ZIBELINE INTERNATIONAL PUBLISHING

ISSN: 2616-5155 (Online)
CODEN: MECJBU

Malaysian E Commerce Journal (MECJ)

DOI: http://doi.org/10.26480/mecj.02.2020.54.59

REVIEW ARTICLE

VALUE CHAIN ANALYSIS OF ORTHODOX TEA IN ILAM DISTRICT OF NEPAL

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ARTICLE DETAILS

Article History:

Received 20 July 2020
Accepted 23 August 2020
Available online 07 September 2020

ABSTRACT

Despite of the high rate of the orthodox tea, the net margin is still below the satisfactory level. Thus the present research was conducted to analyze the value chain of orthodox tea in Ilam district of Nepal. A total of 160 samples were collected, 80 each from organic and conventional tea growing area. Similarly, 4 tea processing factories and 5 local traders were selected purposely. The major functions involved in the orthodox tea value chain were supplying of the inputs, production, transportation/collection, processing, blending and packaging, exporting and domestic trading. Agro vets and input suppliers supplied required inputs such as saplings, fertilizers and pesticides etc. to the farmers and tea estates. The production of green tea leaves would undergo transportation and collection which was conducted by farmers, tea estates, co-operatives and brokers. Processing, blending and packaging functions were carried out either by tea companies or tea processing factories. Exportation was conducted by tea factories or trading companies whereas domestic trading was conducted by tea factories, wholesaler and retailers. Low farm gate price, high cost of labor and inputs were the major production problems whereas fluctuation in price and lack of marketing information were the major marketing problems from the study.

KEYWORDS

Qualitative analysis, SWOT analysis, Production problems, Marketing problems, Nepalese tea.

1. INTRODUCTION

Tea (*Camellia sinensis*) is the manufactured drink which most consumed in the world. China is the largest tea producing country with an output of 2.4 million tons, accounting for more than 35 percent of the world total, while production in India, the second largest producer, is 1.3 million tons in 2018. Output in the two largest exporting countries is 330000 tons in Kenya and 309174 tons in Sri Lanka. Production in India is 260000 tons, production in other major producing countries like Kenya is 245300 tons; Indonesia is 182700 tons; Bangladesh is 76500 tons; Uganda is 58300 tons; Malawi is 46500 tons; Tanzania is 32400 tons; and Rwanda is 25200 tons. Other production in African countries like Burundi is 8800 tons; Zimbabwe is 8500 tons; and South Africa is 2500 tons (NTCDB, 2017).

The production of orthodox tea in Ilam, Panchthar, Dhankuta and Terathum districts accounted for 96.38 percent of total production of Orthodox tea in the country in 2017/18. By type of farming, small farmers accounted for 59.52 percent of total area under cultivation and 54.37 percent of total tea production of these districts. The rest is accounted for by the gardens or estates. There is a wide variation in the number of farmers involved and the area of tea production, across these four districts. Ilam is the leading district with 6,995 small farmers, 7965 ha of land under tea, and 4884.8 thousand kg of production. Next to Ilam is Panchthar which has 1140 farmers, 1339 ha of land under tea and 503033 kg of production. Dhankuta is in the third position and Terhathum grows the least (NTCDB, 2017). Similarly, Nepal's yield is only 71 percent of the other global tea industry leader-Kenya (Subedi, 2000). Currently Nepal's tea yield per ha is 800 -1500 kg/ha made tea. Production potentiality of tea is 5000kg/ha made tea. Thus, there is still a lot of room for the improvement of productivity in yield as well as in quality.

1.1 Objectives

a) To analyze structure, conduct and performance of orthodox tea value chain, and
b) To assess the strength, weakness, opportunity and threat in orthodox tea production and marketing.

2. MATERIALS AND METHODS

This chapter includes different methodological framework used in the research conducted in Ilam district of central Nepal during January and February, 2018.

