

VALUE CHAIN ANALYSIS OF GINGER IN SURKHET DISTRICT

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ABSTRACT

Ginger is herbaceous subtropical perennial plants and is one of the important export crop. Participation of farmers in ginger value chain may bring about significant changes in their income and hence livelihoods. The study was conducted in the Bheriganga municipality of Surkhet district to assess the value chain of ginger. Household survey of 100 ginger growers was done with the semi structure questionnaire. Altogether seven traders, including four wholesalers, two retailers and one processing unit were also interviewed through the checklist. Collected data were analyzed using MS Excel. On an average the ginger cultivated area was 2.27 ropani with average cost of production and revenue to be Rs. 11,061 and Rs. 18,185 per ropani, respectively. Majority of the production cost was for seed rhizome and the BC ratio was found to be 1.6, indicating moderate returns. The average farm gate price was Rs. 35/kg whereas retail price of wholesaler and retailer was Rs. 60/kg and 90/kg, respectively (producers' share is a meager 39%). Retailer had the highest market margin of Rs. 26.5/kg in fresh ginger chain. The price spread was Rs. 55/kg. There were also a few processing unit involved in making sliced ginger which export to foreign countries (e.g. Germany). The margin of the value added sliced ginger was found to be Rs. 226.75. At the farmer level, no value addition activities were observed. To generate additional income value addition activity at farm level is a must, especially when price of fresh ginger is too volatile and low.

Keywords: *Ginger rhizome, Price volatility, Producer's share, Sliced ginger, Value addition*

INTRODUCTION

Ginger (*Zingiber officinale*) is a perennial herbaceous plant that is a member of the Zingiberaceae family (NdaNamdu & Marcus, 2012). It demonstrates a high level of adaptability, thriving in diverse growing conditions, from the low-lying plains of the Terai to altitudes reaching 2,000 meters (Gurung et al., 2021). Nepal ranks fifth in global ginger production with total yield of 279,206 metric tons across 21,912 hectares ranking fifth in global ginger production (FAOSTAT, 2023), and contributing 1.64% to the nation's Agricultural Gross Domestic Product (Ministry of Agriculture and Land Development (MoALD), 2022). Ginger is cultivated in many districts of Nepal, including Surkhet, which is located at an elevation of 198-2347 m and is a major ginger production hub. It ranks second in terms of ginger production in Karnali Province, contributing 23.11% of

the province's total output, with 512 hectares under cultivation and a production volume of 8,125 metric tons (MoALD, 2022). No notable changes in ginger production, area, or productivity has been observed in Surkhet compared to the fiscal year 2020/21 (MoALD, 2022), which is quite concerning.

The key factors contributing to stagnant productivity and declining farmer interest in ginger cultivation include the continued use of traditional farming practices, insufficient knowledge and access to modern production technologies, inadequate marketing strategies, and lack of high-quality rhizomes. Additionally, the prevalence of rhizome rot disease, heavy dependence on the Indian market, limited bargaining power, low farm gate prices, and ineffective plant protection measures have also emerged as significant challenges across many ginger-producing districts (Dahal & Rijal, 2020; Karn et al., 2019; Parajuli et al., 2021). Out of many problems, inadequate knowledge regarding the value chain is also one of the serious problem causing the limited and constant production of ginger. Majority of the farmers sell ginger to the local collectors without washing, grading and processing, which may result in fetching lower prices and hence lower profitability.

A value chain encompasses all the stages and processes involved in producing and delivering a product or service to the end consumer, from initial production to final use (Kaplinsky, 2000). Value chain analysis can be used to formulate competitive strategies, understand the source of competitive advantage, and identify and/or develop the linkages and interrelationships between activities that create value (Ensign, 2001). Over time, value chain analysis can serve as a solution to mitigate price fluctuations. However, research on ginger value chain in Surkhet is limited. Therefore, this study aims to assess the ginger value chain, evaluate the current state of ginger production and marketing, rank the key challenges in these areas, and analyze the socio-demographic and economic characteristics of ginger farmers which ultimately helps to increase economic benefits to the farmers thereby increasing their willingness to increase production and acreage.

