NEPAL TEA

QUALITY FROM THE HIMALAYAS

NEPAL TEA CTC | NEPAL TEA GREEN | NEPAL TEA ORTHODOX

Success Story

Linking Farmers to the Global Market

Tea Production and Export Development in Nepal

Asia-Pacific Association of Agricultural Research Institutions

4th Floor FAO Annex Building, 202/1, Larn Luang Road,
Klong Mahanak Sub District, Pomprab Sattrupai District,
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The APAARI disseminates free and up-to-date stories of selected agricultural and related subjects particularly for the benefits of the stakeholders in the Asia Pacific Region. This success Story has been written by Murari Prasad Gautam Upadhyay, International Trade Consultant, under the overall guidance of Dr. Ravi Khetarpal, Executive Secretary, and meticulously reviewed and edited by Fai Collins Dzernyuy, Knowledge Management Coordinator of the APAARI.

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Front Cover **:** High Hill Tea Garden in Ilam District of Nepal

Back cover **:** Tea Displayed at a Super Market in Kathmandu

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Foreword

Sixty percent of the world population lives in the Asia-Pacific Region. Out of this, about 40 percent live in rural areas under extremely poor condition with a majority of their livelihoods based on agriculture. APAARI focuses on strengthening research and innovations for inclusive and sustainable agriculture development with a view to contributing to overall economic growth by addressing hunger, poverty, environmental degradation and sustainable production system in the Asia Pacific region. APAARI is a regional knowledge hub with all quality and user's friendly data, information, and publications linking agriculture actors viz. researcher, academia, policy makers and other stakeholders.

This publication highlights on how value chains and product upgrading in Nepal can contribute to rural economic transformation through linkages between small farmers and large market network to enhance positive outcomes and contributions to attain inclusive Sustainable Development Goals (SDGs). The main objective of this document is to share the lessons learnt on how Nepal achieved a quantum leap in tea production and how small farmers could be linked with the global market over a period of two decades. Tea has become an emerging sub-sector of the Nepali economy since mid 1990s with the gradual evolution of a positive business environment coupled with increase in demand, price and consumption in the global market.

In 2017 Nepal was Tenth largest exporter among the countries in the Asia-Pacific region and Twentieth largest exporter in the world. Tea is produced in 19 out of 76 districts in Nepal and in fourteen years, tea export grew dramatically by 640 percent in terms of value and by 263 percent in terms of quantity. As many as 32,000 rural farmers' families are working in tea related activities and this has enhanced their livelihoods as an alternative to traditional low yielding subsistence farming. As a positive outcome of inclusive development, poverty has been significantly reduced and food security increased in the major districts of Mechi and Koshi corridors of Eastern Nepal. With production of about 24,700 MT in 2017/18, tea as a single crop is contributing about one percent in total agriculture GDP of Nepal.

This publication attempts to present global, regional and national trends of production and trade; value chains system in Nepal; and forces behind success with major lesson learnt in the past. It is expected that all information in this story and the recommended measures will draw attentions of policy makers, administrators,

researchers, farmers, industries, and other stakeholders in deriving lessons and planning to promote tea or similar crops for enhanced productivity, rural livelihood growth and environmentally and socially sustainable agricultural system in the Asia-Pacific region.

I wish to acknowledge meticulous efforts of Mr. Murari Prasad Gautam Upadhyay, International Trade Consultant, in preparation of this publication and express my sincere thanks for his collaboration with the APPARI. I also would like to express special thanks to all individuals and institutions for providing valuable information on tea development in Nepal including NTCDB, HOTPA, CTCF, NARC and TEPC.

Also the meticulous editing of the document by Fai Collins, Knowledge Management Coordinator of APAARI needs special appreciations.

I hope the document will be of immense inspiration for developing and least developed countries in the region and even elsewhere to link farmers with the markets.

Ravi Khetarpal
Executive Secretary, APAARI

Acronyms and Abbreviations

ABF	Agriculture Biologique France
ADS	Agriculture Development Strategies (2015-2035)
AEC	Agri-Enterprise Centre of the FNCCI
AGOA	African Growth Opportunity Act
AICL	Agriculture Input Company Ltd.
AIT	Advance Income Tax
APAARI	Asia-Pacific Association of Agricultural Research Institutions
ASEAN	Association of Southeast Asian Nations
ATV	Advance Treat VAT
BBIN	Bangladesh, Bhutan, India and Nepal
BIMSTEC	Bay of Bengal Initiative for Multi-sectoral Technical and Economic Cooperation
CD	Customs Duty
CFL	Central Food Laboratory of India
CSID	Cottage and Small Industries Department
CSIDB	Cottage and Small Industries Development Board
CTC	Crush/Cut, Tear and Curl
CTCF	Central Tea Cooperative Federation Ltd.
DADO	District Agriculture Development Office
DFTP	Duty Free Tariff Preference
DFTQC	Department of Food Technology and Quality Control
DFQF	Duty Free Quota Free
DOA	Department of Agriculture
DP	Development Partners
EBA	Everything-But-Arms
EU	European Union
EUOC	European Union Organic Certification
FAO	Food and Agriculture Organization of the United Nations
FSSAI	Food Standards and Safety Authority of India
FNCCI	Federation of Nepali Chamber of Commerce and Industries
FTG	Fair Trade Group
GAP	Good Agricultural Practices
GDP	Gross Domestic Products
GON	Government of Nepal

GSP	Generalized System of Preferences
HACCP	Hazard Analysis and Critical Control Points
HIMCOOP	Himalayan Tea Producers' Cooperative Ltd.
HOTPA	Himalayan Orthodox Tea Producers Association
IMO	Institute for Marketecology Switzerland
ISO	International Standards Organization
ITC	International Tea Committee
ITC	International Trade Centre of UN
JAS	Japanese Agricultural Organic Standards
JICA	Japan International Cooperation Agency
Kg.	Kilogram
LDCs	Least Developed Countries
MoALD	Ministry of Agriculture, Livestock Development
MoICS	Ministry of Industry, Commerce and Supplies
MRL	Minimum Residual Limits
MT	Metric Ton
NARC	Nepal Agriculture Research Council
NASAA	National Association for Sustainable Agriculture Australia
NBSM	Nepal Bureau of Standard and Metrology
NCARP	National Commercial Agricultural Research Programme
NEAT	Nepal Economic, Agriculture and Trade Program of the USAID
NOC	No-Objection-Certificate
NOCP	National Organic Certification Program
NTCDB	National Tea and Coffee Development Board
NTDC	Nepal Tea Development Corporation
NTIS	Nepal Trade Integration Strategies
NTPA	Nepal Tea Planters Association
PPP	Public Private Partnership
QTY	Quantity
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Free Trade Area
SD	Supplementary Duty
SNV	Stichting Nederlandse Vrijwilligers (Netherlands Development Organization)
SPS	Sanitary and Phyto-Sanitary
STAN	Specialty Tea Association of Nepal
TEPC	Trade and Export Promotion Centre
UAE	United Arab Emirates
UK	United Kingdom
USA	United States of America
USAID	United States Agency for International Development
VAT	Value Added Tax

1 Background

1.1. Introduction

Tea is a beverage made from the *Camelia asamica* and *Camellia sinesis* plants and its economic and cultural significance makes it the most consumed drink in the world after water. Historically tea was consumed in China 5,000 years ago, during the Qin Dynasty and production started in China, India, and Myanmar. Its consumption is also liked to health and wellbeing reasons. Sugar-free black and orthodox specialty teas are promoted by linking their properties to lowering the risks of cancer, heart disease, and stroke. It is forecasted that in the next decade the tea market is likely to increase by 40 per cent.

Nepal is a mountainous landlocked country situated between the two largest tea producing and consuming nations of the world; China and India. The first tea bush was planted in Ilam district from seeds given as a gift by the Chinese Emperor to the then Prime Minister, Jung Bahadur Rana around 1863[1]. The first tea factory was established in Ilam in 1878 (1935 AD). though the history of modern commercial tea production and export is quite recent. Tea has positive outcomes in inclusive and sustainable rural economic development in Nepal. Coupled with favourable business environment and gradual increase in global market demand, the consumption of tea has become an emerging sub-sector of the Nepali economy since the mid 1990s.

Tea is now produced in more than 19 districts of Nepal and within the past 14 years tea export has grown dramatically by 640 per cent (7.4 times) in value and 263 per cent (3.6 times) in quantity in 2017 as against 2004. Combined with the liberalization and privatization policies the tea sector witnessed remarkable growth that increased contributions to the economy in a short span of time. In 2017 Nepal was the 10th largest exporter among the Asian countries and the 20th largest exporter of tea in the world. Tea has therefore become a major exportable agricultural cash crop that has established outstanding linkage between small farmers and the global market. It is providing sustainable and enhanced livelihoods to a large number of rural small farmers and traders. This document assesses the status and issues of tea production and export development in Nepal. Itelucidates achievements and lessons learned; presents forces behind the success; and offers useful recommendations to small tea producing and exporting countries in the Asia and Pacific regions.

[1]National Tea and Coffee Development Board (NTCDB), www.teacoffee.gov.np

1.2. Global Trends

In two decades, global tea **production** has more than double; from 2.53 million MT in 1995 to 5.73 million MT in 2016 and export also increased by 90 per cent from 1.1 million MT to 2.08 million MT during the same period. Export of tea constitutes about 36 per cent of the global market. Noticeably, consumption is also increasing in line with production (Table 1). In 2021 overall size of the global tea beverage market is forecasted to attain US Dollar 44.3 billion representing an increase from US 34.9 billion in 2013 and 38.2 billion in 2016[2].

Table 1. World Production, Export and Consumption - '000 MT

Year	Production	Export	Consumption
1995	2,525	1094	2,500*
2007	3,855	1,894	3,728
2008	3,965	1,898	3,836
2009	4,018	1,846	3,909
2010	4,281	2,013	4,154
2011	4,562	2,040	4,421
2012	4,693	2,042	4,531
2013	4,993	2,214	4,684
2014	5,200	2,137	4,845
2015	5,282	2,013	4,999
2016	5,730	2,079	5,500
2017	5,500*	2,022	5,500*

*Sources: FAO for Production, ITC/MAT for Export and International Trade Committee (ITC) for Consumption. *Estimated Figures.*

The Food and Agriculture Organization (FAO) reported an increase in global tea production by 4.4 per cent annually over the last decade and this was predicted to reach 5.73 million MT in 2016[3]. China accounted for almost 43 per cent of global tea

CTC, orthodox & green teas

[2]Statista 2018, Statistics, Global Tea Beverage Market Size
[3]FAO Report, Global Tea Production and Consumption, May 2018.

production having more than double from 1.17 million MT in 2007 to 2.44 million MT in 2016. Similarly, production in India (22%), the second largest producer, increased to a record 1.27 million MT, due to favourable weather conditions. Kenya, Sri Lanka and Turkey followed the two largest producers with 8, 5 and 5 per cent respective shares in the world production (Chart 1).

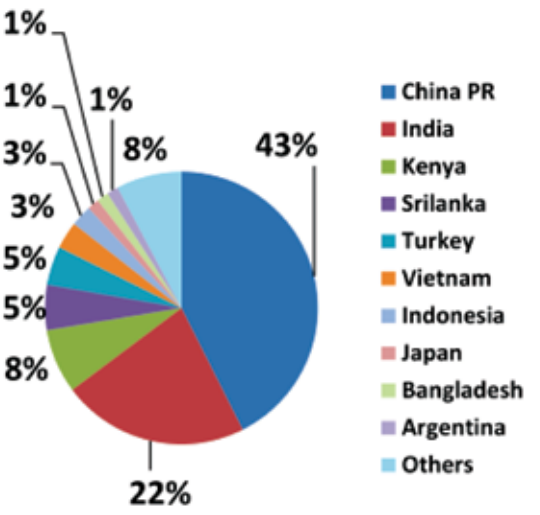
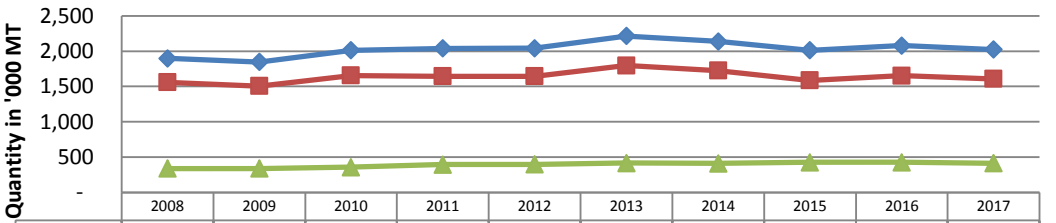


Chart 1. *World's top ten tea producing countries 2016*

Sources: FAO, Country Reports and Others.

The global production of black and green teas is projected to rise over the next decade and reach to 8.0 million MT in 2027. In the past decade, the global production share of green tea increased from 18 per cent in 2008 to 20 per cent in 2017 (Chart 2). Production of black tea was foreseen to rise annually by 2.2 per cent during the same period to reach 4.4 million MT. This is supported by increase in output of major exporters like China, Kenya and Sri Lanka. Likewise, the output of green tea is forecasted to increase annually at a faster rate of 7.5 per cent to reach 3.6 million MT. Such an increase will be largely driven by China, where the production of green tea is expected to more than double from 1.5 million MT in 2015-2017 to 3.3 million MT in 2027[4].

The world tea **consumption** also increased annually by 4.5% (5.5 million MT) over the decade up to 2016. The FAO has projected that the global tea consumption will keep rising over the next decade, driven by robust demand in developing and emerging countries. This will also create new rural income opportunities and improve



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total	1,898	1,846	2,013	2,040	2,042	2,214	2,137	2,013	2,079	2,022
Black	1,560	1,507	1,654	1,645	1,645	1,797	1,725	1,585	1,652	1,608
Green	338	339	359	395	397	417	412	428	427	414

Chart 2. *World tea export - quantity*

Source: ITC, Trade Map

[4]FAO, Intergovernmental Group on Tea, World Tea Production and Trade, Current and Future Development, Kaison Chang, May 2018.

food security in tea-producing countries. Consumption of tea is rising mainly due to increase in standards of living and diversification in product supply (including green tea and specialty items like herbal teas, fruit fusions and flavoured gourmet teas). Additionally, improved awareness of health and wellbeing benefits including the tea's anti-inflammatory, antioxidant and weight loss effects are boosting global consumption growth.

Young urban consumers in major producing countries are the fastest growing segments who are eager not only to pay a premium for specialty teas but also curious to know the origin and specifications of tea - its quality and contribution to sustainable development. In the meantime the upper-middle class consumers are attracted to specialty gourmet teas at exclusive teashops, restaurants, hotels and cafes. Consumers have also become conscious of negative impact of other beverages like regular and diet soda, carbonated drinks and packed milk.

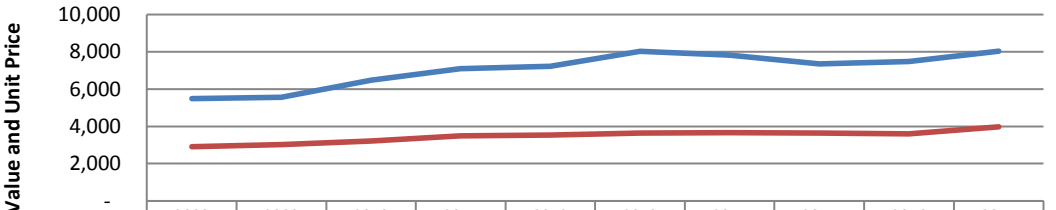
Major tea consuming countries are based in Asia and Pacific (Annexure 1). The International Tea Committee has reported that the highest per capita tea consumptions are between 6 and 1 kg in seven countries, namely Turkey, Ireland, UK, Russian Federation, Morocco, New Zealand, Egypt and Poland. Tea is annually consumed between half and one kg per capita in about a dozen countries including Japan, Saudi Arabia, South Africa, Netherlands, Australia, Chile, UAE, Germany, China. Comparatively low per capita consumption is reported in many other countries including Portugal, Spain, ASEAN and Spanish speaking countries of South America countries (Annexure 2).

The World production growth rate remained higher than export growth rate attracted by a rise in global market price. In one and half decades **global export market** for tea (black and green) increased by 35 per cent in quantity and by 170 per cent in value; with the gradual increase in average market price from US$ 1.97 per kg to US$ 3.97 per kg. In 2017, export quantity recorded 2,022 thousand MT; an increase from 1502 thousand MT in 2001. Similarly export value increased from US$ 2.97 billion in 2001 to US$8.03 billion in 2017 (Chart 2 and 3)[5].

About 100 countries are **exporting tea** to the world markets. Kenya,China and India are projected to witness major output increases and becoming paramount contributors to world tea production. Kenya is the largest exporter (sharing 23% of total world export) followed by China (18%), Sri Lanka (14%), India (13%), Vietnam (4%), Argentina (4%), Uganda (3%), Indonesia (3%), Malawi (2%) and UAE (1%). These top ten suppliers altogether share 85 per cent of the total world export volume. Nepal is the 20th top exporter of tea in the world market (Table 2 and Annexure 3).

World average **price of tea** export for 2017 recorded at US$ 3.97 per kg. Germany, Poland and United Arab Emirates are the three countries exporting tea at average

[5]International Trade Centre, MAT, Trade Map as of Sept, 2018.



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value	5,496	5,557	6,475	7,095	7,213	8,034	7,812	7,343	7,489	8,027
Unit Price	2,896	3,010	3,217	3,478	3,532	3,629	3,656	3,648	3,602	3,970

Chart 3. *World tea export - value US$ million and unit price in US$/mt*

Source: ITC, Trade Map

prices above US$ 8 per kg. Belgium, UK and USA fetch price between 6 and 7 US$ per kg. The highest tea producing countries are exporting at average prices ranging between US$ 2.94 and 5.27 per kg, where Sri Lanka records the highest price of US $ 5.27 and India, the lowest at US$ 2.94 per kg. The average export price of Nepalese tea was recorded at US$ 2.16 per kg. As many as 200 countries import tea from the world suppliers. Pakistan, Russian Federation, UK, USA and Egypt are the top five tea importing countries sharing together 38 per cent of the world import market volume. Other major markets are Morocco, UAE, Iran, Germany and Saudi Arabia (Table 3, Chart 4 and Annexure 4).

In May 2018, the FAO reported that (a) weaker composite price is mostly due to CTC auction pricing system, (b) demand growth prospect is high in cases of green and specialty teas, (c) with 5 per cent annual increase in

Table 2. World's Top Twenty Exporters of Tea in 2017

Exporters	Quantity in MT	Value US$'000	Unit price US$/MT
World	2,021,755	8,026,860	3,970
Kenya	467,024	1,424,429	3,050
China	369,545	1,611,224	4,360
Sri Lanka	287,083	1,513,207	5,271
India	261,419	768,994	2,942
Vietnam	77,391	126,658	1,637
Argentina	74,921	95,627	1,276
Uganda	59,207	79,713	1,346
Indonesia	54,121	114,232	2,111
Malawi	41,273	71,561	1,734
UAE	33,336	287,125	8,613
Germany	25,079	245,161	9,776
Poland	19,198	189,027	9,846
United Kingdom	19,189	137,738	7,178
USA	18,500	136,089	7,356
Tanzania, U.R.	17,987	40,807	2,269
Netherlands	17,847	100,506	5,632
Russian F.	16,863	92,271	5,472
Rwanda	15,250	48,568	3,185
Belgium	14,133	86,220	6,101
Nepal	12,941	27,952	2,160

Source: International Trade Centre/ MAT, Trade Map

Table 3. World's Top Twenty Importers of Tea in 2017

Importers	Quantity in MT	Value US$'000	Unit Price US$/MT
World	1,867,370	7,213,156	3,863
Pakistan	183,593	549,617	2,994
Russian F.	168,785	524,966	3,110
United Kingdom	127,788	403,961	3,161
USA	126,337	486,774	3,853
Egypt	96,842	273,807	2,827
Morocco	72,532	219,798	3,030
UAE	71,624	252,754	3,529
Iran, I.R.	67,862	307,505	4,531
Germany	53,792	225,240	4,187
Saudi Arabia	39,316	263,159	6,693
Poland	37,648	114,033	3,029
Iraq	37,605	144,161	3,834
Kazakhstan	33,266	122,745	3,690
Japan	30,430	177,335	5,828
Taipei, Chinese	30,210	74,520	2,467
China	29,706	149,445	5,031
Netherlands	27,744	147,691	5,323
South Africa	27,051	52,965	1,958
Uzbekistan	26,672	52,795	1,979
Malaysia	24,234	65,454	2,701

Source: International Trade Centre/ MAT, Trade Map

cent) of total world consumption. The major tea consuming countries in the region are: China, India, Turkey, Russian Federation, Pakistan, Egypt, Indonesia, Bangladesh, Afghanistan, Taiwan, Iraq, Vietnam, Sri Lanka, Malaysia, Myanmar, and Yemen (Annexure 1).

The share of Asia Pacific region in the world tea export market was 61 per cent in 2017. Tea export from the region

production demand and supply of black tea will be equilibrium in 2023 at normal price of US $ 2.81 / kg, (d) if supply of black tea increases beyond 5 per cent, world price may further decline by 40 per cent in 2023, and (e) if production declines by 5 per cent over baseline price will increase by 27 per cent in 2023.