Quick Response Code	Access this article online	
	Website: www.myecommerecejournal.com	DOI: 10.26480/mecj.02.2020.54.59

Cite the Article: Dreesti Wasti, Shiva Chandra Dhakal, Rishi Ram Kattel, Suryamani Dhungana (2020). Value Chain Analysis Of Orthodox Tea In Ilam District Of Nepal. *Malaysian E Commerce Journal, 4(2): 54-59.*

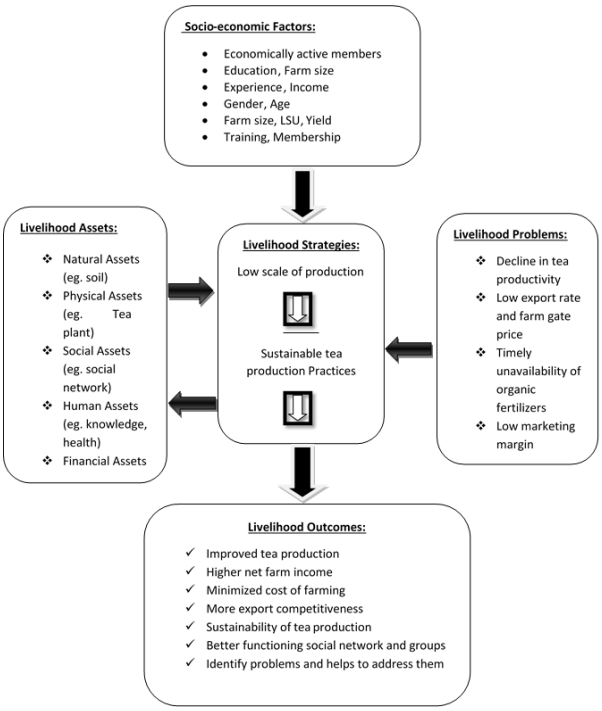

Figure 1: The conceptual framework of the study

2.1 Selection of the Study Area

Ilam district of eastern Nepal was purposively selected as a research site which ranks first position in terms of tea production in Nepal (NTCDB, 2017). Figure 2 illustrates the study area of map of Nepal. Four Palikas of eastern part of Ilam district i.e. Ilam Municipality, Deumai Rural Municipality, Suryadaya-8 and Suryadaya-11 were purposively selected for the study due to (i) potentiality of producing orthodox tea and (ii) easily accessible. The site for the Ilam district was in the range of 26º 54" North and 87º56" East.

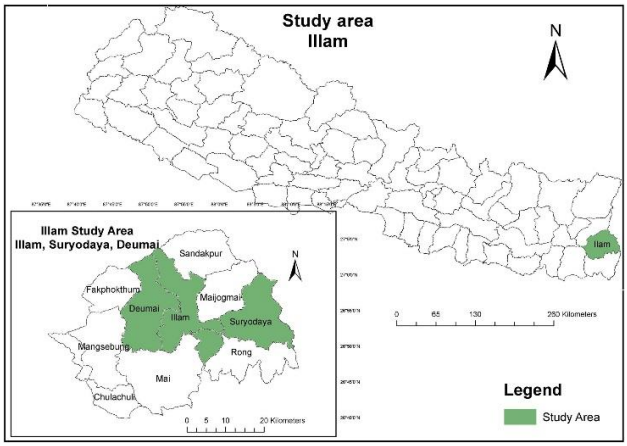

Figure 2: Map of Nepal showing study area **(**Source: https://www.google.com/url)

2.2 Designing Questionnaire and Checklist

A semi-structure questionnaire was developed using KOBO Toolbox and used that deals with issues specific to the resource use efficiency. An effort was incorporated into the questionnaires questions pertaining to key issues identified during the interaction with the project officials. In addition, checklists was developed and used for producers, traders, and other stakeholders. In most cases though, interviewees were conducted to rate the perceived quality in a particular relationship by providing a verbal assessment.

2.2.1 Sampling method, sampling frame and sample size

Respondents were selected by using multi-stage sampling procedure based on purposive random sampling. As mentioned earlier, Ilam was purposively selected as it is the major orthodox tea producing district of Nepal. And then 4 Palikas of Ilam were also purposively selected as presented in Figure 2 based on area coverage, production, number of farmers and access to road facilities. Sampling frame was prepared in district after discussion with key informants from the district.