METHODOLOGY

Site selection and sampling

Our research was conducted in the Surkhet district, which is located in the Karnali province in the mid-western highlands of Nepal. The Prime Minister Agriculture Modernization Project (PMAMP) in Surkhet has designated ward number 4, 7, and 11 of the Bheriganga municipality as a ginger/turmeric zone where this study was focused. The study population for the research consisted of all the ginger growers in the selected wards of Bheriganga municipality. The majority of these growers have been growing ginger commercially and are making money from their produce, so they made up the sampling frame from the entire population.

The study site had 400 households. Among them, 100 households involved in ginger farming were selected using systematic random sampling. Sample interval was found using following formula (Acharya, 2021).

$$K = \frac{N}{n}$$

Where,

K = Sample interval

N = Total household

n = Sample size

After selecting first house randomly, every $1+K^{\text{th}}$ (1 out of 4, every 4th) household was selected as a sample for the study. Out of the total population, 100 farmers who were engaged in ginger cultivation at these wards were selected as a sample for the study.

Data analysis and techniques

In this study, exploratory and descriptive research designs are combined. While exploratory research was utilized to assess the primary issues faced by farmers and ascertain the economic significance of ginger production in the study region, descriptive research aims to characterize, analyze, and interpret the data gathered. Certain tasks are carried out in order to conduct research, including household surveys, key informant interviews, and pre-testing of the questionnaire. In order to gather data, primary data were gathered by visiting the homes/shops of the chosen farmers and their ginger-growing properties (farms). Data was collected with the help of Kobo-Collect mobile application through the pre-tested semi-structured questionnaire. Following the collection of data, the information was downloaded, exported, and processed using Excel. This involved looking over, classifying, revising, tabulating, and recombining the evidence. MS Excel was used for the compilation, editing, sorting, and analysis of the survey and interview data. Data was analyzed to find out the following determinants of value chain.

Analysis of ginger growing farmer socio-demographic data

Socioeconomic data refers to information that describes the social and economic conditions of a particular group, community, or society. This data can include various factors such as gender, primary occupation, educational status, ethnicity, land holding, ginger varieties cultivated, experience in ginger farming etc. Besides, we also analyzed the following in our research:

Analysis economics of ginger production: Ginger is the major spice crop grown in the study area. This section deals with the ginger production, especially the cost of production. Total cost was calculated by summing up all the variable items and all the fixed items. Variable cost included cost of labor for plowing, plantation, weeding, manuring and harvesting, FYM, marketing cost and rhizome cost.

Value chain analysis: The value chain describes full range of activities that are required to bring a product or service from conception, through the different phase of production, delivery to final consumers, and final disposal after use. This section deals with value chain mapping, analysis of marketing channel, marketing margin, producer share, price spread, problems in production and marketing and SWOT analysis of ginger production and marketing in the study area.

Value chain mapping: Value chain analysis is done by the help of value chain map which is drawn based on the information obtained from the production sector to the consumer sector. The functions such as input supply, production, collection, wholesaling, retailing etc., was defined to draw a value chain map. Coordination and linkage among all the actors was analyzed in existing chains.

Benefit- Cost ratio: Benefit cost analysis was done by calculating the total fixed cost, variable cost and gross return from the ginger cultivation used by the Parajuli et al. (2021) as follows:

$$\text{BC ratio} = \frac{\text{Gross return}}{\text{Total Cost}}$$

Where,

Gross return = Total quantity of ginger produced (kg) x Price per kg of ginger

Total cost = Variable cost + Fixed cost

Price spread, margin, producer share: To analyze the price spread, margin of the middle man, producers share, the following formula were used [adapted from (Shrestha, 2015)]:

$$\text{Price spread} = P_R - P_F$$

Where,

P_R = Retailer price

P_F = Farm gate price

$$\text{Margin of the middleman (A}_{Mi}) = P_{Ri} - (P_{pi} + C_{Mi})$$

Where,

A_{Mi} = Absolute margin of the i^{th} middleman

P_{Ri} = Sale price

C_{Mi} = Cost incurred on marketing per unit

P_{pi} = Purchase price

$$\text{Producer's share (P}_s) = (P_F / P_R) \times 100\%$$

Marketing function: Any single activity performed in carrying a product from

the point of production to the ultimate consumer is termed as marketing functions. Main activity like cleaning, sorting, grading, drying, packaging, storage was analyzed.

