seen that 52% of SFTGFOP-1 contributed to total production. Similarly, TGBOP, TGOF, P.D. and FLAYKEY contributed 18%, 15%, 12%, and 3% respectively in total production. The initial cost incurred while preparing for the tea plantation for one Ropani of land includes nursery cost is Rs. 5/plant while there are 750 plants in one ropani of land. It took Rs. 1000/ropani for land preparation and counter Drain. There is one Kadalo required for one ropani of land. The cost of tea production for 0 year time frame of production includes Rs. 1.2 is required for plantation and hole digging for one rapani of land. It took 4 man days to complete the entire job. There is cost of Rs 300 for Sip rang and 3 KGs/ Hole is generated by manuring of 30 KGs/ Doko.

The cost incurred for the production of tea in first year of production in one ropani of land is seen that there is 4 man days is required for weed control for a year. There is Rs 25 for sickle followed by Irrigation cost, water, Center out, Repellant Spray and cost for Spray Machine and Labor. From third year, the tea plucking process is resumed with the capacity of 50 gm/plant in one ropani of land. The plucking capacity is increased to 250gm/plant in seventh year.

It is seen that during the study period, Guranse tea export 26% of total production to third country and rest to India. It is also seen that the export would be 18818.2kg and 6611.8 kg to India and third country respectively in the year 2011.likewise the export would reached to 17711.16kg, 21409.82kg, 21207.48kg and 21339.31kg to India in the coming four years respectively. The export would reach to 6222.84kg, 7522.37kg, 7451.27kg and 7497.59 kg to third country for coming four years.

The country including India, Japan, UK, France, Germany, USA, Belgium are the main market. The largest market is Japan where it exports more than 50% of its total export to third country.

Guranse tea estate is facing different problems associated with Technology, Socio-cultural factors, Political factors, Legal factors, Human resource, financial factors, environmental factors, and Biological and Geological factors. Lack of irrigation facility due to lack of sources, Different diseases on plant also hampers like blister, threeps, Milets etc., Non existence of professionals and labor shortage, Poor access to finance Costs of inputs are some of the problems associated with input, production, processing, and export or trade of the made tea.

Recently adopted Commerce Policy (2009) has recognized the need for coordinated approach between different line agencies and tried to address many missing policy measures for making Nepalese tea more competitive in the international market. As concerned with GTE, it has a great prospect on the side of production, distribution and employment creation in the country. The Government Strategic plan 2010-14 showed the various opportunities in the tea sector development. *Guranse tea estate* must cash

up the strategy to build the Nepalese tea market in the world. Although, GTE is currently producing less than 30% of its total production capacity; it has a huge prospects ahead if it expands its current production to boost up its profit and quality.

Thus it can be concluded that GTE would be benefited by the strategic plan of government as well as by utilizing its own internal resources in an optimum level.

7.2 Conclusion:

The following conclusion has been made after gone through this research study.

- The production of tea is gradually increasing, employment status is very satisfactory
- If government would help in financial, technical and other aspects of the tea industry, it will ultimately reduce the import from India. This would increase the government revenue by creating employment opportunities.
- GTE has very low productivity due to this price of tea is very high than other tea farming. For this tea farming GTE must increase in productivity of labor by providing training and better equipments.
- Organic farming is prospective in every aspect although there are some problems like technical knowledge, lack of market, irrigation etc.
- Demand of orthodox tea is very high in local and international market. In every year the export of organic tea production in GTE is 100% of its total production.
- Average green leaves price 50 Rs/kg during the study period.
- Guranse tea estate is facing different problems associated with Technology, Socio-cultural factors, Political factors, Legal factors, Human resource, financial factors, environmental factors, and Biological and Geological factors.
- Although GTE is suffering from different problems, it has a great prospects in tea market sector.

7.3 Recommendations

Following Recommendation for the promotion of *Guranse Tea Estate* have been made:

1. Program Activities:
    - Technical manpower development, research center establishment, laboratory establishment for testing the quality and pesticide residual level.
    - Market searching support and quality inputs availability with reasonable rate must be developed.
2. Price Fixation:
    1. Price fixation of green leaves as according to their cost with participating in farmer's representative and stakeholders.
3. Quality of Tea:
    - GTE must develop a goal to make Nepalese Tea Industry -a globally competitive tea industry. It should aim at producing some of the world's best teas.
4. NTCDB role:
    - For achieving the above goals, coordinated efforts of the GON agencies, value chain stakeholders and other development agencies involved in the subsector are very important and the roles specified in the Strategic Plan of NTCDB and additional roles should be given due consideration.
    - Some changes in the approaches and the NTCDB's operational modality should also be considered and the plan and programs put forward in the Tea Sector Strategic Plan (2010-2014) and additional programs suggested for organic movement should be implemented as soon as possible.
    - Orthodox tea estate like Guranse Tea Estate are suffering from various problems from shortage of skilled/non-skilled human resources to neglect of government. For the promotion and expansion of orthodox tea production in Nepal, government has to set clear vision launching different governmental institutes for financial and technical support.

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Questionnaire Used for Interview with Concerned Personnel in Guranse Tea Estate

A. To examine the status of tea production in Guranse tea Estate following questions has been asked to the respondent.

1. What is your total garden area ?

   _____

2. What is your yearly total production capacity ?

   _____

3. What is your average yearly production currently ?

   _____

4. What types of tea does your organization procedure ?

   _____

5. Which technology does your estate used ? Please specify the technology.

   _____

6. What is the best period to procedure tea in your estate ?

   _____

7. Does your estate classify the tea on the basis of tea price ?

   Yes No

   _____

   _____

8. What is your yearly cost of production ?

   _____

9. What is your yearly sales ?

   _____

10. What is your channel list and their margin ?

    _____

B. To examine the market condition of orthodox tea following questions has been asked to the respondent.

1. Is Nepal your prime place ?

   Yes No

2. If No, what is your prime market place ? Please state country wise.
   1. _____
   2. _____
   3. _____
   4. _____
   5. _____
   6. _____
   7. _____
   8. _____

3. What is your total yearly export to India ?

   _____

4. What is your total export to third country ?

   _____

5. Where/ which type of orthodox tea is in more demand ?

   _____

C. To identify the problems and prospects of the orthodox tea production.

1. Is there any problem facing tea estate ? Please specify according to the table.

S.N.	Technology	Socio-Cultural	Political	Legal

S.N	Human Resource	Environment	Biological	Geological

2. Is there any financial problem associated with tea production ?

   Yes No

   _____

   _____

   _____

3. Is there any problem associated with disease of tea plant ? Please specify.

   _____

   _____

   _____

4. Is there any irrigation problem for tea production ? Please specify.

   _____

   _____

   _____

5. In what extend does the supply affect your estate ? How you manage the under supplied ?

   _____

   _____

   _____

6. In your opinion, how is the future of tea production in Nepal ?

   _____

   _____

7. To achieve the future potential of tea production, what remedies should government apply ?

_____

_____

_____