1.3. Trends in Asia Pacific Region

In 2015 about 4.6 million MT of tea was produced in the region, contributing more than 86 per cent to the total world production (Table 4)[6]. There are 12 major producers in the region including China, India, Sri Lanka, Turkey, Vietnam, Indonesia, Japan, Bangladesh, Myanmar, Nepal, Taiwan, and Iran. This region also has the world's highest consumers of tea with almost 3.9 million MT (85 per

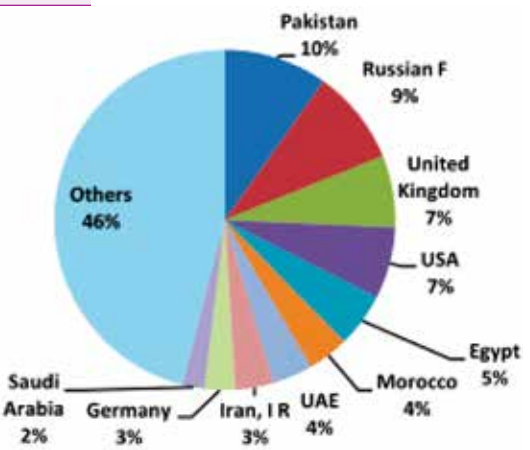


Chart 4. *Import market share in percentage*

[6]International Tea Committee, World Tea Production and Consumption, 2015

increased by 183 per cent from 1.73 billion US$ in 2001 to 4.9 billion US$ in 2017. Out of 62 countries in the Asia Pacific region 30 countries are tea exporters. 96 per cent of total export from the region is contributed by top 10 countries including Nepal. Exports from Kazakhstan, Jordan, Pakistan, Japan, Lebanon, Myanmar, Thailand, Taipei C, Turkey, and Malaysia increased substantially from more than 4 to several times over last 17 years (Annexure 5).

Table 4. Tea Producers in Asia & Pacific

Production in 2015	Qty in '000 MT	Share %
China	2,278	42.94
India	1,209	22.79
Sri Lanka	329	6.20
Turkey	259	4.88
Vietnam	170	3.20
Indonesia	129	2.43
Japan	76	1.43
Bangladesh	66	1.24
Myanmar	20	0.38
Nepal	18	0.34
Taiwan	14	0.26
Iran	13	0.25
Worlds Other Producers	**724**	**13.65**
World's Total	**5,305**	**100.00**

Source: International Tea Committee 2016

Similarly some countries in the region are also among the highest tea consumers and, in 17 years, imports to the region grew by almost 280 per cent from 0.82 billion US$ to 3.1 billion US Dollar. The region contributes 43 per cent in total world tea import. Spectacular increase in import is noticed particularly in Vietnam, China, Thailand, Korea R., Indonesia, Turkey, Iran, Malaysia, and Kazakhstan recording more than three to several times (Annexure 5).

1.4. Trends in Nepal

Like in Japan, having tea together is a part of life and culture in Nepal. Normally tea is scheduled during break and official meetings.

In the past two decades total plantation area increased by 178 per cent from 10,260 ha in 1998 to 28,523 ha in 2017. 15,437 ha are owned by organized gardens while 13,086 ha are owned by about 15,254 farmers who are mostly marketing and processing tea leaves (Table 5). With the increase in plantation, outputgrew dramatically by 394 per cent from 4,987 MT in 1998 to 24,653 MT in 2017. Such growth in plantation area and production is attributed mainly to the world market demand, availability of adequate land in appropriate climatic zones and abundant of labour supply for the production of tea in Nepal. Total tea export volume grew by 263 per cent from 4,316 MT in 2004/05 to 15,680 MT 2017/18, and export value dramatically escalated by 640 per cent from Rs. 439 million to Rs. 3,247 million, during this period (Table 6). About 88 per cent of Nepal's tea export market in terms of value and 95 per cent in terms of quantity are confined to India. Other major markets for teas from Nepal are Germany (4%), Russian Federation (3.4%),

Table 5. Tea Plantation and Production in Nepal (2001/02 to 2014/15)

F.Y.	Plantation in ha				Production MT		
	Gardens ha	Farmers in no.	Farmers ha	Total ha	Gardens MT	Farmers MT	Total
1998/99	NA	NA	NA	10,260	4,575	412	4,987
1999/00	NA	NA	NA	10,249	4,075	1,010	5,085
2000/01	NA	NA	NA	11,997	5,190	1,448	6,638
2001/02	8,179	5,575	4,186	12,365	5,865	1,654	7,519
2002/03	8,321	4,314	4,322	12,643	6,478	1,720	8,198
2003/04	8,869	6,252	6,143	15,012	7,715	3,957	11,672
2004/05	8,912	6,854	6,989	15,901	7,790	4,816	12,606
2005/06	8,912	7,154	7,100	16,012	8,444	5,244	13,688
2006/07	9,001	7,593	7,409	16,410	9,341	5,827	15,168
2007/08	9,030	7,791	7,564	16,594	9,940	6,187	16,127
2008/09	9,063	8,184	7,655	16,718	9,990	6,218	16,208
2009/10	9,159	8,735	7,968	17,127	10,238	6,370	16,608
2010/11	9,331	9,523	8,120	17,451	10,749	6,689	17,438
2011/12	9,798	9,941	8,351	18,149	11,417	6,893	18,310
2012/13	9,953	11,932	9,084	19,037	12,120	8,468	20,588
2013/14	10,610	11,984	9,510	20,120	12,179	8,897	21,076
2014/15	14,596	14,898	11,569	26,165	13,265	9,804	23,069
2015/16	14,732	15,040	12,956	27,688	14,382	9,882	24,264
2016/17	15,285	15,103	12,956	28,241	14,460	9,950	24,410
2017/18	15,437	15,254	13,086	28,523	14,604	10,049	24653

Source: Nepal Tea and Coffee Development Board (NTCDB)
Note: NA = Data not available

Czech Republic (1%), USA (0.6%), China PR (0.5%), France, Japan, Ukraine, UAE and UK (Annexure 6).

Nepal received the lowest composite price of Rs. 191 per kg from export of mainly CTC tea in bulk to India. Other countries are importing Orthodox green and specialty teas and composite export prices for such teas ranged from Rs. 1,370 to 5,874 per kg in 2017 (Annexure 6).

Apparent consumption of Tea in Nepal was 9095 MT[7] in 2017. With the estimated population of 29.6 million it is estimated that per capita consumption of tea in Nepal is 0.307 kg[8].

[7]This figure also includes volume of any possible informal export of green leaves and made tea across the border in view of price and delivery attractiveness.
[8]Nepal produced 24,653 MT, exported 15,680 MT and imported 366 MT in 2017/18.

Table 6. Tea Export from Nepal

Quantity in MT and value in Rs. million

Fiscal year	India		Other countries		Total	
	Qty.	Value	Qty.	Value	Qty.	Value
1998/99	NA	NA	84	30	NA	NA
1999/00	NA	NA	82	26	NA	NA
2000/01	NA	NA	70	23	NA	NA
2001/02	NA	NA	83	28	NA	NA
2002/03	NA	NA	193	24	NA	NA
2003/04	NA	NA	1002	107	NA	NA
2004/05	3609	343	707	96	4316	439
2005/06	3690	317	833	99	4623	416
2006/07	6168	610	832	124	7000	734
2007/08	8374	844	226	58	8600	902
2008/09	9037	1171	159	69	9196	1240
2009/10	8132	1110	366	85	8498	1195
2010/11	9986	1401	547	149	10533	1550
2011/12	8615	1368	583	206	9198	1574
2012/13	10374	1823	335	220	10709	2043
2013/14	11081	1825	315	204	11396	2029
2014/15	10836	1769	306	238	11142	2007
2015/16	12972	2150	317	250	13289	2400
2016/17	11299	2232	446	271	11745	2503
2017/18	15046	2871	634	376	15680	3247

Source: Trade and Export Promotion Centre, Ministry of Industry, Commerce and Supplies
Note: NA = Data not available

1.5. Contributions

Tea as an emerging cash crop has contributed to enhance the sustainable livelihoods of rural farmers in Nepal giving an excellent alternative to traditional, low-yield, and subsistence farming system. It has significantly reduced poverty and increased food security particularly in major districts of Mechi and Koshi corridors of Province No 1 in Eastern Nepal. Contribution of tea business to Agriculture GDP has been increasing gradually in the past 20 years. Agricultural GDP (in current price) was Rs.983 billion representing 27.6 per cent of total GDP in 2017/18[9]. With production of 24,653 MT it is estimated that the total turnover of tea business including ready

[9]Government of Nepal, Ministry of Finance, Economic Survey 2017/18.

to drink tea in the country is Rs. 12 billion, contributing a little above 1 per cent in total Agricultural GDP of Nepal.

According to official data, the total turnover of 9,236 organized tea farms in Nepal recorded Rs. 1,766 million in 2016. Tea entrepreneurs spent about Rs. 437 million from the total gross earnings of Rs. 1,329 million[10]. It is estimated that currently the tea sector employms more than 100,000 people in production and in marketing functions. According to the 2018 Tea Commercial Farming Survey organized tea production sector aloneemploys about 32,000 people both in Remote Mountain and urban areas in the Eastern parts of Nepal (direct employment). Out of these 18,180 are organized entrepreneurs and 48 per cent of them are women. There are 3,244 permanent workers whom about 41 per cent are female with intermittent employment and (about 60,000) 10,318 people whom

Table 7. Employment in Commercial Tea Farming

Types	Total	Female	Female %
Entrepreneur	18,180	8,807	48.4
Permanent employee	3,244	1,327	40.9
Temporary employee (3,095,284 days divided by 300)	10,318	7,697	74.6
Direct full employment	**31,742**	**17,831**	**56.2**

Source: Tea Commercial Farming Survey 2018

A tea factory in the middle of tea garden

[10]Government of Nepal, National Planning Commission, Central Bureau Statistics and National Tea and Coffee Development Board, Tea Commercial Farming Survey, 2018 (Byabasayik Chiya Kheti Sarbechhyana, 2075).

Tea garden in plain land for CTC

75 per cent are female tea workers. There are many small individual farmers with less than one Ropani (19.5 Ropanis = 1 Ha) plantation, who are not covered in the survey. The involvement of women in the commercial farming of tea exceeds 56 per cent of total full direct employment (Table 7).

2 Value Chain Development

2.1. Farming History

Tea planting started in Nepal as early as 1863. In 1878, the first tea factory was set up for the processing of tea leaves harvested from the Government garden. From the year 1878 to 1975 the tea business was monopolized by the Government and the poor economic policy confined tea plantation in limited areas. Small farmers located near the borders with India were not permitted by Village Panchayat Chiefs to plant more than 100 tea bushes in their farms for food security reason. Due to the absence of processing factory small farmers' in Nepal exported fresh tea leaves to factories located across the border in Darjeeling of India. The commercialization of tea farming in Nepal commenced in 1966 with the setting up of the Nepal Tea Development Corporation (NTDC) as a parastatal with the objective of expanding the tea plantation, processing and production (Box 1). Apart from managing Government tea gardens, the NTDC was successful in mobilizing small farmers in farming and collection of tea leaves supported up by Government's "Tea Extension Program 1975" and "Small Farmers Scheme 1986". With a “Tea Zone” declaredin five districts – Ilam, Jhapa, Panchthar, Dhankuta and Terhathum – a "T in 1982, the Government further granted supported small farmers, tea estates and processors. Gradually, tea farming emerged as a sustainable and attractive cash crop for rural livelihood as alternative to ongoing subsistence farming system.

Oldest tea garden in Ilam bazzar

Box 1. Historical Development of Tea in Nepal

Year	Major Developments
1863	First tea estate was established in Ilam District from seeds presented by Chinese Emperor to then PM Janga Bahadur Rana.
	Mr. Gajraj Singh Thapa extended tea gardens in Ilam District from plants received from near by Darjeeling hills.
1878	First tea Factory was established in Ilam for Orthodox tea.
1878 to 1975	Tea business was monopolized by the Government and small farmers in remote hill areas could supply fresh tea leaves only to Indian factories across the borders.
1959	First private tea estate was set up by Buddha Karan Estate.
1963	Code of Conduct Regulations and Code of Conduct for Orthodox Tea was passed and implemented by the HOTPA members.
1965	Second tea estate was set up in Soktim of Jhapa district.
1966	Nepal Tea Development Corporation was established.
1975	Tea Extension Project was launched with 50% subsidy in interest of 15% on bank credit (7 years grace period) and farming technical supports through JTA.
1978-1980	Modern tea factory was set up in Ilam followed by another factory for CTC Tea in Shoktim and Kanyam Tea Estates.
1982	Government declared fice districts: Jhapa, Ilam, Panchthar, Dhankuta and Terahthum as "Tea Zone" for its development.
1986	Small Farmers Scheme was launched by the Government and many small farmers started plantation in and around Kanyam.
1990	Economic liberalized and privatization was pushed. Government monopoly in producing, processing and regulating the tea industry was withdrawn.
1993	Nepal Tea Development Board (NTDC) was dissolved and privatized. The NTCDB was set up with a view to facilitating overall development of tea and coffee.
2000	The National Tea Policy was launched to private financial incentives for encourage investment, plantation, production and marketing of Tea.
2010 & 2016	Tea was a priority product in National Trade Integration Strategies (NTIS 2010 & 2016)
2017	National Sector Export Strategy on Tea was formulated.

Source: Compiled through various sources and interviews.

During early 1990s when many countries decided to transform their economy through globalization process, Nepal followed suite by introducing economic liberalization, deregulation and privatization policies. Consequently, the NTDC was privatized and National Tea and Coffee Development Board (NTCDB) was set up in 1993 as a Government's facilitating agency for the overall development of tea and coffee sub-sectors in Nepal. In addition to policy research and advisory functions, the NTCDB also supported farmers, gardens, processing units and other stakeholders engaged in tea plantation, processing, trading and exporting activities. It also advised and offered inputs to the Government for the launch of the 2000 National Tea Policy which focused on farming, processing, production, institutional, financing, marketing, research and development, and capacity development aspects of tea.

Oldest tea bush in Ilam

In the past two decades tea planting has grown substantially by 187 per cent from 10,260 ha in 1998 to 28,253 ha in 2017. In a similar pattern tea production has also grown due to increase in global demand, price and production by 394 per cent; from 4,987 MT in 1998 to 24,653 MT in 2017 (Table 5 and Chart 5).

It is estimated that in 2016/17 total orthodox tea contributed 59 per cent of total tea planted areas that yielded 24 per cent of total production volume (Table 8). The price of orthodox tea has attracted the fastest increase in tea plantation areas from 7,580 ha in 2008 to 16,800 ha in 2017. It is expected that orthodox tea production

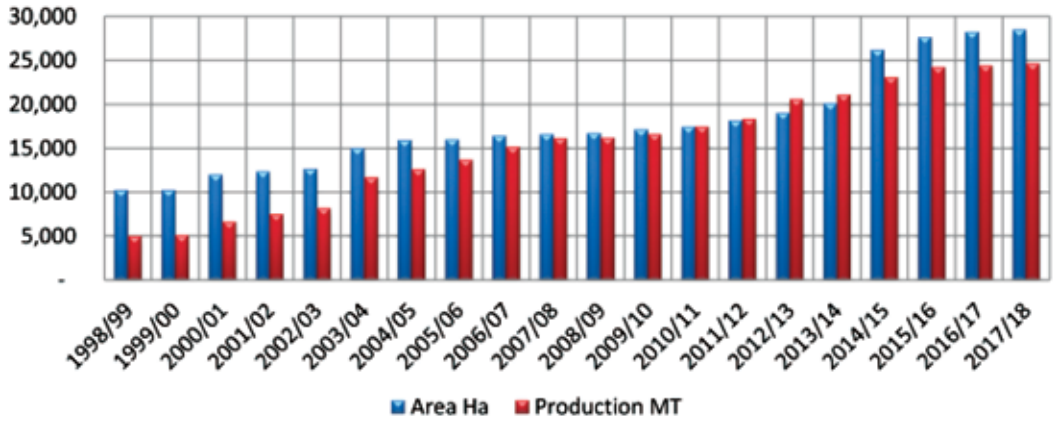


Chart 5. *total area and production of tea in Nepal*

Table 8. Nepal Tea - CTC and Orthodox Production.

FY	Types	Orthodox		CTC		Total	
	Gardens/ farmers	Plantation area ha	Production MT	Plantation area ha	Production MT	Plantation area ha	Production MT
2016/17	Garden	7,560	2,675	7,725	11,785	15,285	14,460
	Small farmers	9,238	3,187	3,718	6,763	12,956	9,950
	Total	16,798	5,862	11,443	18,548	28,241	24,410
2015/16	Garden	7,007	2,646	7,725	11,736	14,732	14,382
	Small farmers	9,238	3,155	3,718	6,727	12,956	9,882
	Total	16,245	5,801	11,443	18,463	27,688	24,264
2014/15	Garden	6,878	1,837	7,718	11,428	14,596	18,263
	Small farmers	7,864	3,087	3,705	6,717	11,569	4,924
	Total	14,742	4,924	11,423	18,145	26,165	23,069
2013/14	Garden	3,383	987	6,569	11,134	9,952	12,120
	Small farmers	5,403	2,051	3,681	6,417	9,084	8,468
	Total	8,786	3,038	10,250	17,551	19,036	20,588
2007/08	Garden	2,923	692	6,107	9,248	9,030	9,940
	Small farmers	4,657	1,387	2,889	4,800	7,546	6,187
	Total	7,580	2,079	8,996	14,048	16,576	16,127

Source: Nepal Tea and Coffee Development Board (NTCDB), Kathmandu.

will increase in the next 5 year at a rate of 10 per cent per year. It is reported that currently about 500 MT of orthodox tea is organic certified[11].

Approximately 15,254 small farmers are involved in 46 per cent of total land areas and contribute about 41 per cent in total production volume. Small farmers play a significant role in orthodox tea production and marketing; About 56 per cent of total land is covered by orthodox tea production and contributes 54 per cent tea production volume (Tables 5 & 8). The number of small farmers in the tea plantation grew by 174 per cent from 5,575 in 2001/02 to more than 15,000 in 2017/18. In the past one decade, total plantation area occupied by small farmers increased by 72 per cent from 7,546 ha to 12,956 ha. Similarly, their contributions to total tea output grew by 61 per cent.

Commercial Tea Farming Survey of 2018 has revealed that tea is commercially produced by 9236 small, medium and large plantation units. There are a total of 11,041 gardens in 14 districts of Nepal out of which 108 (1.2%) units are institutional and garden based. A total of 12,067 ha is covered by these tea gardens and are currently producing 100 thousand MT of green leave in the season (2017/18 - 2074 BS) from about 117 million plants out of a recorded national plants of 124 million (Table 9).

According to Survey Report tea plantations are rigorous in five districts of Province No. 1: Jhapa (7,195 ha), Ilam (3,393 ha), Panchthar (675 ha) Dhankuta (160 ha) and Terhathum (117 ha) - with a surface area of 11,539 ha (95.6% of

Table 9. Tea Commercial Farming District, Plantation Units, Areas and Leaf Production.

Major districts	Number of units			Area (ha)	Green leaf production MT	Number of plants in '000		
	Individual	Insti-tutions	Total			Productive	Non-productive	Total
Jhapa	1,532	69	1,601	7,195	82,517	83,549	720	64,269
Ilam	5,582	16	5,598	3,393	15,971	40,581	1,293	41,874
Panchthar	767	4	772	675	765	1,240	39	1,279
Dhankuta	312	6	318	160	309	2,667	1.4	2,668.4
Therathum	316	1	317	117	151	1,240	39	1,279
Sub-total	8,509	96	8,606	11,540	99,713	1,09,277	2,092.4	1,11,369.4
% of total	93.23	88.89	93.18	95.64	99.63	93.60	31.12	90.20
Others	61.8	12	630	526.5	367	7474	4,631.2	12,105.2
Total	**9,127**	**108**	**9,236**	**12,067**	**1,00,080**	**1,16,751**	**6,723.6**	**1,23,474.60**

Source: Central Bureau of Statistics and National Tea and Coffee Development Board, Tea Commercial Farming Survey, 2018.

[11]National Tea and Coffee Development Board, Danish Government/ UNNATI Project, Modern Tea Farming and Processing Technology Manual, 2018

national total) with 8,606 farm units representing 93.2% of national total units. Other tea production districts are: Sankhuwasabha, Bhojpur, Teplejung, Morang, Ramechhap, Dolkha, Sindhupalchok, Lalitpur, Nuwakot, Solukhambhu, Khotang, Udayapur, Arghakanchi and Kaski (Map of Nepal). These new 14 districts including those in Province No 3 with 630 plantation units cover about 527 ha of land area. The trend indicates a steady increase in the number of plantations in the districts. Three characteristics of the plantation systems can be highlighted: (i) conventional farming is adopted in 73 per cent of total plantation area (59% of total units), (ii) about 18 per cent areas are in process of conversion to organic farming (30% of total farm units) and (iii) fully organic farms are 9 per cent (11% of total farm units).

Apart from registered commercial farmers there are many small individual farmers who have tea plantation in less than one Ropani of land and who contribute to the tea sub-sector in Nepal. It is estimated that such farmers collectively produce more than 10,000 MT.