2.3 Selection of Household Samples

Finally, tea farmers were randomly selected based on the sample size, making 160 sample size of farmers (40 from each VDC) for household survey in the district.

2.4 Selection of Traders

Traders were the middleman, wholesaler and retailers who acquire orthodox tea leaves directly from producers and cooperative, process it and sell it to the other markets. Altogether 40 traders were selected for interview, 10 from each pocket under study.

2.5 Selection of Enablers

Enablers are the institutuonal or organizational arrangements that helps, enhance or upgrade the trade or business. Five enablers were selected at various levels and stages from local to national level. In depth meeting and interaction was conducted with government organizations, research institutions, INGOs, national NGOs, local NGOs. For the study, the enablers included were from DADO Ilam, UNNATI, District Chamber of Commerce and Industry(DCCI), Nepal Tea and Coffee Development Board (NTCDB).

2.6 Methods of Data Collection

The research used both primary and secondary data. Various sources and technique were used for the gathering relevant information. The methodologies includes field survey, focus group discussion, key informant interview and review of previous studies.

2.7 Sources of Information

Both the primary and secondary data were used. These data were obtained through household survey, focus group discussion and key informant interview for understanding marketing systems, marketing channels, and marketing margins, trend analysis and so on. The secondary information were obtained through reviewing different publication mainly produced by Market Development Directorate, Department of Agriculture, Ministry of Agriculture and Livestock Development (MoALD), Central Bureau of Statistics (CBS), Agro-enterprise center (AEC), Nepal Agricultural Research Council (NARC), District Agricultural Development Office (DADO) of Ilam and mainly Nepal Tea and Coffee Development Board (NTCDB).

2.7.1 Preliminary Survey

Before actual field survey, structured questionnaire was prepared and pre-tested. A preliminary survey was conducted on 15th December 2017 at Kanyam of Ilam to identify the factor of production as well as major actors involved in value chain on orthodox tea sub-sector and to test the pertinence of the questionnaire. 10 orthodox tea farmers were interviewed for this purpose. After some modifications, the questionnaires for orthodox tea producer, secondary processors and traders were finalised.

2.7.2 Household Survey

Field survey was carried out from January to February 2018. Primary data were collected through face-to-face interview. The information on existing production system and various problems of production and marketing of orthodox tea in the study site were collected. In addition, the information of commercial transformation on high value crops was collected. Similarly, traders were also interviewed face to face to collect the information on marketing system, market price and marketing problems.

2.7.3 Key Informant Interview

The list of key informants who were interviewed is present in Appendix 4. Chairmen of DTCF in Ilam district and orthodox tea traders/exporters were interviewed. Besides that, authorities of NTCDB, NTPA, HOPTA,

UNNATI and NTDC who have been promoting tea in Ilam district provided valuable information for the study. Both quantitative and qualitative information were gathered in the interviews regarding orthodox tea production, marketing and productivity as well as supply chain, position of all actors, informational flows and type of relationships between actors.

2.7.4 Focus Group Discussion

A focus group discussion was held at Ilam on 3rd February 2018 with available stakeholders for SWOT (Strength, Weakness, Opportunity, Threats) analysis of three major actors of the production and value chain-coffee producer, primary processor and secondary processor in order to understand the problems and constraints they had faced in production, processing and marketing.

2.8 *Methods of Data Analysis*

Data collected from survey was coded and directly entered in MS EXCEL and analysis was done in Stata (version 12.0) and some were done in Statistical Package for Social Science (SPSS Version 16.0) also. Detection and removal of errors and inconsistencies were done to improve the data quality. And then subsequent analysis was done by using different statistical tools like mean, frequency and so on. Moreover, various graphs and charts were made by using relevant tools of MS Excel 2013. While qualitatively data were analysed qualitatively and expressed accordingly, both descriptive and analytical methods were used to analyse the quantitative data.

2.8.1 Qualitative Analysis

Qualitative analysis use non-quantifiable tools to understand or judge a process or system. In our study, basically, factor productivity and marketing efficiency of qualitative orthodox tea data was done by using various analytical tools of factor production and marketing approach such as efficiency, value chain approach and relevant economic and marketing research tools.