Index of production and marketing problems: Farmer's perception towards the production and marketing problems was presented by five points scale comprising most serious, serious, moderate, a little bit and the least serious. The scale value of 1, 0.8, 0.6, 0.4 and 0.2 was used to most serious, serious, moderate, a little bit and the least serious problem, respectively. It was computed using the following formula as used by Adhikari and Bhandari (2022). Mathematically,

$$I = \frac{\sum S_i f_i}{N}$$

Where,

I = Index of importance

Σ = Summation

S_i = Scale value

f_i = Frequency of household head s

N = Total number of household head s

RESULT AND DISCUSSION

Description about the ginger farmers

The primary players in the ginger value chain are the producers. In the study area, two types of ginger farmers were identified: subsistence and commercial. Subsistence farmers grow small amounts of ginger, selling any surplus locally, with minimal links to other market actors. In contrast, commercial farmers are fully integrated into the value chain. The Table (1) describes the general characteristics of the ginger growers observed in the study.

Table 1. Age of household head of respondent farmer

Parameter	Value		
	Mean	Maximum	Minimum
Age of household head (years)	45.47	72	22

Table 2. Demographic and socioeconomic characteristics of household heads

Parameter		Respondent (%)
Religion of household head	Hindu	100%
Ethnicity of household head	Chhetri	69%
	Dalit	11%
	Janajati	10%
Education level of household head	Illiterate	17%
	Literate	9%
	Primary class	45%
	lower secondary	10%
	SLC	6%
	+2 (High School)	11%
	Bachelor/ above	2%
Occupation of household head	Agriculture	95%
	Government job	2%
	Abroad	2%
	Business	1%
Population distribution of the family	<15	21.36%
	15-59	70.25%
	>59	8.37%
Gender of household head	Male	72%
	Female	28%

Land holding and ginger cultivated area

Land of the respondent farmer was categorized into the upland (Bari) and lowland (Khet). It was found that all respondent head had cultivated ginger in the upland. Average lowland holding of the households was 1.73 ropani and upland was 8.10 ropani (Table 2). About 28% of the Bari land was used for ginger cultivation, on average. The average, minimum and maximum ginger cultivated upland size was 2.27, 1.00 and 15.00 ropani, respectively. As per CBS (2021), average land holding of farmers is 10.6 ropani.

Table 3. Land holding and ginger cultivated area.

Land (Ropani)	Average	Minimum	Maximum
Own lowland	1.73	0.00	13
Own upland	8.10	0.00	40
Rent lowland	0.04	0.00	4
Rent upland	0.24	0.00	15
Cultivated lowland	1.66	0.00	13
Cultivated upland	6.50	1.50	30
Uncultivated lowland	0.08	0.00	5
Uncultivated upland	0.16	0.00	8
Ginger Cultivated lowland	0.00	0.00	0
Ginger Cultivate upland	2.27	1.00	15
Total lowland	1.77	0.00	13
Total upland	8.3	2.50	40

Years of experience in ginger farming

On average, ginger farmers have 10.94 years of experience in ginger farming, with a minimum of 5 years and a maximum of 20 years (Table 4).

Table 4. Years of experience in ginger farming

Parameters	Average	Minimum	Maximum	S.D.
Years of experience in ginger farming	10.94	5	20	3.87

Variety cultivated and postharvest activities of ginger

Among the surveyed farmers, the majority (80%) cultivated the local variety of ginger (Table 5). While 12% grew the Nashe variety and 8% the Boshe variety, reflecting a common trend in Nepal where most farmers prefer local varieties, as mentioned by Paudel and Timilsina (2016). The survey also revealed that all farmers involved in ginger farming use manual harvesting, typically done between the Ashoj and Kartik months. Postharvest activities varied, with 80% of farmers cleaning the ginger, 5% sorting, and only 8% involved in grading. This aligns with findings by Parajuli et al. (2021), who reported that minimal value addition activities like grading and sorting to be practiced in the Solukhumbu district.