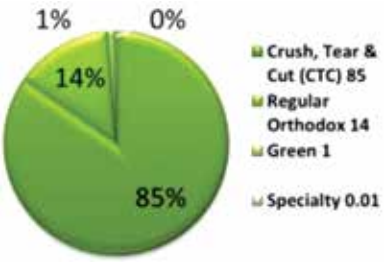


Chart 6. *Total tea production 18,958 MT in 2016*

There are 113 registered tea factories in the country with the capacity of 52,100 MT though the capacity utilization is 36.38 per cent. The 2016 production of the factories was 18,958 MT with the of following different types of teas (Chart 6):

1. **Crust, Tear and Curled (CTC) 16,036 MT**
2. **Orthodox tea 2,922 MT**
   - Regular orthodox 2,670 MT
   - Green 220 MT
   - Specialty 32 MT

2.2. Tea Types

Two varieties of tea plants are found in Nepal: *Camellia Assamica* for CTC tea at altitude below 3000 feet and *Camellia Sinensis* for orthodox tea at high altitude above 3,000 feet. There are around 1,500 cultivars obtained from two main varieties. CTC tea isorganic in black and green and orthodox tea is organic or regular in black, green, white, oolong and specialty according to the different processing techniques (Box 2). CTC Tea of Nepal is famous for its strong, bright and full bodied liquor. Nepali orthodox Tea with two leaves and bud (*duee paat sueero*) from each branch at the top of tea bush gives fine 'tippy' quality and precious flavors. This tea involves partial drying, rolling and fermenting process to give it a light colour, unique aroma and fruity flavor. Teas are graded broadly into four: leaf, broken, fannings and dust and the prices depend on such grades. Teas produced under specialty

Box 2. Features of Different Types of Tea

Type	Features
Green	Green tea leaves are not oxidized and are unfermented. It has the largest number of varieties, each within its own unique flavour and aroma.
Black	Black tea is a fully oxidized tea. It is generally stronger in flavour than the less oxidized ones. Black tea retains its flavour for several years and it is the most widely produced and drunk tea in the world.
White	White tea is uncured and unoxidized or only slightly oxidized. Traditionally, only top buds and young leaves, not fully opened, are used.
Oolong	Oolong, is a traditional Chinese tea produced through a unique process including withering the plant under strong sun and oxidation before curling and twisting. It combines green tea's finishing techniques and black tea's oxidation.
Pu-erh	Pu-erh or Pu'er is a variety of aged dark tea. Fermentation is a tea production style in which the tea leaves undergo microbial fermentation and oxidation after they are dried and rolled. This tea improves with age.
Cut-tear-curl (CTC)	This processing has three stages (crush or cut, tear, curl). The tea leaves may be either hand plucked or harvested by machinery. The leaves are than processed through the CTC machine, have a palletised appearance and are always broken sizes. The method is less costly to produce and made a less bulky tea that would brew more quickly and with an even, robust flavour.

Source: UNCTAD, TEA, An INFOCOMM Commodity Profile, 2016.

type in Nepal include: golden black, ruby black, black pearl, oolong, while, green, Japanese green, handcrafted, etc. Additionally there are four seasonal harvests that change the tastes, grade and quality of Orthodox tea (Box 3).

2.3. Growing Practices

i. Some of the sea shrubs in Ilam District are more than 100 years old. These bushes are still harvested. Planting in commercial scale started in thelast 30 to 40 years in the major Eastern Nepal. Though tea is a perennial crop with 40 years of economic life, good harvesting is possible normally up to 60 to 70 years depending on type the of plant, climatic conditions and care provided during the plant's life.

Box 3. Four Seasonal Tastes of Orthodox Tea Connoisseurs

Harvest	Months	Colours	Taste	Advice
I. Spring flush	Feb-Apr	Light red with yellowish green	Gentle taste with aroma and refined flavour	Accepted as afternoon tea
II. Summer flush	May-June	Bright and shinning	Well-rounded and mellow flavour, aroma and muscatel	Best served late afternoon
III. Monsoon flush	May-June	Bright and shinning	Full boiled strong mellow flavour	Best served late afternoon
iv. Autumn flush	Autumn	Strong coppery colour	Sweet aroma, briskness flavour & muscatel	Morning tea with some milk

Sources: NTCDB and HIMCOP

ii. With the topographical, sub-tropical and tropical climatic conditions and varying amounts of humidity and rainfall, Nepal grows two different types of tea at two different locations. Chemical compositions of tea plant are different under different climates and growing conditions and vary in quality and grade. *Camellia Sinensis* is planted for Orthodox tea at an altitude between 3000 to 7000 ft in the mountain regions and *Camellia Assamica* for CTC tea is planted at lower altitudes (below 3000 ft) in warm and humid plain (Terai belt).

Young plantation in high altitude

Leaves ready to harvest for top quality

iii. The growth cycle of a plant is from 240 to 365 days, fruits take from 270 to 360 days to mature and seeds are normally produced after 3 years.

iv. Carefully nurtured young plants in nurseries become ready for re-planting in a year. These are re-planted in especially prepared fields preferably sloppy terraces where water loggings are rarely possible. Tea shrubs prevent soil erosion in many sloppy mountain terraces of Nepal The young plants are planted 3 to 5 feet (1 to 1.5 meters) apart. It takes approximately two to three years, depending on the elevation and climatic conditions, before these plants are ready to produce tea leaves for processing. Operations in nurseries involve land preparation, soil treatment, mother plant raising, pruning, shedding, cutting, plantation of cutting in bags.

v. The first pruning is done when the young plants is 50 cm in height by making it about 15 cm high above the ground level to allow it to spread as a flat-topped bush. Such bush isallowed to develop up to 100 cm before second pruning is done. In altitude below 3000 ft pruning is done once every 1 to 2 years while at higher altitudes it is done once every 3 to 5 years. Sufficient moisture in soil is needed before the pruning starts.

vi. Other operations in the field involve plantation, drainage management, soil treatment, tipping and plucking, pruning, disease and pest management, shedding tree management, weed management, etc.

Plucking or Picking and Transportation

i. As explain in Box 3 there are four seasonal flushes. In Nepal 100 per cent fresh young tea shoots are hand picked (called "plucking" or "harvesting")

from the matured tea plants mostly by female labours. A tea shoot consists of an unfurled bud with two or three soft leaves. For premium quality tea "Two leaves and bud" called "Duee Paat Syeero" in Nepali are picked and used for processing. For normal orthodox tea 4 leaves and a bud are picked for processing. In an average, 10 kg of green tea leaves make 2.2 kg of made tea. Optimum expected yield is about 3 MT per hectare. Manual harvesting (hand-picking) is considered better for tea quality. Many countries with labour shortage are using automated picking system but the results are poor since it damages some of the leaves and this affects the tea quality.

ii. Plucked or harvested green tea leaves should reach the processing unit within the 6 to 8 hours in order to maintain the quality of tea. Fresh leaves are transported to collection centres or directly to factory on human back, horse, tractor or motor van depending on distance and availability of such means.

2.4. Processing Technology

Tea processing involves the transformation of green leaves into dried leaves for brewing tea. All types of tea have similar traditional processing methods with minor variations only in oxidation the process of the leaves. The processing methods include withering, degree of oxidation, forming and drying, determining the types and grades of the tea. Different types of machines are needed for

Tea leaves being transported from farm to factory

processing CTC, Orthodox, Oolong, Green and Specialty teas. Normal steps followed in Nepal :

i. **Withering**: Withering (wilting) process involves reducing on the moisture content between 55/70% to 75/80%, during which chemical changes occur (with a gradual beginning of enzymatic oxidation) in the tea leaves which are an essential part of tea flavour development. This process takes 12 to 18 hours to eliminate excess water from leaves and it also allows slight oxidation. In the case of CTC tea moisture content should be at 25 to 35 per cent.

Withering of tea

ii. **Rolling**: Wilted tea leaves are rolled to shape into wrinkled strips, by hand or using a rolling machine, which causes the tea to wrap around itself. This rolling action gives the leaves a curled appearance and further improves the taste of the tea. This process also reduces the leaf size, disrupts the leaf structure in order for the polyphones oxidize and facilitates better oxidation. In Nepal standard rollers (of 24" or 36" or 60") are used and periodically updated or replaced as and when new more efficient models are introduced. Rolling timing depends on the flush or harvest season, for example first flush is rolled for 30 minutes, second flush for 30+20 minutes, third flush for 30+20+15 minutes and fourth flush 30+20 minutes.

Rolling machine - orthodox tea

iii. **Macerate (only in case of CTC tea)**: Teas are bruised or torn in order to promote and accelerate oxidation. The bruising breaks down the structures inside and outside of the leaf cells and allows, the co-mingling of oxidative enzymes with various substrates, which triggers the beginning of oxidation.

iv. **Fermenting**: Rolled or macerated leaves are held in climate-controlled room either in tray or tiled floor for a few hours for oxidation. Efficient experienced technical staff monitors this process as it is a very critical stage of tea processing. In this process the colour of tea leaves changes from green to brown.

Tea fermentation process

v. **Fixation**: Oxidation is stopped when these have reached their optimum content and the tea quality has reached its peak. Technical staff ensures that the leaves are kept reasonably moist with low temperatures to prevent the forming of unwanted substances. This process is accomplished by moderately heating tea leaves; deactivating their oxidative enzymes and removing undesirable scents in the leaves, without damaging tea flavour.

vi. **Drying**: Fermented leaf is dried in a current of hot air (heated indirectly by a heat exchanger from furnace-flue gasses), which stops the fermentation

Green tea dryer

(oxidation at its optimum point) and reduces the moisture content up to 2.5 to 3/5% to maintain the tea quality. Fuel for the furnaces that is used in Nepal is a combination of wood and coal.

vii. **Curing or Aging**: Secondary fermentation, or baking, is done to reach the drinking potential. Flavoured teas are manufactured in this stage by spraying the tea with aromas and flavours or by storing them with flavourings.

viii. **Shorting and Grading**: Tea from the dryer must be cleaned to remove any foreign matter, stalk and fiber, and then sorted into size ranges of established grades. The dry leaves are size graded and separated to large, small and broken from unbroken leaves.

Tea grading & sorting

ix. **Exceptions in cases of Green and Oolong teas**: There are two exceptions to the above processing steps in cases of Green and Oolong teas: Green Teas Are NOT Oxidized; withered leaves are steamed or pan-fired for about one minute, and are usually rolled twice before drying while Oolong teas are semi oxidized, usually between 20% and 50% and have a sweet character.

x. **Transport to consumer**: The main means of tea consignment transport to domestic markets are by road transport (truck) and to international markets by truck, railroad and aeroplane. The graded teas are packed in different types

Packing of high quality orthodox tea

Packing of CTC in bulk ready for export to India

Tea concumer packaging

of containers such as wooden tea chests, paper laminate sacks, polythene bags in gunny sacks or in cardboard cartons depending on the tea volume and market requirements. Delivery period ranges from three to six weeks after harvest. Tea delivered during the beginning of a season is the most premium and valuable tea. Varieties coming during other seasons are lower in quality.

2.5. Policies and Strategies

There are many government policies, plan and strategies that guide the development of the tea sub-sector in Nepal. Fourteenth Plan of Nepal (Fiscal Year 2014/15 to 20117/18); Agriculture Development Strategy (2015-2035); Nepal Trade Integration Strategy 2016; Trade Policy 2015; Industrial Enterprise Act 2016: and Foreign Investment and Technology Transfer Act 1992 have given priority to production, processing and export of cash crops including tea in Nepal.

Tea Policy 2000 and National Sector Export Strategy – Tea (2017) are the only specific policy and strategy of the Government in the tea sub-sector. Tea exporters receive cash incentive of 3 per cent on export value. The Tea Policy 2000 comprises five components including production and processing, marketing and trade promotion, institutional arrangements, manpower development and development and promotion of auxiliary industries. The provisions made in the Tea Policy are: priority credit, tax grace period, exemption of land revenue, government supports to key-actor in capacity development, R&D, infrastructure development, marketing, supportive industries, etc. The National Sector Export Strategy – Tea (2017) is driven by the overall vision of *"Develop Himalayan Nepali Tea quality and diversify trade to support sustainable, eco-friendly, socio-economically inclusive development"*. Four strategic objectives of this strategy are: (1) Improve the quality of green leaves; (2) Improve quality and compliance to meet market demand; (3) Reinforce institutional coordination to manage quality, improve market access and develop Nepal tea verities; and (4) Strengthen the national brand and value addition to increase market diversification. It has been observed that all the institutional frameworks and mechanisms set up

for the implementation of these plans, strategies and action programs are yet to be fully effective to achieve targeted results also to the satisfaction of stakeholder's expectations.

2.6. Key Actors

Many individuals and institutions are involved in the tea production structure. Tea is mainly produced in plantations of about 160 tea estates or tea gardens in about 15,000 ha and also by 15,000 organized and unorganized individual farmers holding about 13,000 ha land areas. As many as 7,000 farmers have organized 101 tea cooperatives in 14 districts of Nepal (Annexure 7). Besides the farmers and processing units there are other Key Actors involved with different roles in the tea business.

- **Farmers**: About 9,000 organized farmers and more than 7,000 other individual farmers with their own land with tea plantation, work in their land for tea farming including plucking of leaves , deliver them to collectors or brokers or transport on their back to the processing centres.
- Many small farmers have converted their vegetable or fruit farms to tea plantations. attracted by increase price of tea leaves
- **Tea Leaves Collectors and Brokers**: There are clusters of villages with collection or processing centres in each district. Tea leaves collectors or brokers play an intermediary role between the processing factory and farmers by buying the harvested green tea leaves at a pre-negotiated price based on price determined by the NTCDB and supplythe collected green leaves to the processing units or factories. In many instances farmers arrange direct delivery to the factory gate if it is in the vicinity. There are collectors representing processing unit who coordinate collection of tea leaves from farmers. However, recent trends show that brokers with their own manpower, vehicles and collection centres are contracting with individual farmers to take care of their garden, harvest and transportation services to deliver leaves to the factory. Such a practice of contracting with farmers and paying farmers a lump sum amount is a recent trend because of the non-availability of adequate labour and garden owners busy in other occupations.
- **Processing Units or Factories**: There are about 138 tea processing units in Nepal. Forty-four of organized processing units specialize in orthodox tea and the remaining 26 are producing CTC tea. Additionally 46 small units are specialized in specialty teas with membership in Specialty Tea Association of Nepal (STAN). About 22 tea cooperatives also have their own processing units (Annexure 7). Most of the organized processing units/factories have their

Green tea separator

own tea gardens harvesting leaves from the permanent as well as temporary labourers. In many cases these processing units equally buy green leaves from individual farmers and farmers' cooperatives in the vicinity. Processing units or factories play the roles and responsibilities of overall management of tea gardens and processing units, mobilize farmers and collectors in the collection of leaves, process, grade and package as per market requirements, maintain linkages with domestic and foreign buyers, arrange transportation, forwarding and delivery services. Specific processing functions include withering, rolling, fermenting, drying, grading, and packaging. Some of the orthodox tea factories are also providing technical and financial supports to small tea farmers by conducting training and exhibitions and also supplying inputs with a view to meeting the organic and sustainable standard certification requirements. Processing factories use different kinds of machinery for different types of teas. Some of the machineries currently in use are from MAESTRO Rotorvane, VAJRA CTC, VORTEX Rolling Table, STELLER Dryer, DIABLO Hot Air Generator, NIMBUS CFM, YAGNA China Grate Stoker, APOLLO Auto Milling Chasing Machine,

Green tea processor

TITAN Continuous Withering Machine, Lilnron Vibro Fliid Bed Dryer, etc.

CTC grading

- **Tea Transporters**: Tea leaves must go through the withering process within six to seven hours after harvesting. To facilitate this process, tea processing units or factories are often located in the adjacent tea gardens or plantation. Tea leaves are transported on human back or donkey or tractor or van depending on the distance and type of road from plantation area. Many individual tea transporters and collectors or brokers with their own or hired vehicles are attached to the farmers and processing factory to deliver the tea leaves. Processed and packed CTC as well as Orthodox teas in different forms are transported mainly to Mechi (Kakarvitta) / Panitanki or Biratnagar / Jogbani for export to India and to other cities like Kathmandu, Birgunj, Birtamod, Pokhara, etc. for domestic market. High-value specialty tea consignments are often transported by air via Kathmandu destined to oversea markets. About 87 per cent of export consignments are through Mechi Customs, 8 per cent from Biratnager and remaining from Birgunj and Kathmandu.

- **Wholesalers**: There are many wholesalers who buy tea in bulk from processors or importers and sell to the retailers in major urban centres. Wholesalers are particularly confined to domestic markets and in some cases they also function as packagers and brand developers of tea.

- **Exporters and Importers**: Nepal is a net exporter of tea. In 2017 Nepal exported 12,820 MT of tea and imported 366 MT[12]. There are many exporters and importers of tea in the country. Most of the importers are also wholesale distributors to the retailers. A majority of Nepali tea processors or factories

[12]TEPC, Export Import Data Bank 2017.

have their own network for exporting of tea. About 88 per cent of total tea export in value is confined to the Indian market and the rest of the products are exported overseas markets by shipping either via Kolkata or airlifting from Kathmandu.

- **Retailers**: There are specialized tea retailers in the urban centres who retail through many grocery shops throughout the country. Retailers are sourcing tea from wholesalers as well as from the producers or factories. They usually sale the retail packaged or loose tea to the ultimate consumers or ready-to-drink tea sellers like tea stalls or restaurants or hotels.

2.7. Supporting Institutions

National Tea and Coffee Development Board (NTCDB) is the specialized agency directly involved in facilitating the development of all aspects of tea. Many government institutions like ministries, departments and specialized agencies; farmers' cooperatives and organizations; private sector's organizations and international cooperation agencies and NGOs are indirectly involved in supporting the production, processing, marketing research and development activities of tea sub-sector in Nepal. Some of the important institutions and their major supporting functions are highlighted in Table 10.

Box 4. Central Tea Cooperative Federation

Central Tea Cooperative Federation Ltd. (CTCF) was established in 2010 in Ilam district as an apex body of tea cooperatives with the objective of providing quality services, developing skilled human resources and improving organizational capacities of member cooperatives. The CTCF expects to achieve its objective through policy lobbying and advocacy, empowering small member cooperatives, improving cooperative marketing, maintaining sustained institutional and regulatory norms and improving farm and processing operations. At present there are 101 cooperative members including five district level cooperatives and contributing to overall development of orthodox tea in Nepal. About 7000 small farmer households are members in 101 cooperatives. At present more than 31 tea cooperatives have their own processing factories. In addition to Government support, the CTCF also functions in collaboration with and in support national and international Cooperative networks, NGOs, INGOs, foreign donors (Agriterra, AFA, UNNATI, GIZ, SNV, and World Rural Forum). The CTCF plays a remarkable role in mobilizing small farmers through their respective cooperatives and in coordinating them to contribute to tea production and export development in Nepal.

Table 10. Supporting Institutions and their Functions.

SN	Institutions	Functions
1	Ministry of Agriculture and Livestock Development (MoALSD)	Responsible for policy support, specificproject and programmes development in the agricultural sector including tea sub-sector. Management and supervision of all agriculture related agencies facilitating the development of tea. It also has National Agriculture Research and Development Fund that can be used for tea clones and variety development. The Agriculture Development Strategies (ADS) has a versionnof a "self reliant, sustainable, competitive and inclusive agriculture sector that drives economic growth and contributes to improved livelihoods and food and nutrition security that lead to food sovereignty". The ADS has 4 components; governance, productivity, profitable commercialization, and competitiveness. Tea is a priority product ranked 4 in top 15 value chain development requirement (ranking done by the ADS[13]).
2	Department of Agriculture (DoA)	Supports in production and productivity growth by implementing technological and capacity development programs and supporting small farmers with technical trainings, plant propagations and distribution, soil test, integrated pest management, plant protection and quarantine, post harvest management and packaging, etc.
3	Department of Food Technology and Quality Control (DFTQC)	Enforces Food Act and Regulations to ensure food quality and safety. It follows the ISO and the Codex Alimentarius. It is also a national SPS enquiry point of the WTO, It equally performs food tests including microbiological and certification, and conducts nutrition development and training programs.
4	Nepal Agriculture Research Council (NARC)	Performs all agricultural researches at the national level with the help of many research farm stations across the country. The National Commercial Agriculture Research Programme (NCARP) located in Regional Agriculture Research Station at Pakhribas is responsible specifically for research and development and dissemination of the improved varieties, agronomic practices and technologies of tea and large cardamom farming.
5	National Tea and Coffee Development Board (NTCDB)	The NTCDB is a government focal point agency chaired by Agriculture Minister and represented by the public and private institutions directly concerned with tea and coffee. Its functions include policy advices, research on production and market expansion, support to inputs supplies, coordination of related supporting agencies, technical skill and capacity development programmes, and market promotion and penetration programmes. The NTCDB isalso supported by registrations of collective trademark and logo:"Nepal Tea – Quality from the Himilayas" to help market promotion abroad and issues permit to use this trademark and logo.
6	Agriculture Input Company Ltd. (AICL)	Supply of different varieties of chemical fertilizers that are used for CTC non-organic tea.