2.8.1.1 Value Chain Analysis

Value chain analysis was done considering enabling business, market chain and inputs/service provisions. Potential resource centres' identification, RMA of orthodox tea in major local and district market hubs was analysed. Descriptive statistics, non/-parametric technique, value chain mapping, actors relationship, upgrading practices, value addition and market margin at different levels, actors and products analysis, sustainable market nodes development for selected sectors for employment/income generation in value chain was analysed and prepared during data analysis process. Furthermore, government structure for value/market chain, intervention strategic matrix in value chain, cost-benefit analysis of selected sectors/products in value chain was developed and analysed. Vertical and horizontal integration as well as Forward and Backward Linkages of potential and identified major vegetable sub-sectors will be mapped during market and value chain analysis. Market map was developed from three inter-linked components, like:

I. Market/Value chain actors (input suppliers, producers, processor/collectors, wholesalers, retailers and consumers)

II. Enabling business environment (infrastructure and policies, institutions and processes that shape the market environment)

III. Service/inputs providers (the business or extension services that support the value chains' operations).

The services can be added market/value chain. Consultant team observed major service providers performance via FGDs, KIIs and RMA, i.e.

- Input supplies (sapling, fertilizers, processing equipment, etc.)
- Market information (prices, trends, buyers, suppliers)
- Financial services (such as credit, savings or insurance)
- Transport services
- Quality assurance - monitoring and accreditation
- Support for product development and diversification

2.8.1.2 SWOT Analysis

SWOT analysis of the orthodox tea business was done through key informant interview and focused group discussion participated by the actors and other relevant stakeholders. Pairwise ranking was used to rank the problems but ranking number was not given.

3. Results and Discussion

3.1 Socio-economic and demographic information of household

Table 1: Socio- Economic and Demographic Information of Household

Variables	Overall	Organic	Conventional	t-value
Age	41.8	41.18	42.43	0.97
Years of education	7.69	7.6	7.79	-0.35
Gender				
Male	2.53	2.8	2.3	3.14***
Female	2.59	2.9	2.3	3.96***
Economically active population	3.22	3.6	2.9	4.23***
Economically dependent population	1.9	2	1.8	2.77
Area of own land (ropani/HH)	27.11	30.8	23.5	1.14
Area of rented land (ropani/HH)	0.59	0	1.19	-2.007
Area of tea land (ropani/HH)	13.78	12.8	14.8	-0.44
Years of experience	15.86	14.34	17.39	-2.36 **

The overall area of own land in ropani per household was 27.11 and of rented land ropani and area of rented land was 0.59 ropani and area under tea land was 13.78 ropani. The overall average years of experience was 15.86 and 17.39 and 14.34 years for the conventional and organic orthodox tea areas respectively. The overall mean age of the study area was 41.8 with the mean age of 42.43 for conventional and 41.18 for organic orthodox tea farming. The overall years of education was 7.69 years of schooling. The male and female overall per household average was 2.53 and 2.59 and same average for both male and female i.e. 2.3 in conventional orthodox tea area and 2.8 and 2.9 male and female respectively in organic orthodox tea growing area. Both of the gender were highly significant in the study.

3.2 Major Source of Planting Materials

Major source of planting material for 83 households is private nursery. 43 household produces by their own effort and 25 households source of planting material was government nursery and 5 of the total 160 household bought the planting materials from agro vet.

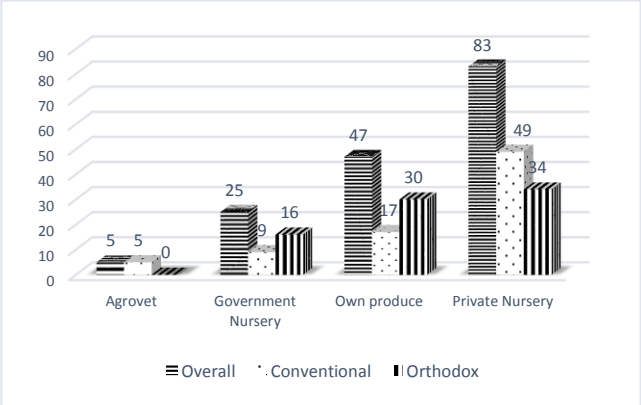

Figure 3: Major source of planting material

3.3 Orthodox tea value chain analysis

Value chain analysis requires value chain mapping, identifying the actors and the institutions which provides enabling environment. It also identifies the opportunities and constraints in each level of the value chain thereby recommending possible interventions to upgrade the value chain. It highlights the simple point that most goods and services are produced by a complex and sequenced set of activities. In many cases, these activities

are split across a number of economic agents (people, enterprises, cooperatives, etc.). How these different economic agents interact matters for development. Research and practice on clusters and local economic development has highlighted the importance of network relationships at the local level. The value chain approach emphasizes the importance of horizontal and vertical linkages between firms at different points in the value chain.

In recent years value addition of teas has taken center stage in debates among the tea stakeholders. Several value addition options are available. A value chain systematically takes all steps of a production process into account. Value chain promotion helps to develop systematically competitiveness by looking at the whole chain of production activities and strengthening the overall production chain (Rana, 2007). The value chain map of the orthodox tea production is shown in Figure 4.

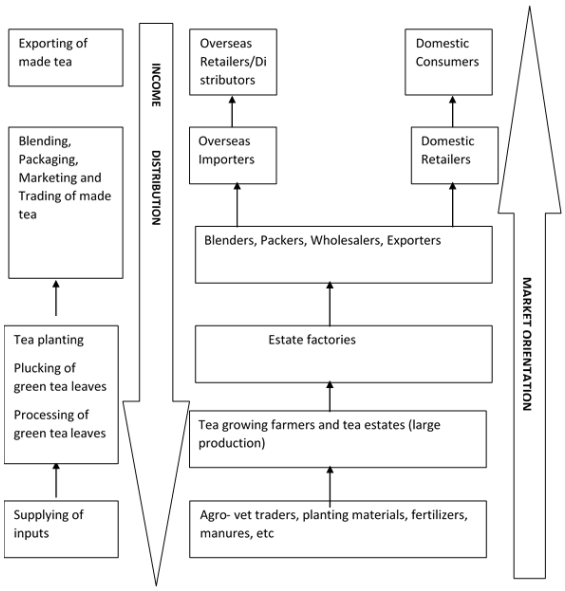

Figure 4: Value chain map of orthodox tea sector (2018)

The above map shows the relationship between all the actors and various functions and activities involved in the orthodox tea production. A brief description of all the major functions and actors and the enablers or institution involved in orthodox tea value chain in the study area is given below.

3.4 Functions/Activities

The major functions involved in the orthodox tea value chain were supplying of the inputs, production, transportation/collection, processing, blending and packaging, exporting and domestic trading (wholesaling/retailing/distributing). Agro vets and input suppliers supplied required inputs such as saplings, fertilizers and pesticides etc. to the farmers and tea estates. The production of green tea leaves by farmers and tea estates would undergo transportation and collection which was conducted by farmers, tea estates, co-operatives and brokers. Processing was conducted by tea factories and small processors. Blending and packaging functions were carried out either by individual tea companies or the tea processing factories. Exportation was conducted by tea factories or trading companies whereas domestic trading was conducted by the tea factories, wholesaler and retailers.

3.4.1 Actors

3.4.1.1 Producers

There were two types of farmers involved in the production of orthodox green tea leaves: small and large category. Most of the producers supplied directly to tea factories. Some supplied to small processors and some conducted hand- processing themselves. The green leaves were also collected by local collectors and cooperatives. Conventional methods of production using chemical fertilizers and pesticides to some extent were more prevalent than organic production. Organic production was typically either carried out by factories that have their own plantations or by small holder farmers and cooperatives that had contract agreements with organic factories. The cooperatives or local collectors could receive a profit margin of NRs. 1 to 1.5 in return for their marketing services (Tiwari et al., 2017).