[13]NTCDB, Nepal Tea, 2018

SN	Institutions	Functions
7	Provincial and District Agriculture Development Offices	Responsible for policy support, specific development project and programmes. Supports farmers in improvement of farming practices, farm area expansion, management of plant nurseries and distribution, technology and capacity development programs, plant protection and quarantine, etc.
8.	Ministry of Industry, Commerce and Supplies (MoICS) and its Departments and agencies: Department of Industries (DoI); Department of Commerce, Supplies and Consumers Protection; Cottage and Small Industries Department (CSID); Cottage and Small Industries Development Board (CSIDB); and Company Registrar Office.	Responsible for policy support on export of cash crop like tea. The MoICS has identified tea as one of the priority export products in, "NTIS 2010", and "Trade Policy 2015", and continued in NTIS 2016. The Ministry through its concerned agencies implements various export promotion and tea development programmess to create tea sub-sector more towards overseas market oriented. All of the agencies of MoICS provide firm or company registration services and often recommend other agencies to facilitate their smooth functioning for trade and industrial transactions
9	Nepal Bureau of Standards and Metrology (NBSM)	The NBSM is responsible for the standardization and quality improvement of the industrial production and productivity. It has developed Nepal Standards for Tea and can issue quality compliance certificate.
10	Trade and Export Promotion Centre (TEPC)	Main roles are export product development, market research and market promotion including promotion of collective trademarks, conducting of capacity development and participation in international fairs in collaboration with other agencies like NTCDB and private sector associations.
11	FNCCI/ Agro-enterprise Centre (AEC)	As an agency of Federation of Nepalese Chambers of Commerce and Industries (FNCCI), it focuses in research, policy lobby, information collection and dissemination, product development, and market promotion of agricultural products with a view to supporting agri-entrepreneurs. It collaborates with foreign agencies to perform its activities.
12	Central Tea Cooperatives Federation Ltd. (CTCF) and District Tea Cooperatives.	The CTCF is a central level organization of village and district level cooperatives responsible for advocacy and lobbying to the policy makers on behalf of all tea producing farmers' and tea processing cooperatives. Its functions are supported by the Government as well as by international agencies like Agriterra Netherlands, UNNATI, Foundation de France, etc.

SN	Institutions	Functions
13	Himalayan Orthodox Tea Producers Association (HOTPA)	The HOTPA (1998) serves the interests of its 44 members in orthodox tea production and promotion. It developed the Code of Conduct in 2006 for Orthodox Tea Production, Processing and Market Promotion[14]. Policy advocacy, international marketing, training to farmers, and implementation of the code of conduct are its main functions. It also performs various technical assistance activities in partnership with foreign donor agencies for benefit of its members' .
14	Nepal Tea Planters Association (NTPA)	The NTPA has 26 members located mostly in Jhapa district and focused on CTC tea gardening, processing and exporting activities.
15	Specialty Tea Association of Nepal (STAN)	The STAN has 46 members and its functions include policy advocacy to the concerned agencies and capacity development of the members organizations.
16	Himalayan Tea Producers Cooperative (HIMCOOP)	The HIMCOOP (2003) is a joint marketing consortium of all Orthodox tea producers. It represents 20 tea factories/ estates and offers a variety of white, green, oolong, hand rolled and black teas. It provides technical supports in product development and has been success in overseas export market promotion drive.
17	Commercial Banks and Financial Institutions	Banks and financial institutions are directly contributing to tea sub-sector by providing credits which has exceeded Rs. 3 billion annually in the past several years. According to an official record Rs. 2.96 billion was extended in 2016/17[15].
18	Input and Energy Suppliers	Besides domestically produced natural manure, organic tea farming units are also using organic manures on needed basis which is imported from India, Thailand, etc. There are many private business houses in Ilam, Fikkal, Birtamod, Itahari and Biratnagar engaged in the supply of many inputs, machinery and accessories required for tea farming and processing factories. Processing factories are procuring new machineries and tools from agents and specialized shops in Kolkota and Siluguri of India and also from China and Chinese Taipei. Nepal Electricity Authority and Nepal Oil Corporation supply energies requirements to the farmers and tea processing factories.
19	Foreign Technical Assistance Projects	In the recent past many development partners and INGOs extended technical assistance for the development of tea sub-sector. For Example: (i) UNNATI – Inclusive Growth Programme of Danish International Development Agency; (ii) WTO-EIF, (iii) World Bank funded Project for Agricultural Commercialization and Trade, and (iv) Grass-roots Entrepreneurship and Capacity Building of Cooperatives of Agriterra Netherlands for CTCF. Earlier,technical assistance to the tea sub-sector was mobilized from Commercial Agriculture Development Project (CADP) of MoAD, USAID (NEAT), GIZ, JICA, SNV/ Nepal, IDA, and Winrock International.

[14]Ministry of Agricultural Development, Agriculture Development Strategies (ADS) 2015-2035.
[15]Himalayan Orthodox Tea Producers Association (HOTPA), the Code of Conduct Regulation (2063) for Orthodox Tea Production, Processing and Market Promotion.

2.8. Value Chain Map

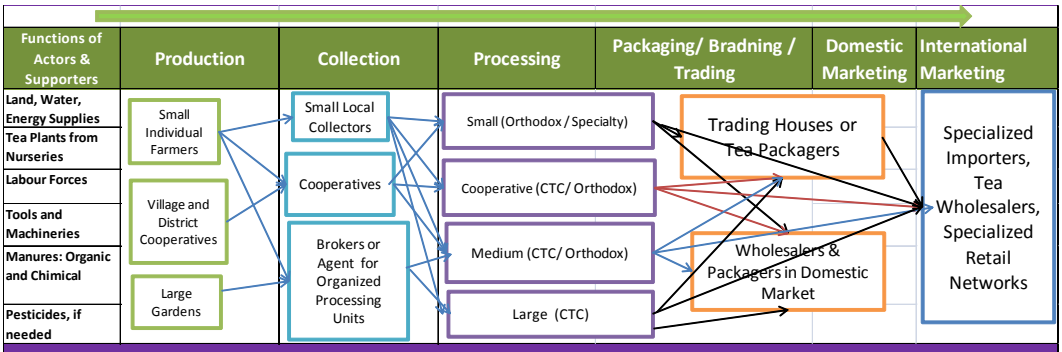


Chart 7. *Nepal tea - value chain map*

2.9. Marketing

2.9.1. Markets

This study has revealed that currently annual domestic market for tea in Nepal is approximately 10,000 MT representing 40 per cent of total supply (25,000 MT). The country's per capita consumption of tea is estimated at 0.307 kg. About 60 per cent (15,680 MT) of total national tea supply is exported (Chart 8). In the past 14 years, total tea export from Nepal increased by 263 per cent in quantity and 640 per cent in terms of value. India is the largest market for Nepal tea representing 96 per cent of total export in terms of quantity and 88 per cent in terms of value. Export to India increased by 317

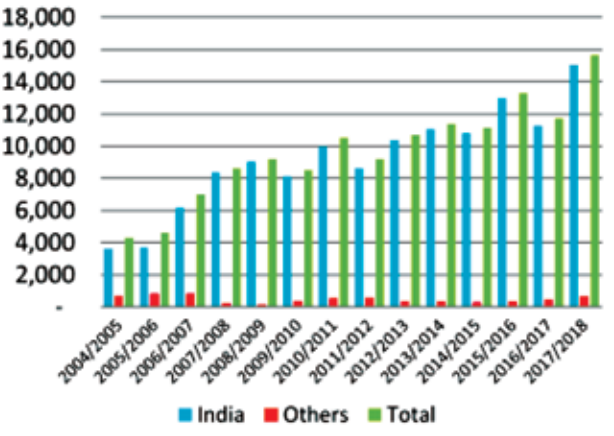


Chart 8. *Tea export to India and other countries - quantity in MT*

per cent in quantity and 737 per cent in value, while export to countries other than India decreased by 10 per cent in quantity but increased by 292 per cent in terms of value[16]. The result shows that export performance to India remained better albeit composite export price (Rs. 191/kg) is far below the price received from countries other than India (Rs. 593/kg).

2.9.2. Market Channels and Tea Auction

Processing or production units of made tea either sell their products to domestic wholesalers, packagers or export directly. In general wholesalers and packagers in domestic markets deliver teas in bulk from different processing units to retailers, tea shops, hotels or restaurants. Some of the processing units are exporting directly to specialized importers, auction markets, online markets or organic shops mainly in India (via. Siliguri and Kolkota), Germany, Czech Republic, China PR, France and USA.

The Ministry of Agriculture and Livestock Development (MoALD) and the Nepal Tea and Coffee Development Board (NTCDB) are working to establish a Tea Auction House in Nepal to facilitate farmers and buyers to ensure the best market price to farmers and producers without interference from middlemen. The NTCDB has already developed a proposal with concept and modality of operation and have submitted it to the MoALD for final decision.

2.9.3. Grading and Packaging

Processing or production units of made tea grade, package labele, their teas as per requests and requirements of various clients.

Grading and packaging is based on the size of the tea. Size and quality of tea are affected by the harvesting and processing technology of green leaves. The classification is done by hand or by passing the leaves through sifters with graduated mesh sizes to separate them out. The resulting piles of tea are then classified according to size, type and appearance. In grading and packaging Nepali tea processors also

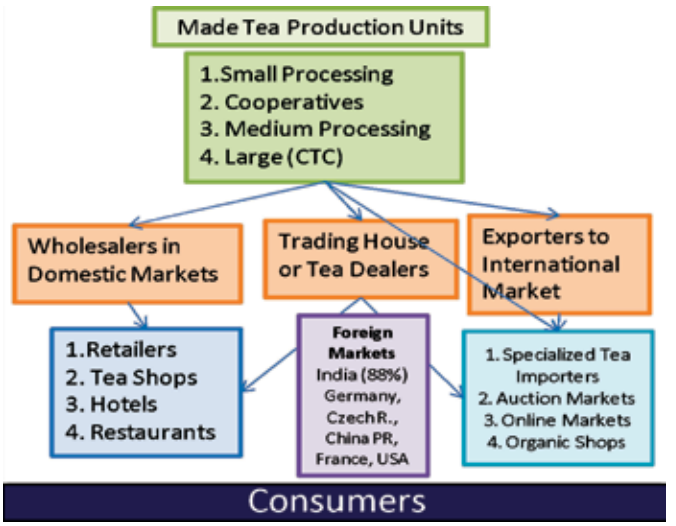


Chart 9. *Marketing channel of made tea*

[18]Trade and Export Promotion Centre, Foreign Trade Statistics of Nepal, 2017/18.

Table 11. Grades of Tea in Nepal.

CTC Black	Orthodox	Green
Leaf Tea		
	SFTGFOP1	GT Fine/Super Fine
	SFTGFOP	GT Lachcha
	FTGFOP	GT Bencha
	TGFOP	GT Sencha
	GFOP	GT Hyson/Y Hyson
	FOP and OP	GT Bulk
Broken Tea		
BOPL/BOP	SFTGBOP1	Mo~ra 1
BOPSM	SFTGBOP	Mo~ra
BPL/BP	FTGBOP	Cut Mo~ra
BPSM	TGBOP	Goli/Jira
	GBOP 1	Mazdana
	BOP	Fine Mo~ra
	BP	Twanky
Fanning		
PF	TGOF	Fanning
OF	GOF/FOF	OF/Fluf
	OF/PF	Yellow leaf
	BOPF	
Dust		
PD	PD	Soumee
Dust1 Dust	FD	FD
RD	Dust1	Dust
CD1 & CD	Dust	

Source: NTCDB/UNNATI, Publication

follow the method prescribed by the International Standards; ISO 11286:2004. Table 11 presents classification of grades by particle size analysis like leaf, broken, fanning and dust. Orthodox teas are normally packed SFTGFOP in 22 kg, TGFBOP in 26 kg, TGFOF in 29 kg, BPS in 25 kg and OF in 35 kg (Standard tea leaf grading and terminology are presented in Annexure 8).

2.9.4. Collective Trade Mark and Branding

The Government of Nepal has approved the collective trademark as "Nepal Tea" with specific logo registered with the Department of Industry in 2015 (Box: 5). Any company that fulfills the norms and standards set out by the government can use it with the permission from the NTCDB. This trademark assures buyers of the origin and product quality. This is monitored regularly by the NTCDB in collaboration with the HOTPA and other agencies. The NTCDB and TEPC are also collaborating to register the collective trademark in the major importing countries. Another logo - "Nepal Tea, Quality from the Himilayas" can be used only by organic orthodox tea producing and exporting companies after they become members and comply with the

Box 5. Collective Trade Mark & Logo

NEPAL TEA
QUALITY FROM THE HIMALAYAS

NEPAL TEA CTC | NEPAL TEA GREEN | NEPAL TEA ORTHODOX

Code of Conduct recently drawn up by the Government. A sub-committee chaired by the Executive Director of NTCDB has drawn up a Code of Conduct and norms that has to be complied to by the users of logo. One of the objectives of the code of conduct is to eliminate the uses of chemical fertilizers and pesticides in orthodox tea. Individual processing or production unit of made tea are also free to design and mark and brand their teas and also use marks of private sustainable standards as per their branding strategies and also follow the requests and requirements of foreign clients.

2.9.5. Market Access

Import of different kinds of tea into the USA is free of customs tariffs under the GSP scheme. Similarly, all EU member countries grant duty free entry facilities to the LDCs under the "Everything-But-Arm" EBA scheme. India also provides duty free access to Nepal tea under the bilateral "Treaty of Trade" as well as under the "SAFTA" of SAARC. However, almost all importing countries have very stringent non-tariff measures (NTMs). These include sanitary and phyto-sanitary (SPS) and food safety standard regulations to be complied with, test certificate from the recognized and designated laboratory to assure that the contaminants, toxic contents and residues are within the limits prescribed by respective regulations as well as other standards related to packaging, labeling. (Table 12). For example, in case of export to India Nepali exporters are required to obtain test certificate for any food item from "Notified Laboratory" (CFL), which is the Central Food Laboratory in Kolkota[19] for international import within 10 states' territories including Assam, Bihar, West Bengal, and Jharkhand in India. According to clause no 2.3.1 of Food Safety and Standard Regulation 2011 the quantity of tea sample is determined as 500 grams to be sent to food analyst in the Central Food Laboratory. Among other regulations of the FSSAI, the Food Safety and Standard (Contaminants,

Table 12. Standards and Chemical Requirements of Black Tea.

SN	Characteristics	ISO	India	Bangladesh
1.	Water extract, % (m/m) Minimum	32		32
2.	Total ash, % (m/m) Minimum – Maximum	4-8	5-8	4-8
3.	Water Soluble ash as, % of total ash (m/m) Minimum	45	40	42
4.	Alkalinity of Water soluble ash (as KOH) % (m/m) Minimum – Maximum	1-3	1-2.2	1.5-2
5.	Acid Soluble ash, % (m/m) Maximum	1	1	0.8
6.	Crude Fibre, % (m/m) Maximum	16.5	17	16

Source: NTCDB/UNNATI, Publication

[19]Under the Food Safety and Standards Act, 2006 (34 of 2006), the Food Safety and Standards Authority of India has issued Food Safety and Standards (Laboratory and Sample Analysis) Regulations, 2011.

Table 13. Tolerance Limit Requirements for Tea Import into India.

Contaminants	Not to exceed, ppm in weight	Toxic substance	Tolerance limit mg/kg/ppm
Lead	10	Agaric acid	1000
Copper	150	Hydrocyanic acid	5
Arsenic	1.1	Hypencine	1
Tin	250	Saffrole	10
Zinc	50	**Residues**	
Cadmium	1.5	Dicofol	5
Mercury	1	Quinolphos	0.01
Methyl Mercury	0.25	Glyphosphate	1
Aflatoxin limit µq/kg	30	Fenazaquin	3
		Glufosinate Ammonium	0.01

Source: The Food Safety and Standard (Contaminants, Toxins and Residues) Regulations, 2011.

Toxins and Residues) Regulations 2011, the determined requirements are given in Table 13.

Most potential new markets in the Asia-Pacific region for Nepali tea are Pakistan, Bangladesh, UAE and ASEAN countries. However, in all of these countries import duties and other taxes and duties are very high leaving Nepali tea uncompetitive vis-à-vis other large suppliers like Kenya, Sri Lanka, India, etc. For example, for tea import, Bangladesh charges about 89.42% over the duty assessable value (AV) which includes Customs Duty (CD 25%), Supplementary Duty (SD 20%), Value Added Tax (VAT15%), Advance Income Tax (AIT 5%), Regular Duty (RD 3%) and Advance Treat VAT (ATV 4%). In case of green tea, CD is 20%, SD is 0% and others taxes and duties are similar to black tea. Pakistan is the world's largest importer of tea and import duties on all kinds of tea is only 11 per cent on duty assessable value. However other duties and taxes are high;for example sales tax is 17 per cent on value including CIF and customs duties.

2.9.6. Conformity Assessment and Certification

In case of tea export to India the test certificate issued by Nepali Government authority like Department of Food Technology and Quality Control (DFTQC) and modern private laboratories (like Jest Lab) are not acceptable by the Food Standards and Safety Authority of India (FSSAI) because these laboratories do not have accreditation for required test parameters (like MRL, pesticide residues, tetradition or anthraquinon) from internationally recognized institutions. According to the prevailing practice Indian, importers of Nepali tea are not responsible for clearing the consignment at the India Customs side of the borders and for obtaining the NOC

Box 6. Sustainable Standards

from CFL. The exporters are therefore required to obtain No-Objection Certificate (NOC) from the designated authority of the FSSAI based on the lab test certificate issued by the Central Food Laboratory (CFL) located in Kolkata, which is about 600 Km from the nearest Nepal borders. Currently tea processing and exporting factoriesget lab test certificates from CFL on grade wise basis.

Exporting to countries other than India also requires test and organic certificates for the foreign buyers. Therefore, Nepali processors and exporters obtain organic certificates from private sustainable standard institutes like the Institute for Marketecology (IMO) of Switzerland, Japanese Agricultural Organic Standard (JAS), National Association for Sustainable Agriculture Australia (NASAA) (for Australia and EU exports), and the US Department of Agriculture, National Organic Certification Program (NOCP) and National Certification and Management Nepal (NATCM-Nepal), JEST laboratory, etc. There are many other institutions associated with environmental, social and economic sustainability aspects like UTZ Certified, Trustea, Ethical Tea Partnership, Rainforest Alliance Organic Certified, EUOC (European Union Organic Certification), ABF (Agriculture Biologic France), Fair Trade Group (FTG), etc. (Box: 5). Nepal has also developed organic certification system and has established a network with similar organizations in Thailand, Malaysia, Laos, the Philippines, China PR, Korea Republic, Sri Lanka, Italy and Indonesia. It is easier to export Nepali tea to these countries through "Organic Certification Nepal". The need to obtain one or more of such certificates of sustainable standards depends on the buyers' requests. The costs of inspection and obtaining certificate based on periodical auditing of small tea plantation and processing units by the technical team of these institutions are very high and beyond the means of small farmers and processors in relative to volumes of transactions they handle. As an option to reduce such costs some of the small farmers can join cooperative or processing unit to export their products.

2.10. Opportunities

Opportunities for the tea sub-sector enhancement in Nepal for inclusive and sustainable developments, production, regional and global markets, and environment and social reasons are enormous.

2.10.1. Rural Sustainable Development

As indicated in the earlier chapter, it is estimated that tea sub-sector in Nepal directly employs approximately 100,000 with more than 550,000 beneficiaries[20]. Small farmers have advantages such as: the possibility of fallow land utilization where no other crops are feasible, increase in employment and earnings, environmental up gradation, integrated rural development and enhancement of farmer's livelihoods and standard of life. In the past two decades tea plantation and processing activities have expanded from 5 to 19 districts as tea production has enhanced the livelihoods as an alternative to traditional low yielding subsistence farming system mainly in the mountain terrains of Nepal. In these districts food security is being gradually established among the large segments of rural population with their sustainable economic growth and also lifting them out of poverty and stagnation. Many other farmers whose livelihoods are based on traditional farming system in 19 districts and other districts are planning to grow tea on their farms that are in climatically suitable locations.

2.10.2. Production

Plantation and production of tea is possible in mountain as well as plain terrains with temperature between 30 and 35 degree centigrade, day light from 11 to 15 hours and annual rainfall of around 1000 milliliters. According to a study 1.2 million ha of land are available in mountain and plains that are suitable for coffee plantation in Nepal[21]. Such a study is not available for tea. However, informants of tea sub-sector opine that with technical knowledge, experience and suitable climatic condition, there is the possibility for extension of tea plantation in about 100,000 ha of land from the eastern to central parts of Nepal. The informants also indicate that there is a prospect for increasing tea production four folds within the next two decades.

2.10.3. Markets

The domestic market is promising in Nepal as the younger generations are moving toward health drink including orthodox, green and specialty teas. Many modern tea shops are setup in the urban areas and supermarkets while grocery shops sell hundreds of varieties of tea in the major populated markets in the country. Currently annual demand for tea is 10,000 MT, with per capita consumption of 0.31 kg, which is likely to increase with gradual increase in urban population and tea drinking habits for health reasons.

Many tea stakeholders believe that the marketing system in Nepal could be positively transformed by setting up a Tea Auction House. A Tea Auction House Committee

[20]Government of Nepal, Ministry of Finance, Economic Survey 2017/18, (Page 83 Annexure 8.14).
[21]The GON and ITC, National Sector Export Strategy, Coffee 2017-2021, P 43

has been formed with initiation from NTCDB. Adraft charter has been submitted to the Ministry of Agriculture and Livestock Development for approval and budgetary provision for an initial financial support. According to the private sector associations and leading tea entrepreneurs there are multiple advantages of a Tea Auction House: (a) introduction of fair price structure beneficial to farmers, gardens, transporters, processors and traders; (b) evolution of transparency in tea transaction and revenue collection; and (c) improvement in competitiveness and quality for better price.