3.4.1.2 Collectors

There were local brokers who collected green leaf from farmers. Green leaf collection was also conducted by cooperatives. Local brokers and cooperatives supplied the collected leaf to the processors.

3.4.1.3 Processors

There were large and medium sized factories as well as small scale processors producing various types of tea in Nepal. The production of the factories varied from 10MT to 800 MT made tea during 2006 to 2008 (HIMCOOP, 2009). Almost all of the factories were owned by the private sector except for the government owned Nepal Tea Development Commission (NTDC) which has been in operation since 2000. As per the information obtained from HOTPA, there were a total of 19 orthodox factories. Most of the factories were located in Ilam (study area). These factories mainly produced orthodox black tea. In addition, some factories produced oolong tea, green tea, white tea, silver needles/tips needles, and other specialty teas. Ilam Tea Producers Pvt. Ltd. was the processing orthodox tea in large quantity. More than 15 small tea processors were established by farmers (SNV, 2010). Most of them produced handmade tea, green tea, and other specialty tea. The small processors mainly sold their tea to the domestic market, Indian market as well as overseas market in small quantity.

3.4.1.4 Blenders and Packagers

Usually, the packaging of made tea was completed by the factory. They either prepared bulk packages or consumer packaging such as tea bags, aluminum foil, tea chest, etc. There were some packagers who bought made tea from factories and did the packaging. The blending of orthodox tea was completed in smaller quantities. Some factories have started blending on their own.

3.4.1.5 Exporters

Most of the factories exported their products themselves, there were some exporting firms who purchased made tea from other factories/small processors and export. The majority of the exported product goes to India and rest goes to countries including Germany, USA, UK, Czech Republic, France, and Japan. Almost all the exporters have marketing offices in Kathmandu. Some exporters also have marketing offices in Kolkata. Himalayan Tea Producers Cooperative (HIMCOOP) was formed to engage in collective marketing and exporting (Tiwari, 2015). Some of the small processors have also been supplying directly to India and overseas, but the quantity is negligible.

3.4.1.6 Wholesalers and Retailers

For the domestic market there were several wholesalers and retailers mainly based in cities especially in Kathmandu, Pokhara and other major cities. The wholesalers would get supply from factories as well as small processors. There are an estimated 85 tea shops operating in Kathmandu and Pokhara (SNV, 2010). Departmental stores and groceries have also placed the orthodox tea both of domestic and foreign origins.

3.4.1.7 End consumers

Most of Nepalese orthodox tea has been exported to India where it is either placed as fillers in other teas or as value added by blending and supplied to the Indian domestic market and international markets. Some quantity of orthodox tea was sent in the brand name 'Nepal Tea' to international market mainly Europe. There was less consumption of orthodox tea in domestic market although various brands of Nepalese orthodox tea were available in the tea outlets and retails. Though the domestic consumption of orthodox tea is very less but is in increasing trend.

3.4.1.8 End Markets

The major destination markets for Nepalese orthodox tea in India have become Kolkata and Siliguri. There are auction markets in both market hubs of India and Nepalese tea is not allowed in Indian auctions except private non registered auctions. India's market is vast and has a high capacity for tea. Every grade of tea (whole leaf, broken, fanning and dust) is sold in the Indian market. Most of the orthodox tea goes to India without any value addition. Much of the value addition is completed in India such as producing blend teas, flavor teas, and specialty teas. Nepalese tea is sold for a lower price than Darjeeling tea despite of claims of being of equal quality. There is a greater scope of Nepalese tea to explore the lucrative market of India which in itself is vast and expanding. Some of the overseas importing countries are Germany, France, Japan, USA, Russia, Poland and Canada. Germany is a major importer of Nepalese tea. In the cooperative level, HIMCOOP has been leading overseas marketing and sales.

Mostly high grade orthodox leaf black tea is exported overseas. During overseas export, the buyers usually demand international certification like HACCP, ISO and/or Fair Trade and test the sample for various quality parameters such as MRLs, labelling, and packaging. There is more demand for organic and specialty tea by overseas buyers. The USA tea market is emerging and has greater requirements for specialty tea such as flavor tea, and blended teas. Some portion of tea enters the domestic market; however, the domestic market is comparatively small and made up of both domestic buyers and foreign nationals.

3.5 Enablers/Facilitators/Institutions involved

Many commodity specific organizations, cooperatives, farmer-based organizations, domestic and international nongovernmental organizations, government ministries and departments, tea boards, and other organizations have been involved in the development of the orthodox tea sector and have conducted various activities at different levels of the orthodox tea value chain.

3.6 Horizontal and vertical linkages vertical linkages

Vertical linkages can be attained through cooperation between different actors or firms, and they have the benefits of transferring skills from one actor to another. In the orthodox tea value chain, vertical linkages exist between farmers, processors, and traders/exporters. Farmers sell their green leaf to nearby processors (mostly large and medium factories) mostly randomly. Some provide their leaf to cooperatives for collective selling. Some cooperatives and individual farmers make agreements with factories for the supply of green leaf. The agreement can be in written contract form or simply a verbal commitment. In some cases, factories provide incentives for production and input purchases. Usually, the payment of the green leaf is done at the time of sale or in credit.

The processors mostly are exporters themselves. Some sell made tea to other traders/exporters. The traders/exporters have their own clients to whom they supply the end product. Overall, there are good vertical linkages between producers, processors and traders/exporters. Horizontal linkages: Horizontal linkages represent the relationships among different actors operating at the same level of a value chain: It can be seen at producers' level where there are various Farmer Based Organizations (FBOs) and cooperatives operating within production pockets. Group members organize meetings periodically and share about the status of production, input procurements, and output marketing. CTCF is the umbrella organization of various district cooperatives and is providing assistance to farmers in production and other issues.

NTCDB also works parallel with cooperatives and farmers in production as well as market promotion. Furthermore, HOTPA has been conducting several activities towards quality production and policy lobbying and advocacy. For collective marketing, HIMCOOP has been actively assisting in marketing and promotion of Nepal tea from various processors. However, HIMCOOP has not been able to do higher trading as most of the processors are dealing directly with buyers. This has hampered the income of HIMCOOP. Various development organizations and donor projects are supporting the promotion of the tea sector from production to marketing.

Some of the organizations are USAID/ Nepal, GIZ, SNV, Winrock International, IDE, JICA, and TEASEC. The GON and its agencies have also implemented programs and policies intended to support the tea sector, however, such programs and policies have not been regarded as successful. A competitive analysis compares the commercialization of the orthodox tea sector through export promotion and diversification to existing industry levels and determines the nature of challenges that the sector faces. This analysis identifies strengths, weakness, opportunities and threats (See Table 2).

3.7 SWOT Analysis of Orthodox Tea Sector

Table 2: SWOT analysis of orthodox tea sector at different stages (2018)

Strengths	Weakness
Production • Geographical topography and climatic condition are favorable • Virgin land cultivation; young tea bushes • Low labor cost • Environment friendly crop. • Nepal tea standard has been set by government which complies for accepted parameter for made tea. **Processing** • Presence of large, medium, and small processors with sufficient processing capacity • Increasing practice of organic, HACCP, ISO **Marketing** • Good aroma • Presence of HIMCOOP and other marketing agencies • International certification • National brand **Enabling Environment/Policy** • Opportunities for rural people's and women employment and empowerment. • Estimated total employment contribution by the sector is around 100,000 • Contribution to poverty reduction • Government incentives such as exemption of land ceiling, land registration fees and land revenue (up to 75%) leasing up to 50 years, capital grants for irrigation subsidies.	**Production** • Low productivity compared to major tea producing countries • Difficulty to obtain inputs • Inconsistency in production quality of green leaf • Incorrect application cycles of pesticides • Poor on-farm infrastructure **Processing** • High cost of production due to high packaging material cost and expertise hiring cost **Marketing** • Absence of auction markets inadequate market information system • Absence of central warehouse • Poor product reputation due to inconsistent quality and high MRLs • High cost of packing materials • Accredited lab equipped to carry out all the required test **Enabling Environment/Policy** • Delay in VAT refund • Financing difficulty • Inadequate research facilities • No duty rebate in packing materials and processing equipment's • Inadequate subsides and incentives • Lack of domestic tea experts in Production, Processing and Marketing, Currently dependent upon Indian Experts.
Opportunities	**Threats**
Production • Greater scope of expansion of tea plantation area • Easiness in technology and expertise importation due to proximity of Darjeeling, renowned worldwide for tea **Processing** • More factories and small processors coming up • Increasing involvement of private sectors **Marketing** • Increasing recognition of Nepal Tea Brand. • Increasing world demand **Enabling Environment/Policy** • Increase in numbers of financial institutions • Member of WTO, SAFTA and BIMSTEC • Presence of FBOs, cooperatives, farmers group, NGOs, donor agencies, and other organizations for the promotion of the sector	**Production** • Shortage of labor • Limited financing for farmers • Global warming and other natural disasters having adverse effects on agricultural lands **Processing** • High quality production and greater production differentiation of major competitors **Marketing** • Heavy reliance in Indian market • Inconsistent Indian Import policy. • Loss of potential market due to inconsistent quality **Enabling Environment/Policy** • Labor strikes and factory shutdown • Lack of adequate activities towards compliance to SPS issues