The Asia-Pacific region consumed almost 85 per cent of total world tea consumption (Annexure 1) in 2015. China and India consumed about 60 per cent of the total global supply. Other larget consumers in the region are Turkey, Russian Federation, Pakistan, Japan, Egypt, Indonesia, Bangladesh, Afghanistan, Taiwan, Vietnam, and Myanmar. The share of the Asia-Pacific region in the world export was 61 per cent in 2017. Major importers of tea in the region are Pakistan, Iran, Saudi Arabia, UAE, Japan, China, Iraq, Vietnam, Hong Kong, Malaysia, Yemen, Turkey, India and Thailand.

96 per cent of the export of Nepal tea is to India and 84 per cent in value. Export quantity to countries other than India is negligible but unit value is high. Considering the global and regional market demands Nepal has great prospects of diversifying her tea export to many countries provided Nepal becomes more competitive in quality and price. Major markets with export prospects of Nepali teas are Pakistan, Bangladesh, Afghanistan, Japan, Iran, China, Iraq, Hong Kong, Malaysia, Turkey and Thailand (Annexure 5).

Pakistan, Bangladesh and UAE are three markets with immediate export prospect for CTC and Orthodox tea brands from Nepal. Pakistan and Bangladesh provide market access to Nepal through preferential tariff arrangement under the SAFTA. Pakistan is the largest importer of tea, representing 7.7 per cent of total world import and 17 per cent in total import in Asia Pacific region. Pakistan imported 185,000 MT of tea in 2017 with an average unit value of US$ 2,994 per MT. Major import sources to Pakistan are Kenya (79%), Rwanda (6.3%), India (3.8%), Burundi (2.5%) and Vietnam (2.5%). In the past 5 years import increased at an annual average rate of 11% in quantity and 16% in value. Prospects for export of tea from Nepal are bright relative to nearness and preferential import tariff. The market in Bangladesh is not large but is quite near (less than 75 km) from Nepal tea production and processing areas. Bangladesh imported about 2,900 MT of tea in 2017 out of which 81 per cent was sourced from India with average unit price of US$ 1,834 per MT. In 2017, Kenya exported 12 per cent at US$ 2,376 per MT and Malawi export about 4.5 per cent of total import into Bangladesh. Bangladesh has its own production is also exporting tea to other countries. Currently imports are also substituted by domestic production. However, Nepal has prospects to diversify export of CTC as well as Orthodox teas to Bangladesh if bilateral negotiations are conducted to reduce the import tariffs and harmonize non-tariff measures for Nepali tea in Bangladesh.

World consumption of tea is increasing annually by 4.5 per cent. The FAO has forecasted that the global tea consumption will be on the rise over the next decade. This is driven by a robust demand mainly in developing countries with improved health and wellbeing awareness among the young population. According the FAO, while overall market for tea is saturated in the traditional European market, the prospects are brighter for organic orthodox, green and specialty teas provided health and wellbeing benefits of such teas are properly promoted. Consumers are attracted by the benefits like anti-inflammatory, antioxidant, weight loss effects, etc. Moreover, consumers have become conscious of negative health impact of other drinks like soda, carbonated drinks, and packed milk and fruit juices.

In addition to increase in regional and global demands for tea, Nepal as LDC has the opportunity of market access in developed and developing countries coupled with duty free offers and preferential entry through schemes like GSP, EBA, DFQF, DFPT and other regional and bilateral arrangements.

2.10.4. Eco-Tourism, Environmental and Social Scopes

Tea plantation and commercialization has also given opportunities and scope for promoting eco-tourism in the tea areas. Many tea farmers have developed facilities for tourists in their plantation areas like home stay. In orthodox tea plantation small farmers mostly in mountain regions are not using chemical fertilizers and pesticides. This has greatly supported environmental conservation . Expansion of tea plantations has substantially protected negative environmental impacts that would have been possible through land erosion in the mountains of eastern Nepal. Increase in tea bushes has had positive impact on climatic conditions also. Additionally the livelihood of rural population has improved substantially to achieve social progress among farmers.

2.11. Challenges

The biggest challenge to Nepal is how to enhance the competitiveness of tea sub-sector by developing value chain system that increases production efficiency, value retention, value addition, and value creation.

2.11.1. Policy Implementation and Institutional Efficiency

Policies, plan and strategies are well documented as explained in paragraph 2.5 above. However, the implementation mechanisms are not effective due to the lack of clear vision, strong leadership, motivation and uncoordinated approach. Lack of a strong and effective strategy in trade diplomacy, government agencies frequently cause shipment delays at the India borders in Kakarvitta and Biratnagar due to bottlenecks to obtain testing certificate from the Central Food Laboratory in Kolkata.

Nepal is a landlocked country which makes access to international markets other than India difficult. Nepal has bilateral trade and transit treaties and agreements with

India, China and Bangladesh. Nepal has also tried to enhance trade and transport relations with other neighbouring countries through regional forums like SAARC, BIMSTEC, BBIN, though more meticulously efforts are needed to strengthen the country's capacity for economic and trade diplomacy.

Lack of a comprehensive incentive package and an effective trade facilitation on movement to enhance competitiveness of tea business is one of the most critical challenges. In Kenya and Sri Lanka 600,000 and 400,000 small farmers respectively, are occupied in tea farming[22]. The farming, processing and marketing systems are coordinated by supporting agencies in the public and private sectors. This has been made possible by a relatively better vision, planning and strategies and effective implementation mechanisms. The incentive packages to farmers, processors and exporters include inputs subsidies, subsided interest rate on credits for capital expenditures, tax free provisions, market promotion supports etc. Such provisions are also attracting long-term FDI in these countries. As of now official records show that Nepal could directly attract only 16,000 individual organized farmers in tea plantation.

2.11.2. Production and Productivity

Transformation of conventional farming system to modern farming system that improves the productivity and leaf quality is one of the challenges in Nepal. It attracts small farmer's consciousness and enthusiasm to knowledge expansion and sharing programs.

Inadequate provisions for result oriented training, exposures and capacity building programs for technical and semi-skilled factory workers have resulted in the slow progress of quality tea production. Some of such programs for quality improvements and introduction of "Good Agricultural Practices (GAP)" are yet to reach the needy small farmers in remote villages in many districts.

In the meantime, conventional processors are facing capital management challenge to procure modern machineries required for updating their technologies for quality upgrading.

Farmers as well as tea gardens are currently facing a critical labour shortage challenge in Nepal due to higher remuneration to labour abroad. As many as 5 million labourers have migrated to Middle East, Japan, Korea R., Malaysia, etc.

Additionally, there are few technicians suitable educational background to support farmers. The Machi Campus has suspended anacademic program in BSC Tea Technology due to the lack of future scope and absence of provision for MSc in other fields or in tea technology.

[22]South Asia Watch on Trade, Economics & Environment (SAWTEE), Tea Industry in Nepal and its Impact on Poverty, 2006.

Organic farms are facing added constraints like the high cost of organic imported or domestically produced inputs (manure and pesticides).

2.11.3. Market Requirements and Penetration

Other constraints to exports from Nepal are the lack of incentives and facilities to boost competitiveness from large tea producers and exporter like, China PR, India, Kenya, and Sri Lanka. Enormous supports and established facilities are available to the farmers, processors and exporters in these largest tea producing and marketing countries. CTC tea Nepal faces a steep competition from Assam tea and Dooars tea from India and this makes it for Nepal to compet with them in the global markets.

Individual firms, government specialized agencies and private associations lackf financial resources to conduct practical market research and promotional programs in major and potential markets in order to follow market trends, introduce product and upgrade and adapt programs to consumer's tastes and requirements.

Infrastructure, transport and logistics services in Nepal are yet to be developed to reduce marketing costs and maintain tea quality, smooth movements and timely delivery. Standards compliance is prohibitively costly and beyond the means of small farmers and processors.

The lack of tea auctioning system has also given monopolistic role to intermediaries. Communication gaps and reduced transparency in the domestic market have negative impact to tea production and market development in the country.

Inadequate supply of organic tea leaves in the country also makes it difficult for small farmers to meet demands of orthodox and specialty teas. These farmers frequently complain of high sampling costs and high cost to obtain test certificate.

2.11.4. Environmental

According to the UN FAO, tea producing countries are already having mpact of changes in agro-climatic conditions like rainfall and temperature patterns, droughts, floods, etc. on yield, quality and price and lowing income which are threatening livelihoods in rural areas. Nepal is not an exception to this issue and therefore urgency is already felt to integrate climate change challenges, both on the adaptation and mitigation front, into the national tea development strategies of the country.

SUCCESS CASE STORY 1: Specialty Tea Processing Unit in Ilam

Mr. Umesh Khatri, Director of Kanchanjanga Organic Orthodox Tea Industry in Sakhejung of Ilam is one of the dynamic young entrepreneurs fully encouraged by the meticulous and hard work of his mother Ms. Milan Khatri, who is now engaged in managing the factory. This factory has 20,000 kilogram capacity of producing made tea. There are 84 small farmers operating organic tea farms in 40.8 ha of land and all of them as members fully devoted to this factory. Farmers are paid for their fresh leaves based on the grade such as (a) Special Rs. 450/kg, (b) Grade II Rs. 200/kg, (c) Grade III Rs. 137 per kg, (d) Grade IV Rs. 65/kg and Grade v Rs. 40/kg. The farmers are also supported by technical advises and

training programs. Factory gives employment to 10 permanent workers and 20 seasonal workers. Export price of this Unit ranges from Rs. 4,000 to Rs. 15,000/kg depending on the quality and grades. For example Silver needle attract price as high as Rs. 15,000 per kg and an average price is Rs. 4,000/kg. According to Ms. Milan Khatri recently it has been possible to upgrade the factory with new machineries like green tea processor, rollers and separators through the financial supports of the UNNATI Project of Danish Government. The management of factory has very cordial relations with the small farmers in Sakhejung village.

3 Lessons Learned and Success Factors

In the past sixty years, the growing consciousness of the economies of tea farming on stakeholders has recorded several lessons as well as some critical issues and experience on farm practices, productivity, quality, technology, business environment, competition, market access. A number of factors have contributed to the success of tea development in Nepal. Table 14 Attempts summarizes some of these.

3.1. Climatic and Physical Features

Nepal introduced tea plantation in 1863 in only one district and a small tea processing plant was set up 15 years later. For many years tea leaves harvested in the remote border areas were delivered to processing plants in Darjeeling. There was a knowledge gap on the prospects of resources utilization and economic viability of tea production in the country. It was only later that the economic importance of tea was realized and farmers gradually were attracted to tea plantation coupled with experience from India. It was until the mid-1990s that the economic importance of tea was emerged as commercial farming and processing gained momentum in Nepal.

One of the reasons for the success of tea farming in Nepal is the easy access to learning on tea farming practices and processing technology prevalent in Darjeeling and Khorsang in India. Coupled with the above, the gradual experimental success on climatic and topographical conditions proved positively suitable in 19 districts of Nepal. Farming communities witnessed good returns on land and other resources as they invested in tea business. Nepal's topography; climate and locations are suitable for quality or premium niche product required in the world tea market and the availability of fallow land and mountainous terrains suitablefor any other cropping has given opportunities to small farmers to utilize virgin / fallow lands for tea plantation. Such virgin lands are producing unique and high quality organic orthodox tea.

Table 14. Lessons Leaned and Success Factors.

SN	Topics or Subjects	Issues and Lessons Leaned	Success Factors and Impacts
1	Climatic and Physical Features and availability of resources including land	A long time knowledge gaps on prospects of resources utilization and feasibility of production development	Transfer of tea farming practices and processing technologies from across the borders. Positive economic impacts due to increase in production and export.

SN	Topics or Subjects	Issues and Lessons Leaned	Success Factors and Impacts
2	Farming and Processing Practices and Management	Government intervention and management needed in new economic prospect areas at an initial stage for development of a particular product and service	Encouraged private sector investment through transfer of technology, trading practices and marketing linkages. Many small farmers mobilized in investment and production.
3	Small Farmers' Contributions started with "Small Farmers Scheme" – with women majority.	Labour intensive production is successful with mass participation of labours in sharing investment and business. About 56% of total workforce is made up of constituteswomen.	With participation of 32,000 small farmers' and their land use doubled in one decade from 20% to 46% of total land under tea plantation. Women's devotion to farming has made the tea business a success.
4	Business Environment: Agriculture, Trade and Investment Policies and Regulations	Liberalization and privatization policies led to high jump in the size of the tea business .	Small farmers' as private sector organizations participation led to increase in production by 384% and by 263% in export volume.
5	Institutional Supports – effective coordination and collaboration	Lead roles of Government agencies in facilitation are more important or pragmatic than their direct involvement in business.	Effective institutional coordination and collaborative efforts of government facilitating agency will result in an increase in the size of the national business.
6	Marketing, Linkages and Diversification – Efficiency of private sector	Private sector autonomous organizations are more efficient and flexible in developing linkages with the foreign buyers through proper coordination and communication of exact standards and requirements of consumers to the actors in the supply chains.	Knowledge and understanding of the farmers and processors on market status that could contribute in producing leaves and made teas as per tastes and requirements of consumers in the market.
7	Organic and Specialty Tea – niche markets	Feedbacks on market niche and needs by the buyers help to adapt products to suit consumer's tastes and requirements.	Farmers could transform from conventional to organic farming system to meet market demand.
8	Social and Environmental Factors for sustainable development with reduced poverty.	Market also supports socio-economic development of people engaged in production in developing countries and to stop the use of chemicals and pesticides so as to conserve environment.	Tea production based on market guidance helped in boosting social-life of rural inhabitants with positive impact on health of women and children.

High hill garden in Sri Antu Ilam

The overall impact is that with the gradual commercialization of tea farming and processing, tea as has become the single crop that contributes about one per cent to agriculture GDP of the country. Currently 19 out of 76 districts are engaged in tea plantation and processing. It is cultivated in almost 29,000 ha of land with a tonnage of 25,000 MT and , export exceeds 16,000 MT while overall employment is estimated at 100,000 people.

3.2. Farming and Processing Practices

The Government intervention started with the establishment of a modern tea processing plant in 1878 with the setting up of Nepal Tea Development Corporation in 1966. The xpansion of tea plantation, processing and production was gradually achieved by mobilizing small farmers to cultivate tea in their own land and to harvest teag in Government plantations concomitantly. Once the five districts nearby Ilam were declared by Government as a "Tea Zone" in 1982, a support package to small farmers (with leaves purchase guarantee), tea estates and processors was introduced. Since then tea farming has emerged as a sustainable and attractive cash crop for rural livelihoods and an alternative to subsistence (cereal and vegetable) farming system.

Many private sector entrepreneurs have also invested in tea plantation and processing units in Jhapa district for CTC tea production. Farming system and processing technologies were gradually transferred from Darjeeling and Assam in India and trading practices and marketing linkage were established with the help of entrepreneurs in Siluguri 25 Km across the border.

It was felt that at an initial stage, government intervention is necessary in a new economic prospective area for the development of a particular product or service.

Private sector entrepreneurs usually venture in new businesses only after observing and analyzing the experience and successes of government efforts. Initially the major factor for the success in tea development in Nepal was the transfer of knowledge on farm practices and processing technologies from India. With the growth and experience in tea business, Nepali entrepreneurs started developing linkages with China PR and Taiwan for low cost and efficient technology, inputs and machineries that reduced processing cost in Nepal.

3.3. Small Farmers' Competitiveness and Cooperatives

Tea farming as well as processing is highly labour intensive. Mechanical harvesting of tea leaves is yet to prove success in terms of economy and quality production. All tea leaves of orthodox tea are handpicked and require labour and technical experts in harvesting and processing. When NTDC was set up with its own plantations it was possible for farmers to work as tea picking labourers and to sell the tea leaves harvested from their own plantation to the government factory for processing. This objective was backed by the Government's "Small Farmers Scheme" project in 1978 that encouraged small farmers in Kanyam and Sri Antu areas to plant tea in their lands. This policy encouraged farmers to utilize their land and gradually expand plantation in the vicinity of their villages. Official records show that as many as 32,000 small farms' families both in mountain and plan land of provinces 1 and 3 were directly involved in tea plantation and processing.

Small farmers picking tea leaves

In small scale production, which equally requires low investment, tea is handled by the workers and quality is managed carefully. Farmers are conscious of the need to be independent and enterprising. The cost of production is relatively low, almost half what is obtained in India thoughlabour output ratio or productivity is high. Small farm units in Nepal do not have constraints labour union like their Indian counterpart with bargaining strength.

It is worthy to note that significant growth in land use and production are due to increase participation of small farmers and women in producing tea. Small farmers' share of the total land used for tea increased from 34% in 2001/02 to 46% in 2017/18 and 41 per cent in their share of total production. Approximately 56 per cent of total direct employment is constituted by female workers. one of the most important success

Very fine leaves for top quality orthodox

factors in tea development is the involvement of small farmers and their investment in land and inputs required for tea farming. It was believed that labour intensive agri-production is more successful with the number of workers and farmers who collectively and individually share investment and business.

Effective management of Cooperatives is one of the factors behind the success of small farmers. The Cooperatives at village and district levels were well coordinated by the Central Tea Cooperative Federation Ltd. The Cooperatives are playing crucial roles in supporting small farmers in policy lobbying, technology transfer, capacity building, marketing, knowledge sharing.

3.4. Business Environment

Growth in the tea sector in Nepal was spurred by the trade liberalization and privatization policies adopted in early 1990s. Most favourable business environment was gradually established after Nepal followed the globalization movement with economic liberalization and integration policies during early 1990s. Since then National Economic Plans and Agriculture Development Strategies given priority to cash cropping including tea. Tea Policy was launched in 2000 and was focused on farming, processing, production, financing, marketing, R&D, and capacity development in the sector. Favourable policy and regulatory provisions have encouraged many private sector entrepreneurs to invest in tea plantation and processing factories in tea zones for orthodox tea and in Jhapa district for CTC tea.

Small farmers processing unit for specialty tea

The Industrial Enterprise Act 2010 and Foreign Investment and Technology Transfer Act 1992 were promulgated to guarantee investment security and protection, tax holidays, export incentives like VAT refund, bonded warehouse, priority bank

credits, cash incentive. The Nepal Rastra Bank (Central Bank of the country) has as policy to refinance commercial banks at subsidized interest rate on credit extended to tea processing industries and exporters. These policies have encouraged the establishment of numerous tea estates by entrepreneurs in the private sector. Liberalization and privatization policies have boosted the volume of the tea business viz the production of tea increased by 384 per cent and export by 263 per cent in volume within one and half decades.

3.5. Institutional Supports

During the 1960s private entrepreneurs were not willing to take huge investment risks required in land and factory for commercial plantation and processing of tea. As such, the tea factory was set up by the Government. In addition to historical gardens, more tea plantation areas were developed in Kanyam and Soktim areas. Subsequently with request from local governments and farmers the Government invested in tea gardens and tea processing plants by setting up Nepal Tea Development Corporation (NTDC) in 1966. The objective of NTDC was to expand tea business and create income generation and employment opportunities in the country. Apart from achieving its objective the NTDC was successful in mobilizing small land holding farmers to expand tea plantation by sharing technical knowledge with them and ensuring the buying of tea leaves

However, for many years, the NTDC was success only in continuing its regular operation without substantial increments in tea business as it was managed by the officials who lacked adequate entrepreneurship and organizational autonomy. This institution gradually become feeble as it could not adapt easily to market requirements and upgrade technical and business management knowledge which resulted in a drop in business and increase cost in inefficiency and other weaknesses.

With the introduction of liberalization and privatization policies in 1993, state monopoly ended and public corporations like tea gardens and processing factories were handed over to private sector entrepreneurs on lease basis. ANational Tea and Coffee Development Board (NTCDB) with a different mandate was set up under the Ministry of Agriculture. It had the objective of facilitating the overall development of the tea and coffee sectors in Nepal. The NTCDB conducts research and advisories and supports farmers, garden owners, processing units, exporters and other stakeholders engaged in the tea production and marketing process The NTCDB collaborates with other support agencies like, DOA, DFTQC, NARC/NCARP, AICL, AEC, DADO, TEPC, NBSM, CTCF, Commercial Banks, and private sector associations such as NTPA, HOTPA, STAN, HIMCOOP,. There are also many Development Partner agencies who worked in the past and are currently collaborating with the NTCDB for the technical and financial in development of the tea sector. The roles played by all of these institutions are crucial in their respective fields in the development of tea business in Nepal. Effective institutional coordination and collaboration in

supporting key actors of the value chains are also success factors of tea production and export development in Nepal.

3.6. Marketing and Linkages

One of the most important factors that paved the way for tea production and export development in Nepal is the robust growth of global demand, price and consumption. In two decades, global tea production increased by more than double from 2.53 million MT in 1993 to 5.73 million MT in 2016 and export increased by 90 per cent from 1.1 million MT to 2.08 million MT in 2016. The overall global market is forecasted to be at US Dollar 44 billion in 2021 from 34.9 billion in 2013. Such trends have created new rural income opportunities and improved food security by transforming the livelihoods of small farmers from subsistence farming. Consequently, small farmers are attracted to tea farming because it brings higher returns from their land as against the other traditional crops.

According to an official records in the last one and half decades the plantation area of tea gardens increased by about 100 per cent and tea plantation in small farmers' owned land increased by about 200 per cent with an increase of 5,000 to 15,000 farmers. The majority of these farmers are located in mountain terrain with plantation located at 3000 ft above the sea level and who produce leaves for orthodox, oolong, green and specialty teas that fetch higher price than CTC tea in the international markets.