3.8 Problems of orthodox tea producers

3.8.1 Production Problems

Different problems are faced by the farmers during the orthodox tea cultivation and production. Five points scaling technique (1, 0.8, 0.6, 0.4 and 0.2) was applied to find the relative seriousness of the production problem. The value obtained from the ranking scale revealed that the lack of appropriate price has highest index value (0.94) and least was for the lack of certification provision with the index value of 0.33. Relative seriousness of the problem faced by the farmers followed the sequence of lack of appropriate price followed by the high cost of labor and inputs, lack of extension and technical facility, lack of export provision and lack of certification provision.

Table 3: Various Problems Faced By Farmers In Orthodox Tea Cultivation In The Study Area

Production problems	1	0.8	0.6	0.4	0.2	Weight	Index	Rank
Low farm gate price	129	21	8	2	0	151.4	0.94	I
High cost of labor and inputs	24	97	36	2	1	124.2	0.77	II
Poor extension and technical facility	1	32	93	32	2	95.6	0.59	III
Lack of direct access in export market	0	4	10	81	65	54.6	0.34	IV
High cost for initial investment	6	6	13	43	92	54.2	0.33	V

3.8.2 Marketing problems

Various problems are faced by the farmers during the marketing of the orthodox tea. Five points scaling technique (1, 0.8, 0.6, 0.4 and 0.2) was applied to find the relative seriousness of the marketing problems. The value obtained from the ranking scale revealed that the price fluctuation has the highest index value (0.92) and least was for the lack of channel for export with the index value of 0.37. Relative seriousness of the problems faced during marketing of the orthodox tea followed the sequence of price fluctuation, lack of marketing information, unorganized market, certification and lack of channel for export.

Table 4: Various problems faced in marketing of orthodox tea in the study area

Factors	1	0.8	0.6	0.4	0.2	Weight	Index	Rank
Fluctuation in price	131	10	4	14	1	147.2	0.92	I
Lack of marketing information	15	83	36	13	13	110.8	0.69	II
Unorganized market	3	44	68	42	3	96.4	0.60	III
Certification	9	15	26	33	77	65.2	0.40	IV
Lack of channel for export	2	9	26	56	67	60.6	0.37	V

4. Conclusion

The major functions involved in the orthodox tea value chain were supplying of the inputs, production, transportation/collection, processing, blending and packaging, exporting and domestic trading (wholesaling/retailing/distributing). Low farm gate price, high cost of labor and inputs were the major production problems whereas fluctuation in price and lack of marketing information were the major marketing problems from the study. Nepalese tea production process as well as market is unscientific, unorganized and limited. It's needed that establishment of well-organized market to provide real return to the nation and to promote the quantity and quality. Market of high value good is very important and a need for our country. So, this study helps to assess the marketing efficiency of orthodox tea produced in Nepal so that we can choose a good market outlet for our high value crops. This study encourages further to have study on the technical efficiency and certification side of orthodox tea production.

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