Most of the farmers have developed linkages or are associated with orthodox tea production factories, that provide guarantee to buy leaves and provide technical and farming guidance to maintain the quality and safety standards as per instructions received from sustainable standard institutions and buyers. More than 7000 farmers are associated with cooperatives that have established linkages with the processing units. These farmer follow buyers' preferences and standards. and safety instruction and requirements. Some of the cooperatives (31) have their own processing units with direct linkages to overseas buyers. The cooperatives have instructions from the buyers to produce orthodox, green, oolong and specialty teas. As such, many small farmers are directly or indirectly linked to the global market.

3.7. Organic and Specialty Tea

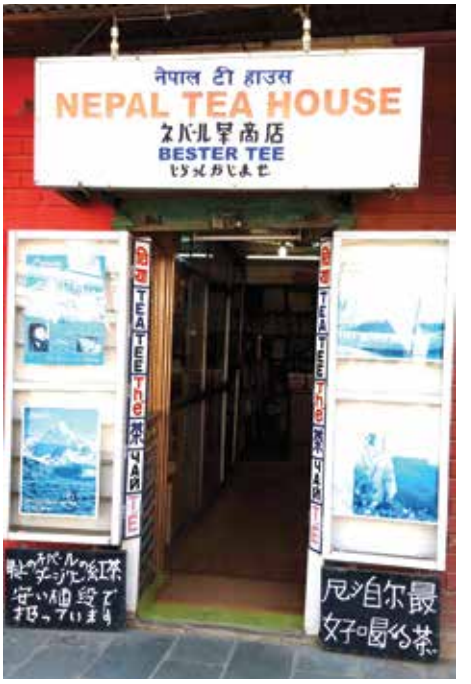
Many tea gardens and small farmers in mountain districts are in transition to organic from conventional farming system. Thisfollows the global market trends for orthodox, green and specialty teas including herbal, fruit fusions and flavor gourmet teas. Moreover tea marketers and importers are also encouraging Nepali suppliers to focus on food safety and standards aspects in tea farming and processing to give due considerations to to health and wellbeing aspects of foreign consumers. Quality and specialty tea can be easily produced by groups of small farmers because of the availability of appropriate machinery for processing small quantity of tea with reasonable

Girls with traditional attaire plucking tea

investment. Consequently, a market-oriented approach was followed by farmers as well as tea entrepreneurs which resulted in an increase in orthodox tea production in Nepal by 24 per cent in 2017 as against 12.5 per cent in 2007.

3.8. Social and Environmental Factors

According to this study at least 100,000 people with 550,000 beneficiaries and 32,000 farm families are directly associated with tea plantation and processing that cover 28,000 ha in 19 districts of Nepal. Most of the farmers in mountain district are involved in orthodox, oolong, green and specialty tea and they do not use chemical fertilizers and pesticides. This has supported environmental conservation as the expansion of tea cultivation in mountain terrains has conserved land and prevented soil erosion in many parts of Nepal. About 75 per cent of women are involved in tea leaves picking with an over all contribution from women in tea production oft more than 56 per cent. An important impact of tea production is that it has boosted the social life of rural inhabitants in a short span of time and has increased standards of living and positively impacted the health of women and children. Spending capacities of



Tea shop in Kathmandu

Tea stall in Ilam

small farmers and other people associated with tea business have increased dramatically leading to a radical change in social lifestyle. Tea development has also helped in establishing sustainable development and in reducing poverty in rural areas of Nepal.

SUCCESS CASE STORY 2: Small Farmer in Sri Antu

Ms. Mohan Kumari Ghimire of Shri Antu Village in Ilam planted tea in one hector land in 1988. With others they harvest tea leaves for about 25 weeks a year and deliver it to the Ilam Tea Producers Pvt. Ltd factory 15 minutes walking distance from her farm. For 30 years, her family has been contributing to tea production by supplying green leaves to the factory . According to Mrs. Ghimire labour wage for harvesting is Rs. 10 per kg. and transportation charge from farm to the factory is to Rs. 3 per kg. Apart from this, manure cost is about Rs. 5,000. At present the factory pays Rs. 40 to 60 per kg depending on the quality of leaves. She said that some of the Government agencies, NGOs and Donor Partner's organizations occasionally conduct short term training programs, but these programs are lacking practical insight on the farming practices including IPM, organic manure production, etc.

SUCCESS CASE STORY 3: Farmer in High Quality Tea Leaves

According to **Ms. Bimala Rai**, farmers are attracted to tea because large cardamom another cash crop, frequently suffers from diseases that are difficult to control. In 2000 Ms. Bimala Rai planted tea in 0.25 ha land in high altitude of 1,800 meter. Her farm is organic and she harvests only two leaves and bud for the highest quality specialty, green and black gold teas. She says because of the high altitude with cold climatic condition it is possible to harvest 25 times a year per season. She harvests about 750 kg annually and gets Rs. 450 per kg.

4 Way Forwards

This section attempts to suggests some ways forward for decision makers, administrators, researchers, farmers, industries and other stakeholders to promote the tea business in Nepal and to enhancing productivity, rural livelihoods and environmentally and a socially sustainable system.

4.1. Policy and Regulations

Trade, agricultural, industrial and investment policies and strategies are critical in building domestic capacities for value addition and creation, technological upgrading and entrepreneurial motivation to ensure profitability and to attract investment enhance competitiveness and contribute to economic transformation process.

Trade policies determine incentives to domestic product development and market promotion objective and programs by reducing costs They also fix preferential market access conditions that affect ultimately production and market expansion opportunities.

Many developed countries have extended preferential market access through EBA, AGOA, and GSP to products of LDCs like Tea from Nepal. However, benefits of deeper integration and liberalization could not be possible if Governments in countries like Nepal modify holistically, implement and monitor effectively their domestic policies, strategies and action plans (Ref Paragraph 2.5). Such policies are more associated with agriculture, industry and investment that determine levels of productivity, returns on investment, production capacity, competitiveness, backward and forward linkages and transfer of technology and knowledge. Many product-specific and cross cutting issues spelt out in the Nepal Trade Integration Strategies 2010 and 2016 have not yet been addressed by the pertinent authorities. The National Export Sector Strategy on Tea (2017-2021) of the GON and ITC is already comprehensive in terms of strategies and plan for the development of tea in Nepal. Effectual operationalization of these propositions also requires strong commitments from government leadership, intergovernmental coordination, adequate motivations and active involvement of the private sector stakeholders.

In some areas, Government support is a must to strengthen a firm's competitiveness at least at an initial stage of its development like in the setting up of tea auction house. Additionally, private-public-participation (PPP) in an aspect of value chain development that is important. The cost of conformity assessment and standards

compliance are beyond the means of small farmers and processors. Government intervention is required is very crucial here. The, introduction of low cost certification system is required to be considered by the concerned stakeholders including pertinent Government agencies.

The Government of Nepal is yet to revise the Nepal Standards for tea leaves and various kinds of teas to give proper guidance to tea farmers as well processors and packagers. It is hoped that the prevailing, old and incomplete standards will be revised to meet food safety and quality standards of domestic as well as international markets.

Kenyan and Sri Lankan government strict interventions in enforcing product standards and compliance has resulted in value chain upgrading and ultimate contributions to the national economy. In the meantime, the PPP can be result-oriented and effectively operated if the key actors can receive benefits of capacity development programs like technical and skill development to enhance sustainable and long-term competitiveness through quality and standard improvements.

4.2. Farm Management: Promoting Sustainability, Inclusiveness and Environment

It is necessary that tea farms be extended not only for the purpose of utilization of available resources and existing processing capacities but also to keep abreast with the international market demand and strengthen Nepal's supply capabilities. Prevailing conventional farming system also needs further upgrading (i) to meet food safety and standard norms of importing countries, (ii) to improve productivity and quality of green leaves and (iii) to maintain sustainable practices. Implementation of programs for upgrading farm practices is possible only through collaborative efforts between the Government agencies and key actors and associations like farmers, processing units, cooperatives, private sector associations and foreign development partners. For this purpose research and development, training, exposure and other capacity building programs should be implemented with the technical supports of institutions like the NCARP of the NARC in collaboration with the public and private institutions and beneficiaries. Some of such program should also include management of environmentally friendly waste disposal system and production of organic manures. Additionally farmers and cooperative members could also be trained on development of clean energy sources required for tea processing.

Product diversification policy needs to be focused in view of global market preference and price trends. Orthodox, green, oolong and specialty teas are becoming more attractive than normal black tea. Some of these teas certified by the internationally recognized standard institutes and private sustainable institutes are fetching premium prices. Tea gardens and individual farmers are required to become conscious of those trends. Therefore, transformation or conversion from

traditional farming system to modern or organic farming system has become a matter of urgency for sustainability and inclusive development.

Attention should be given to post-harvest handling to maintain leaves' quality till it reaches the processing unit for withering. In many cases there is urgent need for additional collection centres (with sheds, weighing machines and paved clean floors) and transport facilities. The Government and Donor Partner's agencies could arrange providing such facilities mainly in the clusters of small farmers in remote villages.

4.3. R&D and Training

The National Commercial Agriculture Research Programme (NCARP) of the NARC located in Pakhribas (Dhankuta district) has mandate to overcome the challenges in commercialization of agriculture. This includes tea and large cardamom. It is focused on research on farm policy as well as technological aspects with a view to meeting the demand for long run research for product development. The scope for research includes varietal, agronomic practices and other related technologies. Currently it is working on development and dissemination of technologies through tissue culture system for disease free seedlings, energy efficient dryers, and water efficient irrigation system. Varietal assessments are based on collection of different cultivars from different sources, disease and nutrients management, and IPM.

In consideration of an emerging tea business and its growing contribution to the economy of Nepal the stakeholders have realized an urgent need to strengthen the scope of the NCARP for research and development as well as for training. This is to produce technical manpower at different levels including tea specialists, to support development and modernization of tea farming, processing and marketing. The NCARP can be restructured with appropriate objectives and entrusted with specific tasks such as (i) development of plant varieties (Clones) based on matured plants and seeds available from such historical tea plants in old orchards, (ii) modernization of plant propagation for enhanced productivity, (iii) soil and IMP system, (iv) waste management, (v) production of clean energy, (vi) modernization of post harvest and processing techniques, (vii) tea tasting and laboratory management, (viii) conformity assessment and certification system.

In addition to research and development of plant and farming system, training or academic education up to bachelor degree could be given to school graduates on the similar subjects on which the NCARP is working on R&D. In case NCARP cannot handle customized and specific academic and training programs it can also collaborate with private sector tea farms and factories, with one of the Universities and also with the development partners to set up a separate campus to provide education and training services to the students who have interest in tea sub-sector.

Smaller farmer's specific issues should also be addressed. Some of such issues are (a) provision of appropriate tools for harvesting tea leaves, (b) mechanism to supply organic manures (imported or domestically produced), and (c) upgrading their processing technology.

4.4. Capacity Building for Quality and Safety

There are as many as 138 large, medium and small processing units for CTC, Orthodox, Green, Oolong and Specialty teas requiring different processing techniques, machineries and tools. Building capacities of these units are urgent for domestic value addition as well as value creation and for increased quality and safety assurance to the buyers. Capacity building would be possible if concerned Government agencies can develop a package of programs to (i) provide matching grants to upgrade machineries and tools, (ii) organize customized skill and semi-skill development training programs to workers, (iii) conduct on the spot training on process changes to increase productivity and quality to meet international standards, (iv) strengthen mini labs at the processing units, and (v) arrange supports to obtain private sustainable certifications collectively to smaller processing units which are producing orthodox, oolong, and specialty teas.

Training programs are also needed to disseminate and impart knowledge on Good Agricultural Practices (GAP) and international food safety and hygiene requirements such as meeting standards of HACCP (Hazard Analysis and Critical Control Points), the EU General Food Law, the Food Safety Modernization Act of USA, etc.

4.5. Market Promotion and Diversification

Global tea market is very large and complex and is forecasted to reach the tune of US$ 44 billion in 2021 with already more than 5.5 million MT of production of which 40 per cent was external trade in 2017. It is also estimated that over the next decade tea market is likely to increase by 40 per cent. A continued linkage and understanding of the world market by all the stakeholders is essential. Therefore, Nepal should determine promising existing as well as new target markets and penetrate these markets by developing linkages through periodical interactions and communication between the exporters and prospective buyers. This is practically feasible through regular participation in international specialized food and beverage fairs, or World Tea Expo, or buyers-sellers-meet, innovative product development through adaptation for niche markets or promoting specialty tea in high-end market. The following are some of the specific suggestions:

- Market focused production: quality black, green, white, oolong and specialty teas should target overseas markets and value can be added and high price can be attracted. Some of the secondary grade teas can go for value adding

by blending or combining or fusion with flavours and spices from dry fruits, cinnamon, cardamom, flowers, pepper, etc.

- Continuous market research by individual exporters is needed to track new trends and respond with product adaptation and quality improvements. This urges periodical linkages through high exposure and interaction with potential buyers and experts through many trade shows and consultations with tea specialists in target markets.
- A package of promotional campaigns should be programmed in focused group of countries like (a) where prices are attractive for orthodox, green and specialty teas (for example UAE, Germany, Poland, UK, USA, etc.) and (b) where per capita consumption is low for the CTC teas (for example Portugal, Belgium, Italy, Denmark, Spain, S. Korea, USA, Finland, Austria, etc.); (c) having high market prospects like Bangladesh, Pakistan, Russian Federation and UAE (Annexure 2).
- Consumption of organic and specialty teas in the selected potential markets can be encouraged by promoting health and wellbeing benefits.
- Support small farmers in forwarding tea to the market for sampling and also in obtaining organic certification. Small farmers specialty tea also considered appropriate to participate in trade fair like Mount Emei Tea Expo held at Emeishan, China PR annually in July.

Like in other major tea producing countries domestic tea marketing system in Nepal can be transformed by setting up of a Tea Auction House with numerous advantages to national stakeholders as well to international buyers as explained earlier in this report. However, the urgency is that the policy making pertinent authorities are needed to give careful consideration to (a) setting up of standard operational norms backed by adequate government regulatory provisions, (b) management of resources and financial supports needed from the government, (c) promotion and incentive measures to attract foreign prospective buyers, and (d) technical supports of independent foreign professional or institution at least during the initial stage of its operation. Market diversification efforts should be backed by (i) trade preferential (tariff and non-tariff) arrangements through effective trade diplomacy, and (ii) exclusive market research and study with the objective of product adaptation to meet the exact trends of consumers' taste and market demand.

4.6. Economic and Trade Diplomacy

In the context of least developed countries (LDCs) like Nepal, success in economic and trade diplomacy is determined by the continuation and expansion of preferential (tariff and non-tariff) treatments that might encourage not only

boosting of trade but also increase in domestic as well as foreign investment. This will lead to ultimate expansion of production, productivity and competitiveness. For example at the regional level from BIMSTEC or SAFTA Nepal can initiate negotiation for market access to member countries free of tariffs and selected non-tariff barriers. Additionally Nepal has a great prospect of promoting tea exports to and attracting investors in tea sector from some of the member countries like Pakistan, Bangladesh, Sri Lanka, and Thailand. The UAE is another country having tea export prospect from Nepal.

Nepali exporters are of opinion that market diversification of tea to Bangladesh and Pakistan should be backed by establishing cordial business relations and negotiating meticulously and articulately on the terms of trade and payments.

Bilateral trade negotiation should be immediately initiated with Pakistan, Bangladesh, UAE and Sri Lanka to export CTC as well as Orthodox teas on duty free entry basis for the facts that (i) prices of tea in these countries are higher than what Nepal is getting from India; (ii) consumers in these markets prefer the similar tastes, grades and standards; (iii) import demand is higher and increasing; and (iv) currently there are already provisions for preferential duty under the trade liberalization program of the SAFTA.

4.7. Trade Facilitation and Infrastructure

The main objective of developing trade facilitation, infrastructure and logistics system in a country like Nepal is to reduce the export transaction costs so as to achieve added product competitiveness in the global market. Trade facilitation tasks should focus not only on customs procedures and transport facilitations it should also go beyond customs procedures and include improvements and upgrading of regulatory norms, non-tariff measures, effective trade diplomacy for easy market access, conformity assessment and certification, capacity development of supporting institutions and infrastructural developments. The Government should determine the priorities and look for the possible collaborative efforts with private institutions and also development partners including international agencies.

SUCCESS CASE STORY 4: Orthodox Black Tea Processing Unit

Mr. Kishan Giri, Manager of Ilam Tea Producers' Pvt. Ltd. in Shri Antu of Ilam is of opinion that tea production could be doubled if existing constraints of labour shortage are removed. Train labours are migrating for high remuneration abroad. Additionally climatic conditions are changing and becoming unreliable. At times there is heavy rainfall and land does not remain dry in time as needed by the plant. Sometimes there is low rainfall that results in inadequate soil moisture. All the machineries are imported from India and the factory exports its entire six grades of tea like SFTGFOP1, BPS, TGBOP, TGOF, FOF and Green Tea to India. Currently the samples for export consignments are tested at Central Food Laboratory (CFL) of Kolkata to provide certification for six grades.

This factory collects 1,600 MT of tea leaves annually from about 250 small farmers toproduce about 22% or 355 MT of made tea. Tea is packaged in average of 22.5 kg aluminum quoted paper bags for export to India. The Products are branded as "Antu Valley Tea" and Packing is also fixed with "Nepal Tea, Quality from the Himalayas". Mr. Giri is of opinion that "Halahal Certificate" is needed to export to Muslim countries and as a recent problem of Anthraquninone is resulted due to the use of coal in the heating chamber in the tea drying process. A group discussion with experts concluded that the reasons for Anthroquninone are yet to be scientifically confirmed.

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Annexure 1

Major Tea Consumers in 2015

	Countries	Qty '000 MT	Share %
1	China	1812	39.40
2	India	948	20.61
3	Turkey	253	5.50
4	Russian F.	155	3.37
5	Pakistan	152	3.31
6	USA	130	2.83
7	UK	114	2.48
8	Japan	108	2.35
9	Egypt	86	1.87
10	Indonesia	77	1.67
11	Bangladesh	76	1.65
12	Morocco	59	1.28
13	Afghanistan	55	1.20
14	Taiwan	40	0.87
15	Iraq	37	0.80
16	Poland	35	0.76
17	Germany	33	0.72
18	Vietnam	33	0.72
19	Kenya	29	0.63
20	Sri Lanka	28	0.61
21	Sudan	26	0.57
22	Malaysia	23	0.50
23	Chile	21	0.46
24	South Africa	20	0.43
25	Myanmar	20	0.43
26	Canada	16	0.35
27	Senagal	16	0.35
28	France	15	0.33
29	Libya	14	0.30
30	Mauritania	14	0.30
31	Algeria	13	0.28
32	Yaman	13	0.28
33	Togo	12	0.26
34	Syria	12	0.26
35	Hong Kong	11	0.24
36	Kuwait	11	0.24
37	Australia	11	0.24
38	Netherlands	8	0.17
39	Irland	7	0.15
40	Jordan	7	0.15
41	Tunisia	7	0.15
42	Italy	7	0.15
44	Other Countries	35	0.76
World's Total		**4,599**	**100.00**
Asia & Pacific Total		**3,927**	**85.39**

Source: International Tea Committee 2016
Note: Asia and Pacific Countries are highlighted

Annexure 2

Per Capita Tea Consumption of Major Markets in 2016

Country	Tea consumption
Turkey	6.96 lb (3.16 kg)
Ireland	4.83 lb (2.19 kg)
United Kingdom	4.28 lb (1.94 kg)
Russia	3.05 lb (1.38 kg)
Morocco	2.68 lb (1.22 kg)
New Zealand	2.63 lb (1.19 kg)
Egypt	2.23 lb (1.01 kg)
Poland	2.2 lb (1.00 kg)
Japan	2.13 lb (0.97 kg)
Saudi Arabia	1.98 lb (0.90 kg)
South Africa	1.79 lb (0.81 kg)
Netherlands	1.72 lb (0.78 kg)
Australia	1.65 lb (0.75 kg)
Chile	1.61 lb (0.73 kg)
United Arab Emirates	1.59 lb (0.72 kg)
Germany	1.52 lb (0.69 kg)
Hong Kong	1.43 lb (0.65 kg)
Ukraine	1.28 lb (0.58 kg)
China	1.25 lb (0.57 kg)
Canada	1.12 lb (0.51 kg)
Malaysia	1.06 lb (0.48 kg)
Indonesia	1.01 lb (0.46 kg)
Switzerland	0.97 lb (0.44 kg)
Czech Republic	0.93 lb (0.42 kg)
Singapore	0.81 lb (0.37 kg)
Slovakia	0.8 lb (0.36 kg)
India	0.72 lb (0.33 kg)
Taiwan	0.65 lb (0.29 kg)

Country	Tea consumption
Sweden	0.64 lb (0.29 kg)
Hungary	0.62 lb (0.28 kg)
Norway	0.6 lb (0.27 kg)
Austria	0.59 lb (0.27 kg)
Finland	0.54 lb (0.24 kg)
United States	0.5 lb (0.23 kg)
Argentina	0.47 lb (0.21 kg)
Israel	0.45 lb (0.20 kg)
France	0.44 lb (0.20 kg)
Vietnam	0.44 lb (0.20 kg)
South Korea	0.37 lb (0.17 kg)
Spain	0.32 lb (0.15 kg)
Denmark	0.32 lb (0.15 kg)
Italy	0.31 lb (0.14 kg)
Belgium	0.28 lb (0.13 kg)
Bulgaria	0.24 lb (0.11 kg)
Romania	0.16 lb (0.073 kg)
Portugal	0.14 lb (0.064 kg)
Thailand	0.11 lb (0.050 kg)
Philippines	0.06 lb (0.027 kg)
Greece	0.05 lb (0.023 kg)
Venezuela	0.05 lb (0.023 kg)
Peru	0.05 lb (0.023 kg)
Colombia	0.04 lb (0.018 kg)
Brazil	0.04 lb (0.018 kg)
Mexico	0.03 lb (0.014 kg)

Source: Wikipedia

World Top Twenty Exporters of Tea - (Quantity in '000 Tons)

Annexure 3

Exporters	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
World	**1898492**	**1845697**	**2012996**	**2039695**	**2041681**	**2214453**	**2136109**	**2012746**	**2079015**	**2021755**
Kenya	390283	331594	417661	388344	380357	448809	458728	421632	481076	467024
China	296946	302952	302525	323118	313484	325806	301606	325290	331797	369545
Sri Lanka	318501	288427	312931	321074	318397	355251	325141	304835	286760	287083
India	201498	198113	218793	258745	225082	254672	212606	235132	230456	261419
Vietnam	104728	134532	136709	134528	146899	141021	132252	125186	136337	77391
Argentina	77498	69863	85744	86650	78056	77335	76892	76029	78177	74921
Uganda	45914	47928	55079	55256	55210	62018	59687	53319	56286	59207
Indonesia	96210	92304	87093	75450	70071	70842	66399	61915	51317	54121
Malawi	30435	47356	49999	46007	42494	43245	48227	38785	43656	41273
United Arab Emirates	45595				41559	61788	71342	30301	31878	33336
Germany	26990	25373	25946	28420	26870	27076	27406	25696	25417	25079
Poland	7387	8546	10132	14147	16614	19583	21558	19601	19598	19198
United Kingdom	27381	27984	30680	26661	20987	22491	21778	21059	19225	19189
United States of America	9091	8530	10854	11345	14180	13889	15388	16079	17718	18500
Tanzania, U R of	28103	30438	26172	27114	27784	26372	26781	29537	26308	17987
Netherlands	11177	9407	11591	8396	16078	16427	16830	16566	17596	17847
Russian Federation	11464	9713	7674	7309	12538	13578	12308	12517	14767	16863
Rwanda	20042	16478	22143	23207	23010	22344	24032	16548	17566	15250
Belgium	8045	7934	10044	15275	15153	12497	14405	14523	14383	14133
Nepal		9196	9987	8854	9893	10257	6293	11002	13325	12941

Source: International Trade Centre, Market Analysis Tools, Trade Map.

Annexure 4

World Top Twenty Importers of Tea - (Quantity in '000 Tons)

Importers	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
World	**1656416**	**1621052**	**1833955**	**1853249**	**1974848**	**1917028**	**2149262**	**1901657**	**1863879**	**1867370**
Pakistan	102987	89736	108102	119231	122304	121900	150948	164642	184886	183593
Russian F.	181859	182149	181616	187770	180486	173070	172607	173065	164398	168785
United Kingdom	157588	147855	149863	154602	144077	137615	128118	135229	128104	127788
USA	117861	110873	126880	127541	125594	130162	129264	129708	133487	126337
Egypt	59348	80304	141237	100423	109379	104697	103252	87946	88463	96842
Morocco	51872	54400	54470	65840	53078	57308	58995	64442	67314	72532
UAE	107061				123193	147861	149145	104209	79003	71624
Iran, I.R.	47692	48520	62860	50983	59261	65689	50916		56428	67862
Germany	50769	44278	50839	57655	58858	55233	58573	57691	57519	53792
Saudi Arabia	31219	26915	31138	33375	33381	34592	37453	36575	35885	39316
Poland	32671	41707	47102	48779	32816	32257	35445	34299	35118	37648
Iraq							221344	37460	39479	37605
Kazakhstan	29211	25821	27636	28775	33413	32935	31098	28590	30518	33266
Japan	43116	40133	43795	42013	37773	36157	32966	30599	29431	30430
Taipei, Chinese	25719	26484	31113	29268	29918	30203	32376	29934	26344	30210
China	5375	4134	12665	13952	18464	19599	22553	22865	22664	29706
Netherlands	25495	17850	22922	19810	18961	28594	27624	24813	26088	27744
South Africa	21096	27318	27491	24052	24078	25563	26997	26052	27680	27051
Uzbekistan	26971	24432	22182	24038	31862	28888	23855	29764	25201	26673
Malaysia	13561	16316	18445	19331	18242	19719	25549	21284	25223	24234

Source: International Trade Centre, Market Analysis Tools, Trade Map

Annexure 5

Major Exporters and Importers of Tea in Asia – 2001 and 2017

Value in US$'000

Exporters	2001	2017	Increase %	Share in Asia %	Importers	2001	2017	Increase %	Share in Asia %
World	**2965949**	**8026860**	**171**		**World**	**3026660**	**7213156**	**138**	
Asia	1731175	4902099	183	100	Asia	819860	3105850	279	100
China	342028	1611224	371	32.87	Pakistan (2003)	190241	549617	189	17.70
Sri Lanka	680029	1513207	123	30.87	Iran, I R	50060	307505	514	9.90
India	422932	768994	82	15.69	Saudi Arabia	113488	263159	132	8.47
UAE (2007)	95777	287125	200	5.86	UAE (2005)	247305	252754	2	8.14
Japan	9969	129915	1203	2.65	Japan	209283	177335	-15	5.71
Vietnam	78093	126658	62	2.58	China	2937	149445	4988	4.81
Indonesia	99967	114232	14	2.33	Iraq (2011)	53335	144161	170	4.64
Taipei, Chinese	14270	89823	529	1.83	Viet Nam	1150	134042	11556	4.32
Hong Kong, C	20846	38363	84	0.78	Kazakhstan	25894	122745	374	3.95
Nepal (2003)	5120	27952	446	0.57	Hong Kong, C	41925	109314	161	3.52
Singapore	15489	26896	74	0.55	Taipei, C	15647	74520	376	2.40
Turkey	4073	24966	513	0.51	Malaysia	11179	65454	486	2.11
Jordan	408	18483	4430	0.38	Yemen (2004)	13466	62922	367	2.03
Saudi Arabia	766	15108	1872	0.31	Kuwait	25498	60288	136	1.94
Oman	1171	13251	1032	0.27	Turkey	8375	59929	616	1.93
Thailand	1935	12894	566	0.26	Azerbaijan	22091	53984	144	1.74
Malaysia	1749	10338	491	0.21	Uzbekistan	14335	52795	268	1.70
Azerbaijan	3144	10233	225	0.21	Jordan	15568	50768	226	1.63
Iran, I R	6254	10071	61	0.21	Singapore	16992	46152	172	1.49
Kazakhstan	102	8886	8612	0.18	Afghanistan		43338		1.40

Value in US$'000

Exporters	2001	2017	Increase %	Share in Asia %	Importers	2001	2017	Increase %	Share in Asia %
Pakistan (2003)	321	8232	2464	0.17	Syrian A R	164366	41286	-75	1.33
Korea, R.	2240	6640	196	0.14	India	11337	39452	248	1.27
Yemen (2004)	2119	6171	191	0.13	Oman	10407	32997	217	1.06
Bangladesh	16942	4297	-75	0.09	Lebanon	9031	27972	210	0.90
Kuwait	1440	4191	191	0.09	Indonesia	3497	26224	650	0.84
Afghanistan		2598		0.05	Sri Lanka	7288	23715	225	0.76
Georgia	5855	2415	-59	0.05	Qatar	8090	17666	118	0.57
Myanmar (2011)	192	2328	1113	0.05	Korea, R	1542	16004	938	0.52
Israel	317	1800	468	0.04	Thailand	1401	15907	1035	0.51
Lebanon	125	1617	1194	0.03	Kyrgyzstan	5195	11374	119	0.37

Source: International Trade Centre, Market Analysis Tools, Trade Map.

Annexure 6

Nepali Tea Export Destinations - Quality in kg and Value in NRs from Fiscal Year 2013/14 to 2017/18

		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018			
		Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Rs./kg	Share %
1	Australia	4,473	1,814,746	1,927	1,149,792	6,694	1,617,442	1,123	1,742,767	933	551,480	591	0.02
2	Austria	22,969	3,313,584	9,211	1,059,975	653	1,297,697	175	573,248	120	427,900	3,599	0.01
3	Canada	5,664	8,261,433	4,044	8,726,983	3,753	8,974,790	3,268	7,931,542	2,793	8,430,750	3,019	0.26
4	China P.R.	28,270	8,895,191	31,480	14,094,067	52,161	17,058,144	34,701	11,182,754	49,247	16,176,760	328	0.50
5	Czech Republic	42,300	36,584,701	34,734	43,578,552	34,907	46,389,989	98,773	56,245,522	34,010	32,326,510	951	1.00
6	Denmark	287	892,481	208	562,547	492	1,343,794	171	449,113	52	222,990	4,305	0.01
7	Farnce	2,596	6,257,416	5,852	12,228,190	2,327	6,736,813	8,092	13,263,219	4,096	12,789,690	3,123	0.39
8	Germany	72,570	76,521,155	75,930	88,140,913	73,722	88,437,454	66,890	81,637,239	97,300	133,256,770	1,370	4.10
9	Hongkong	2,406	2,322,401	145	1,155,075	345	443,572	7	41,266	22	137,320	6,242	0.00
10	Hungry	-	-	343	503,373	101	481,573			124	683,660	5,536	0.02
11	India	**11,081,185**	**1,825,182,154**	**10,836,437**	**1,769,296,390**	**12,971,536**	**2,150,103,300**	**11,299,246**	**2,232,054,216**	**15,046,204**	**2,871,314,360**	**191**	**88.44**
12	Italy							2,488	1,259,414	597	1,179,080	1,976	0.04
13	Japan	4,060	3,656,029	9,095	6,440,836	11,460	10,168,601	23,471	17,038,164	14,429	12,414,300	860	0.38
14	Korea R.	325	32,338	44	138,849	164	48,506	700	1,626,117	170	117,620	692	0.00
15	Lithuania	384	1,546,829	240	663,584	210	753,401	261	631,173	95	486,030	5,116	0.01
16	Malaysia	4,403	605,405	4,570	3,851,815	1,216	2,090,921	13,637	2,192,368	1,600	1,206,160	754	0.04
17	Netherlands	177	820,438	671	1,082,817	363	1,010,770	566	769,515	1,620	3,918,140	2,418	0.12
18	Pakistan					38,796	5,098,157	23,972	3,375,018	0	0		0.00
19	Poland	80	177,508	916	1,197,468	349	742,317	182	95,755	286	578,290	2,022	0.02
20	Qatar	24,474	3,454,890	760	773,965	1,531	2,256,285	169	217,673	146	304,750	2,087	0.01

	2013-2014		2014-2015		2015-2016		2016-2017		2017-2018			
	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Rs./kg	Share %
21 Russia F.	45,504	17,955,284	97,690	30,050,709	48,764	13,596,052	143,944	42,798,469	372,922	109,585,370	294	3.38
22 Singapore	677	190,705	7	53,232			2	53,233	463	534,330	1,155	0.02
23 Slovakia	212	946,800	-		930	1,678,514	96	327,896	113	411,170	3,639	0.01
24 Swedan	20	209,467	1,429	2,044,737			201	1,296,512	246	1,445,000	5,874	0.04
25 Switzerland	196	627,203	600	197,943	361	200,509			111	455,210	4,097	0.01
26 Taiwan	148	170,781	1,842	1,352,932	1,577	1,738,735	1,619	1,822,299	0	0		0.00
27 U.A.E.	-	-	9,000	2,178,242	4	9,020			16,604	3,747,900	226	0.12
28 U.K.	1,091	3,604,910	2,368	2,608,895	1,193	3,599,833	1,099	2,881,451	1,607	3,511,880	2,185	0.11
29 U.S.A.	-	-	6,683	9,529,302	16,769	19,930,541	12,413	17,975,436	10,744	20,491,030	1,907	0.63
30 Ukraine	41,465	4,812,422	6,211	4,075,390			7,501	2,453,256	21,217	6,898,750	325	0.21
Other countries	10,064	20,583,729	35	140,526	18,691	14,312,851	235	830,826	1,130	3153,470	2,791	0.10
Total	**11,396,000**	**2,029,440,000**	**11,142,472**	**2,006,877,099**	**13,289,066**	**2,400,119,581**	**11,745,003**	**2,502,765,462**	**15,679,943**	**3,246,756,520**	**207**	**100.00**

Source: Trade Export Promotion Centre of Ministry of Industry, Commerce and Supplies, Government of Nepal.

Annexure 7

Members of Private Sector Organizations in Tea (E)[23]

Members of Central Tea Cooperative Federation (CTCF) -101

1. Aagejung Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
2. Aamadaplang Chiya bikas Sahakaari Sanstha Limited, Lalitpur
3. Aiselu Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
4. Ajambare Chiya Utpadak Sahakaari Sanstha Limited, Ilam
5. Asine Chia Utpadak Sahakari Sanstha, Terahthum
6. Barboteli Chiya Utpadak Sahakaari Sanstha, Limited Ilam
7. Basanta Chia Utpadak Sahakari Sanstha, Terahthum
8. Batase Chiya Utpadak Sahakaari Sanstha Limited, Ilam
9. Baudhadhunga Chiya Utdpadak Sahakari Sanstha, Ilam
10. Bhotnagi Organic Chiya Utdpadak Sahakari Sanshtha, Ramechhap
11. Boudha Dhaam Chiya Utpadak Sahakaari Sanstha Limited, Ilam
12. Chaarkhol Chiya Utpadak Sahakaari Sanstha Limited, Ilam
13. Chhintapu Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
14. Chiwabhanjhyang Chia utpadak Sahakari Sanstha, Panchthar
15. Chiya Utpadak Jilla Sahakaari Sangh Limited, Paanchthar Paanchthar
16. Chiya Utpadak Jilla Sahakaari Sangha Limited, Ilam Ilam
17. Chiya Utpadak Sahakaari Sangh Limited, Dhankuta Dhankuta
18. Chiya Utpadak Sahakaari Sangh Limited, Lalitpur, Lalitpur
19. Chiya Utpadak Sahakari Sangh Ltd.(Terathum), Terahthum
20. Chundhunga organic Chia utpadak Sahakari Sanstha, Lalitpur
21. Deuraali Chiya Utpadak Sahakaari Sanstha Limited, Ilam
22. Durlav Kanchan Chiya Utdpadak Sahakari Sanstha, Ilam
23. Eco Chiya Utpadak Sahakaari Sanstha Limited, Ilam
24. Everest organic Chia utpadak Sahakari Sanstha, Lalitpur

[23] All firms, company, factory or cooperative marked (E) are Exporter also.

25. Fulek Chia Utpadak sahakari Sanstha, Terahthum
26. Gadimai Organic Chia utpadak Sahakari Sanstha, Lalitpur
27. Gogane Chiya Utpadak Sahakaari Sanstha Limited, Ilam
28. Green Hill Chiya Utpadak Sahakaari Sanstha Limited, Ilam (E)
29. Greengold Organic Chia utpadak Sahakari Sanstha, Lalitpur
30. Hariyaali Jaibik Chiya Utpadak Sahakaari Sanstha Limited, Ilam
31. Hatikinara Chiya Utdpadak Sahakari Sanstha Limited, Jhapa
32. Highvision Organic Chiya Utpadak Sahakaari Sanstha Limited, Lalitpur
33. Hillside Organic Chia utpadak Sahakari Sanstha, Lalitpur
34. Hilltop Chia Utpadak Sahakari Sanstha, Ilam
35. Him Shikhar Chiya Utpadak Sahakaari Sanstha Limited, Ilam
36. Himaali Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
37. Himshikhar chiya Utpadak Sahakari Sanstha LTD. Ilam
38. Hurhure Chia utpadak Sahakari Sanstha, Ilam
39. Ilameli Chiya Utpadak Sahakaari Sanstha Limited, Ilam
40. Jalkanya Chia Utpadak Sahakari Sanstha, Terahthum
41. Janaheet Chiya Utpadak Sahakaari Sanstha Limited, Dhankuta
42. Janaheet Chiya Utpadak Sahakaari Sanstha Limited, Terhthum
43. Janasahavagita Pahadi Sana Kisan Chiya Utdpadak Sahakari Sanstha, Dhankuta
44. Kanchan Himaal Chiya Utpadak Sahakaari Sanstha Limited, Ilam
45. Kanyaam Chiya Utpadak Sahakaari Sanstha Limited, Ilam (E)
46. Khurila Chiya Utpadak Sahakaari Sanstha Limited, Bhojpur
47. Kulkule Chiya thatha Coffee Utpadak Sana kishan Sahakari, Terahthum
48. Laali Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
49. Laali Guransh Chiya Utpadak Sahakaari Sanstha Limited, Ilam
50. Mahabharat organic Chia utpadak Sahakari Sanstha, Lalitpur
51. Makalu Chiya tatha Coffee Utdpadak Sahakari Sanstha, Dhankuta
52. Makhalu Chia Tatha Coffee Utdpadak Sahakari Sanstha, Sankhuwasava
53. Makhalu Chia Utdpadan tatha Prasodhan Sahakari Sanstha, Sankhuwasava
54. Mude Basant Chiya Utpadak Sahakaari Sanstha Limited, Dhankuta
55. Naamfungyak Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
56. Namsami Chiya Utdpadak Sahakari Sanstha Limited, Panchthar
57. Nawami Chiya Utpadak Sahakaari Sanstha Limited, Ilam
58. Pahichan Organic Chia utpadak Sahakari Sanstha, Lalitpur

59. Panchakanya Sana Kishan Chiya Utpadak Sahakari Santha Ltd., Dhankuta
60. Parakhi Chia utpadak Sahakari Sanstha, Jhapa
61. Parakhopi sana kisan Chia utpadak Sahakari Sanstha, Jhapa
62. Pathivara Chia utpadak Sahakari Sanstha, Taplejung
63. Phoolbaari Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
64. Pragatishil chiya Utpadak Sahakari Sanstha LTD., Dhankuta
65. Pranbhung Chia Utpadak Sahakari Sanstha, Paanchthar
66. Raamche Organic Chiya Utpadak Sahakaari Sanstha Limited, Dhankuta
67. Raja Rani Sana Kishaan Chiya Utpadak Sahakaari Sanstha Limited, Dhankuta
68. Ramite chia Utpadak Sahakari Sanstha Ltd, Terahthum
69. Ratna Chowk chia Utpadak Sahakari Sanstha, Ilam
70. Saanimaai Chiya Utpadak Sahakaari Sanstha Limited, Ilam (E)
71. Saatthmke Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
72. Sagarmatha Chiya Utpadak Sahakaari Sanstha Limited, Udaypur
73. Sagarmatha Organic Chiya Utpadak Sahakaari Sanstha Limited, Solukhumbu
74. Sana Kishan Chiya Utpadak Sahakaari Sanstha Limited, Jhapa
75. Sankhjung Chiya Utpadak Sahakaari Sanstha Limited, Ilam
76. Sayaptari Chiya Utpadak Sahakaari Sanstha Limited, Ilam
77. Seselung Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar
78. Shanghubeshi Chiya Utpadak Sahakaari Sanstha Limited, Ilam
79. Shreeantu Chiya Utpadak Sahakari Sanstha Limited, Ilam
80. Siddha Pokhari Chiya Utpadak Sahakaari Sanstha Limited, Ilam
81. Sidimba Chiya Utpadak Sahakaari Sanstha Limited, Panchthar
82. Siidhithumka Chiya Utpadak Sahakaari Sanstha Limited, Ilam
83. Sikkidim Chia utpadak Sahakari Sanstha, Terahthum
84. Singh Devi Chiya Utpadak Sahakaari Sanstha Limited, Ilam
85. Singh Devi Chiya Utpadak Sahakaari Sanstha Limited, Terhthum
86. Singha Lila Chia utpadak Sahakari Sanstha, Ilam
87. Sopan chiya Utdpadak Sahakari Sanstha, Ilam
88. Subha Chiya Kishan Sahakaari Sanstha Limited , Jhapa
89. Sugandhit Chiya Utpadak Sahakaari Sanstha Limited, Dhankuta
90. Sulobung Chia Utpadak Sahakari Sanstha, Ilam
91. Sundarpaani Chiya Utpadak Sahakaari Sanstha Limited, Ilam
92. Surendra nagar Chia utpadak Sahakari Sanstha, jhapa
93. Tajelung Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar

94. Tinchule Orhanic chiya utdpadak sahakari Santha, Ilam
95. Tinjure Chiya Utpadak Sahakaari Sanstha Limited, Ilam (E)
96. Tinpate Organic chiya Utpadak Sahakaari Sanstha Limited, Lalitpur
97. Triyuga Chiya Utpadak Sahakaari Sanstha Limited, Ilam
98. Uchha Pahadi Chiya Utpadak Sahakaari Sanstha Limited, Ilam (E)
99. Uparjan Organic Chia utpadak Sahakari Sanstha, Lalaitpur
100. Yangrupthum Chiya Utpadak Sahakaari Sanstha Limited, Paanchthar

Members of Himalayan Orthodox Tea Producers' Association (HOTPA) - 44

1. Everest Tea Estate Pvt. Ltd. Contact: Mr. Som Prasad Guchan / Mr. Mohan Giri 9851086168, 4279113 mohan@inspiregroup.com 7000 12,000
2. Gorkha Tea Estate Pvt. Ltd. (E) Contact: Mr. Udaya Chapagain 9851078467 4498319 uchapagain@gmail.com Production in Kg. 70000, Capacity in Kg: 75,000
3. Guranse Tea Estate P. Ltd (E) Contact: Mr. Suresh Vaidya 9801021206 4478305 business@voith.com.np Production in Kg.120000, Capacity in Kg: 150,000
4. Himalayan Range Tea Ind. Pvt. Ltd. (E) Contact: Mr. R. K. Rathi 9852021734 9851055571 hrt@ntc.net.np Production in Kg. 450000, Capacity in Kg: 500,000
5. Himalayan Shangri-La Tea Pro. P. Ltd. (E) Contact: Mr. Kamal Raj Mainali 9851021068 4246703 kamalrajmainali@hotmail.com Production in Kg.150,000, Capacity in Kg: 1,75,000
6. Ilam Tea Producers Pvt. Ltd. (E) Contact: Mr. Asok K. Murarka 4445885 asok251@gmail.com Production in Kg.11,00,000, Capacity in Kg: 12,00,000
7. Jun Chiyabari Tea Garden Pvt. Ltd. (E) Contact: Mr. Bachan Gyawali 9801020260, 5527370 bachan@nbe.com.np Production in Kg.220000, Capacity in Kg: 2,20,000
8. Kanchanjangha Tea Estate P. Ltd. (E) Contact: Mr. Deepak Baskota 9801013022 4469503 organic@wlink.com.np Production in Kg.35000, Capacity in Kg: 38,000
9. Kuwapani Tea Plantation Pvt. Ltd. (E) Contact: Mr. Sushil Rijal 9852020259 4415638 kuwapanitea@ntc.net.np Production in Kg.12000, Capacity in Kg: 15,000
10. Mist Valley Tea Industry Pvt. Ltd. (E) Contact: Mr. Suresh Limbu 9852670287 023-694488 mvtea@yahoo.com Production in Kg.85000, Capacity in Kg: 95,000
11. Muga Tea Estate P. Ltd Contact: (E) Mr. Ajit N C Thapa 9851064656 thapa.ajit@gmail.com
12. Nava Arya Tea P. Ltd. Contact: (E) Mr. Gyanendra Gurung 9851029055 nepalt@gmail.cpm Production in Kg.7000, Capacity in Kg: 11,000
13. Nepal Small Tea Producers P. Ltd (E) Contact: Mr. Sumesh Agrawal 027540207 4434577 Tea@accord-int.com.in Production in Kg.250000, Capacity in Kg: 250,000

14. Nepal Tea Development Corpo. Ltd. (E) Contact: Mr. Subhash C.Sanghai 9851020529 4220916 ntdc@trivenionline.com Production in Kg.400000, Capacity in Kg: 450,000
15. North Nepal Tea Estate Pvt. Ltd. (E) Contact: Mr. Sudhir Mittal 4220172 miltco@wlink.com.np Production in Kg. 7000 11,000
16. Pathivara Tea Estate P. Ltd Contact: (E) Mr. Shiva k. yonga 9816980563 Production in Kg: 3000 , Capacity in Kg: 6,000
17. Sagarmatha Tea Estate Pvt. Ltd (E) Contact: Mr. Umesh Shrestha info@las.com.np -
18. Sakhejung Hill Range Tea Prod. Ind. Pvt. Ltd. (E) Contact: Chandra Bd Basnet/ Sumyash Agrawal 977 27207 tea@accord-int.com.in Production in Kg.85000, Capacity in Kg: 95000
19. Sandukphu Tea Processors P. Ltd. (E) Contact: Mrs. Twistina Subba 9841542522 5000184 tea@teadirect.org Production in Kg.5000 , Capacity in Kg: 5,500
20. Senchelengma Tea Estate P. Ltd. Contact: Mr. Sunil Kumar Rai 9851001936 5535208 teasector@yahoo.com
21. Shree Antu Tea Industries P. Ltd. (E) Contact: Mr. Atal Man Rai 9841929560 5547830 shreeantu@gmail.com Production in Kg.120000, Capacity in Kg: 120,000
22. Siddha Devi Tea Estate P. Ltd (E) Contact: Mr. Hum Nath Koirala 9851021189 hnkoirala@gmail.com -- Production in Kg.10,000
23. Siddhi Binayak Tea Industries P. Ltd. (E) Contact: Mr. Pradip K Agarwal 9852672493 027-540423 siddhibinayak.ti@gmail.com Production in Kg. 250000, Capacity in Kg: 250,000
24. Tham Danda Silichung Krishi Sahakari Contact: Mr. Ganesh Rai 9851098111

Member of Specialty Tea Association of Nepal (STAN) – 46

1. Ajambare Himchuli Chiya Udhyog Ilam West , Contact: Samir Pakhrin 9842718838
2. Ambote Hatte Chiya Udhyog Ilam West, Contact: Hiralal Magar 9844656519.
3. Aroma Nepal Tea Insudtries Pvt Ltd. (E) Panchthar, Contact: Raju Sherma Limbu 9851034216
4. Baneshwor Chiya Udhyog Sankhuwasabha, Contact: Bhim Prasad Bhattarai 9842106737.
5. Biraj Orthodox Tea Industry(E) Ilam West, Contact: Lilaraj Regmi 9852685233.
6. Bokredanda Orthodox Chiya Udhyog Terhathum, Contact: Rudra Khanal 9842413258.
7. Chahana Hatte Chiya Udhyog, (E) Ilam East, Contact: Narendra Pd Koirala, 9844631522
8. Dajubhai Hatte Chiya Udhyog Ilam East, Contact: Suryamani Paudel 9842744737.
9. Deb Tea Processors Ilam East, Contact: Rabin Rai 9842740470
10. Deurali Organic Chiya Udhyog , (E) Ilam East, Contact: Tikaram Adhikari 9844613435
11. Divine Tea Industry (E) Ilam East, Contact: Dillip Ijam 9807328656

12. Green Hill Orthodox Tea Industry (E) Ilam West, Contact: Tanka Dahal 9852634751 tanka.dahal31@yahoo.com
13. Hattidhunga Organic Tea Industry Ilam West, Contact: Ganga Kumar Khatri 9742616198.
14. Horizon Bardu Valley Ilam East, Contact: Buddha Tamang 9852674930
15. Ilam Star Chiya Udhyog Ilam West , Contact: Hari Prasad Koirala 9824047183.
16. Jasbire Tea Prosodhan (E) Ilam West, Contact: Sharad Subba 9852681846 jasbiretea@gmail.com
17. Jhulke Gham Laghu Chiya Udhyog (E) Ilam East Kajiman Kagate 9852681679
18. Kanchanjungha Organic Tea Industry (E) Ilam West, Contact: Milan Kumari Khatri 9842738247, Sakhejungtea2100@gmail.com
19. Kattebung Green Tea Pvt Ltd Ilam East, Contact: Subash Rai 9803065938 suabasrai421@gmail.com
20. Keshari Tea Estate Panchthar, Contact: Aindra Angbo 9851069809.
21. Krishna Gopal Tea Industry(E) Ilam East, Contact: Gopal Kattel 9844655951 gopalkattel8@gmail.com
22. Krishna Green Tea Udhyog, Jhapa
23. Kulkule Sana Chiya Kisan Sahakari Terhathum, Contact: Bishnu Kumar Singh 9842330135.
24. Laligurash Hatte Chiya Udhyog (E) Ilam West, Contact: Megh Bdr Bista 9842673644 bistamegh016@gmail.com
25. Lekali Organic Chiya Udhyog (E) Panchthar, Contact: Karuna Rai 9860496855 lekaligreentea@gmail.com
26. Light Hill Orthodox Chiya Udhyog (E) Ilam West , Contact: Mohan Dahal 9823735854.
27. Loksham Chiya Udhyog (E), Ilam East, Contact: Raju Subba 9814927384 subbars@yahoo.com
28. Lumbini Chiya Udhyog Ilam East, Contact: Sujan Nepal 9842635697.
29. Maipokhari Tea Industry Ilam West, Contact: Man Kumar Mukhiya 9842646046
30. Mangmalung Chiya Bagan Ltd(E) Ilam West, Contact: Kedar Lamichhane 9852047508 lamichhanekedar1@gmail.com
31. Matribhumi Tea Estate Pvt Ltd, (E) Dhankuta, Contact: Narayan Prasad Rai 9805343609 narayan.rai37@yahoo.com
32. Mirmire Organic Tea Processing Ilam West, Contact: Mitra Lal Sapkota 9742648148
33. Mountain Organic Tea Industry (E) Ilam East, Contact: Ganesh Rashik 9851101924.
34. Nawa Arya Tara Tea Pvt Ltd (E) Ilam East, Contact: Gyanendra Gurung 9851029055 nepalt@gmail.com
35. New Sagarmatha Tea Industry(E) Ilam East, Contact: Madan Pradhan 9842748164.
36. Oasis Tea Industry (E) Ilam East, Contact: Jyoti Adhikari 9852680272 jyotiadhi@yahoo.com

37. Panchakanya Chiya Udhyog Dhankuta, Contact: Mr. Bhim Bahadur Limbu, 9852050727 limbubhim161@gmail.com
38. Panidhap Chiya Prasodhan Udhyog Ilam West, Contact: Yuddha Bahadur Poudel 9807920418
39. Pathivara Organic Tea Industry (E) Ilam West, Contact: Motiram Dahal 9852681204 manojdahal1112@gmail.com
40. Ramche Organic Chiya Utpadan Sahakari Ltd, Dhankuta, Contact: Mrs Yogmaya Poudel Chettri, 9810588470.
41. Rasmina Chiya Udhyog Ilam West
42. Sagarmath Chiya Prasodhan Udhyog (E) Ilam East, Contact: Gyani Limbu 9842686228.
43. Sandakfu Tea Producers Pvt Ltd (E) Ilam West, Contact: Chandra Bhusan Subba 9851079978, bhush50@hotmail.com
44. Sharada Tea Estate, (E) Ilam Eas, Contact: t Gabirsen Jabegu 9741055784
45. Suryodoya Organic Chiya Udhyog (E) Ilam East , Contact: Kamal Poudel 9842636599 suryodayatea@gmail.com
46. Trishakti Pathivara Chiya Udhyog (E) Ilam East, Contact: Masheshkanta Aryal 9842635772 aryalmahesh11@gmail.com

Members of Himalayan Tea Producers Cooperative (HIMCOOP) -20

1. Everest Tea Estate Pvt. Ltd. (E)
2. Gorkha Tea Estate Pvt. Ltd. (E)
3. Himalayan Range Tea Industries Pvt. Ltd. (E)
4. Himalayan Shangri-La Tea Producers Pvt. Ltd. (E)
5. Ilam Chiyabari Pvt. Ltd. (E)
6. Ilam Tea Producers Pvt. Ltd. (E)
7. Jun Chiyabari Pvt. Ltd.(Organic certified) (E)
8. Kanchanjanga Tea Estate Pvt. Ltd. (Organic certified) (E)
9. Kuwapani Tea Plantation Pvt. Ltd. (E)
10. Mai-Tea Company Pvt. Ltd. (E)
11. Mist Valley Tea Industry Pvt. Ltd. (E)
12. Nava Arya Tara Tea Pvt. Ltd. (E)
13. Nepal Small Tea Producers Ltd. (E)
14. Nepal Tea Development Corporation Ltd. (E)
15. North Nepal Tea Estate Pvt. Ltd. (E)
16. Sagarmatha Tea Estate Pvt. Ltd (E)
17. Sakhejung Hill Range Tea Processing Industry Pvt. Ltd. (E)
18. Sandakphu Tea Processors Pvt. Ltd. (E)

19. Shree Antu Tea Industries Pvt. Ltd. (E)
20. Siddhi Binayak Tea Industries Pvt. Ltd (E)

Members of Nepal Tea Planters' Association (NTPA) - 30

1. Arjun Dhara Tea Plantation (E)
2. Baivab Tea Estate Pvt. Ltd., (E) Mr. Pradip Mital, 9852673193
3. Budhakaran and Sons Tea Co. Pvt. Ltd., (E) Mr. Rajendra Kumar Singh, 9752604128
4. Buttabari Tea Processing Pvt. Ltd., (E) Mr. Hari Giri, 9852672202
5. Chandragadi Tea Estate Pvt. Ltd., (E) Mr. Sanjaya Pokharel, 9852671544
6. Classic Terai Tea Industries Pvt. Ltd., Mr. Ramesh Poudel, 9842641116
7. Danfey Tea Processing Pvt. Ltd., (E) Mr. Binaya Pokheral, 9852677114
8. Giribandhu Tea Estate Pvt. Ltd., Mr. Chhatra Bahadur Giri, 9852672005
9. Gupta Tea Estate, (E) Mr. Shiva Kumar Gupta (E)
10. Haldibari Tea Processing Pvt. Ltd., (E) Mr. Subhaskha Sanghayee, 9851020529
11. Jagadamba Tea Processing Pvt. Ltd., (E) Mr. Bhakta Prasad Adhikari, 9852671065
12. Kalika Tea Estate Pvt. Ltd., (E) Mr. Vinaya Goel, 9807996378
13. Kamaksha Devi Tea Industries Pvt. Ltd. Mr. Shukra Bahadur Dahal, 9852671361
14. Kankaee Tea Processing Industries, (E) Mr. Kisan Lal Sariya, 9816029360
15. Khushabu Tea Estate Pvt. Ltd., (E) Mr. J.P. Sharma, 9852672232
16. Kuwadi Devi Tea Estate Pvt. Ltd. (E) Mr. Suresh Kumar Mital, 9852671171
17. Mahalaxmi Tea Processing Pvt. Ltd., (E) Mr. Chhatra Prasad Adhikari, 9852671021
18. Mital Tea Estate Pvt. Ltd. (E) Mr. Suresh Kumar Mital, 9852671171
19. Modern Tea Industries Pvt. Ltd. (E) Mr. Gobinda Sariya, 9851020985
20. Nature Himalayan Tea Industries Pvt. Ltd., (E) Mr. Nitesh Varma, 9852671093
21. Nepal Tea Development Corporation, (E), Mr. Subash Sanghai,
22. Parujuli Tea Industries Pvt. Ltd, (E) Mr. Chandi Prasad Parajuli, 9852671009
23. Raju Tea Estate Pvt. Ltd., Mr. Yam Bahadur Limbu, 9801401323
24. Rakura Tea Industries, Pvt. Ltd., (E) Mr. Ram Kumar Rathi, 9802700321
25. Rara Tea Processing Industries, (E) Mr. Udim Neupane, 9802097999
26. Samsher and Gangadevi Tea Co. Pvt. Ltd., (E) Mr. Chhatra Bahadur Giri, 9852672005
27. Sana Kisahan Sahakari Sanstha, Prithivi Nagar, Mr. Debi Koirala (E).
28. Satighatta Tea Estate Pvt. Ltd., (E) Mr. Ramesh Parajuli, 9852671199
29. Shri Tarakhopi Sana Kisan, (E)
30. Star Tea Industries Pvt. Ltd., (E) Mr. Shiva Kumar Gupta, 9852671175
31. Tirupati Tea Industries Pvt. Ltd. (E) Mr. Hari Giri, 9852672202

Tea Leaf Grading and Terminology

Grade terminology

- **Choppy** contains many leaves of various sizes.
- **Fannings:** are small particles of tea leaves used almost exclusively in tea bags.
- **Flowery:** consists of large leaves, typically plucked in the second or third flush with an abundance of tips.
- **Golden Flowery:** includes very young tips or buds (usually golden in colour) that were picked early in the season.
- **Tippy:** includes an abundance of tips.

Whole leaf grades

The grades for whole leaf orthodox black tea are: *Orange pekoe (OP) grades*

- OP1–slightly delicate, long, wiry leaf with the light liquor
- OPA–bold, long leaf tea which ranges from tightly wound to almost open
- OP–main grade, in the middle between OP1 and OPA, can consist of long wiry leaf without tips
- OP Superior–primarily from Indonesia, similar to OP
- Flowery OP–high-quality tea with a long leaf and few tips, considered the second grade
- F OP1–as above, but with only the highest quality leaves in the FOP classification
- Golden Flowery OP1–higher proportion of tip than FOP top grade
- Tippy Golden F OP–the highest proportion of tip, main grade in Nepal
- TGF OP1–as above, but with only the highest quality leaves in the TGFOP classification
- Finest TGF OP–highest quality grade (Note: "Special" or "Finest")
- SFTGFOP(1)–sometimes used to indicate the very finest

Broken leaf grades

- BT–Broken Tea: Usually a black, open, fleshy leaf that is very bulky.
- BP–Broken Pekoe: Most common broken pekoe grade.
- BPS–Broken Pekoe Souchong: Term for broken pekoe.
- FP–Flowery Pekoe: High-quality pekoe. Usually coarser with a fleshier, broken leaf.
- BOP–Broken Orange Pekoe: Main broken grade.
- F BOP–Flowery Broken Orange Pekoe: Coarser and broken with some tips.
- F BOP F–Finest Broken Orange Pekoe Flowery: The finest broken orange pekoe. Higher proportion of tips.
- G BOP–Golden Broken Orange Pekoe: Second grade tea with uneven leaves and few tips.
- GF BOP1–Golden Flowery Broken Orange Pekoe 1: As above, but with only the highest quality leaves in the GFBOP classification.
- TGF BOP1–Tippy Golden Flowery Broken Orange Pekoe 1: High-quality leaves with a high proportion of tips. Finest broken First Grade Leaves.

Fannings grades

- PF–Pekoe Fannings
- OF–Orange Fannings.
- FOF–Flowery Orange Fannings: Common but close to the smaller broken grades.
- GFOF–Golden Flowery Orange Fannings: Finest grade for tea bag production.
- TGFOF–Tippy Golden Flowery Orange Fannings.
- BOPF–Broken Orange Pekoe Fannings: Main grade in many countries.

Dust grades

- D1–Dust 1.
- PD–Pekoe Dust.
- PD1–Pekoe Dust 1.

Asia-Pacific Association of Agricultural Research Institutions

Asia-Pacific Association of Agricultural Research Institutions (APAARI) was established in 1990 at the initiative of Food and Agriculture Organization of the United Nations and most of the National Agricultural Research Systems (NARS) of the Asia-Pacific region. Its mission is to promote the development of National Agricultural Research Systems in Asia-Pacific region through facilitation of inter-regional, inter-institutional and international partnerships.

APAARI's vision is that Agricultural Research for Development (ARD) in the Asia-Pacific region is effectively promoted and facilitated through novel partnerships among NARS and other related organizations so that it contributes to sustainable improvements in the productivity of agricultural systems and to the quality of the natural resource base that underpins agriculture, thereby enhancing food and nutrition security, economic and social well being of communities and the integrity of the environment and services it provides.

The overall objectives of APAARI are to foster the development of agricultural research in the Asia-Pacific region so as to:

- Promote the exchange of scientific and technical information
- Encourage collaborative research
- Promote human resource development and capacity building
- Build up organizational and management capabilities of member institutions
- Strengthen cross-linkages and networking among diverse stakeholders

APAARI's strategic thrusts are:

- Building research partnerships
- Regional research networking
- Policy advocacy for ARD
- Information dissemination
- Human resource development
- Technology transfer

To know more about APAARI, please visit: *http://www.apaari.org*

Important APAARI Publications

Expert Consultations/Meetings/Training Programs

- Regional Expert Consultation on Underutilized Crops for Food and Nutritional Security in Asia and the Pacific: Thematic, Strategic Papers and Country Status Reports (2018)
- Regional Expert Consultation on Underutilized Crops for Food and Nutritional Security in Asia and the Pacific: Proceedings and Recommendations (2018)
- Investment in Agricultural Research for Sustainable Development in Asia and the Pacific: Country Status Reports (2017)
- Scaling Conservation Agriculture for Sustainable Intensification in South Asia – Proceedings and Recommendations (2017)
- Expert Consultation on Best Practices in Agri-food Innovations in Asia and the Pacific – Proceedings & Recommendations (2016)
- 14th General Assembly, 3 November 2016 – Proceedings
- High Level Policy Dialogue on Investment in Agricultural Research for Sustainable Development in Asia and the Pacific, 8-9 December 2015 – Proceedings
- The Executive Committee Meeting of APAARI, 8 September 2016 – Proceedings
- The Executive Committee Meeting of APAARI, 10 December 2015 – Proceedings
- Workshop on Development of Communication Strategies for Adoption of Agri-Biotechnology in the Asia-Pacific Region, 28-29 September 2015 – Proceedings
- Capacity Development Workshop On Planning, Monitoring and Evaluation towards Measuring Outcomes and Impacts, 3-7 August 2015 – Proceedings
- Expert Consultation on Assuring Food Safety in Asia-Pacific, 4-5 August 2014 – Proceedings
- 13th General Assembly Meeting, 1 November 2014 – Proceedings
- 12th Asian Maize Conference 'Maize for Food, Feed, Nutrition and Environmental Security', 30 October-1 November 2014 – Proceedings
- Expert Consultation on Promotion of Medicinal and Aromatic Plants in the Asia-Pacific Region, 2-3 December 2013 – Proceedings
- Asia-Pacific Symposium on Molecular Breeding 1-3 October 2013 – Proceedings
- Regional Workshop on Youth and Agriculture: Challenges and Opportunities : Proceedings (2013)
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