Table 5. Variety cultivated and postharvest activities of ginger

Parameter	Description	Respondent (%)
Variety	Nashe	12
	Boshe	8
	Local variety	80
	Total	100
Activities	Sorting	5
	Cleaning	80
	Grading	8

Materials use for the transportation of ginger

The result below shows the different materials used by the farmers of the study area for transportation of ginger. The result shows that majority of the farmers (96%) use doko as a packaging material for transportation (Table 6), which is a traditional method. However, 21% of the farmers prefer sack as a material for the transportation of ginger and only 5% of them use plastic carate (somewhat modern) for transportation material. Similar research was conducted in Salyan district nearer to Surkhet district and the results were similar. It found that 83% respondent use doko and 17% use jute bags (sacks) for the transportation (Acharya et al., 2023).

Table 6. Materials used for the transportation of ginger in the study area

Transportation Material	Respondent (%)
Doko	96
Plastic carate	5
Sack	21

Subsidy obtained by ginger growers

The data in the Table 7 shows that 46% of the ginger growers obtained subsidies from Bardiya National Park while 36% received that from the Prime Minister Agriculture Modernization Project (PMAMP). These subsidies likely played a significant role in supporting and incentivizing ginger production in the study area.

Table 7. Subsidy obtained by ginger growers

Organization	Respondent(%)
Bardiya National Park	46.0
PMAMP	36.0

The average subsidy obtained by ginger growers from Bardiya National Park was 72.44 kg whereas that from the PMAMP was 126.94 kg (Table 8).

Table 8. Subsidy obtained by the respondent ginger farmers

Organization	Average	Minimum	Maximum	S.D.
Bardiya National park	72.44	50	100	24.90
PMAMP	126.94	50	500	98.81

Economic analysis in the ginger value chain

The major components of the cost include the cost of Farm Yard Manure (FYM), human labor during land preparation, machinery cost during land preparation, planting cost, mulching cost, cost of weeding, fresh rhizome harvesting cost, marketing cost, and seed cost. The highest percentage of the total cost is attributed to the seed cost, accounting for 32.14% of the total production cost. This is followed by FYM cost, which contributes 22.44% (Table 9). These two factors, combined, make up more than half of the total cost of production. Efficient management and optimization of these expenses are crucial to ensure the profitability of ginger cultivation. Similar research was done by Karn et al. (2019) on Panchthar district where they found that the total cost for the cultivation ginger in per ropani was Rs. 17.68/kg and majority of cost was for the seed (62.61%). The cost of producing ginger in one ropani of land was Rs. 11,061, while the revenue generated from the ginger production was Rs. 18,185, with the calculated net profit of Rs. 7,124 from one ropani. According to the MoALD (2022), the yield in Nepal is around 12.74 Mt/ha, but it was found that in Surkhet survey area was 10.13 Mt/ ha which is lowest according to the previous data. Also, the value addition activities at the farm level were minimal. All the farmers harvested the ginger during the Ashoj-Kartik period, which led to a significant increase in ginger supply, causing the farmers to receive lower prices for their produce.

Table 9. Calculation of cost of production of fresh ginger rhizome (Rs./ropani)

Description	Quantity	Unit	Rate (Rs.)	Total (Rs.)	Share %
FYM cost	49.25	Per doko	50.39	2,481	22.44
Labor cost during land preparation	1.16	Person-days	720	835	7.56
Machinery cost for land preparation	11	Minutes	35	385	3.49
Planting cost	1.21	Person-days	600	726	6.51
Mulching cost	1.25	Person-days	600	750	6.79
Cost of weeding	1.03	Person-days	600	618	5.59
Fresh rhizome harvesting cost	1.37	Person-days	600	822	7.44
Marketing cost	444.39	Per kg	2	889	8.04
Seed cost	96.06	Per kg	37	3,554	32.14
Total	-	-	-	11,061	100.00
Production	519.56	Kg	35	18,185	-
Profit	-	-	-	7,124	-

Value chain map of ginger in the study area

Value chain involved the three components, function, actors and enablers. The tentative flow of value chain map of Surkhet is illustrated below (Figure 1):

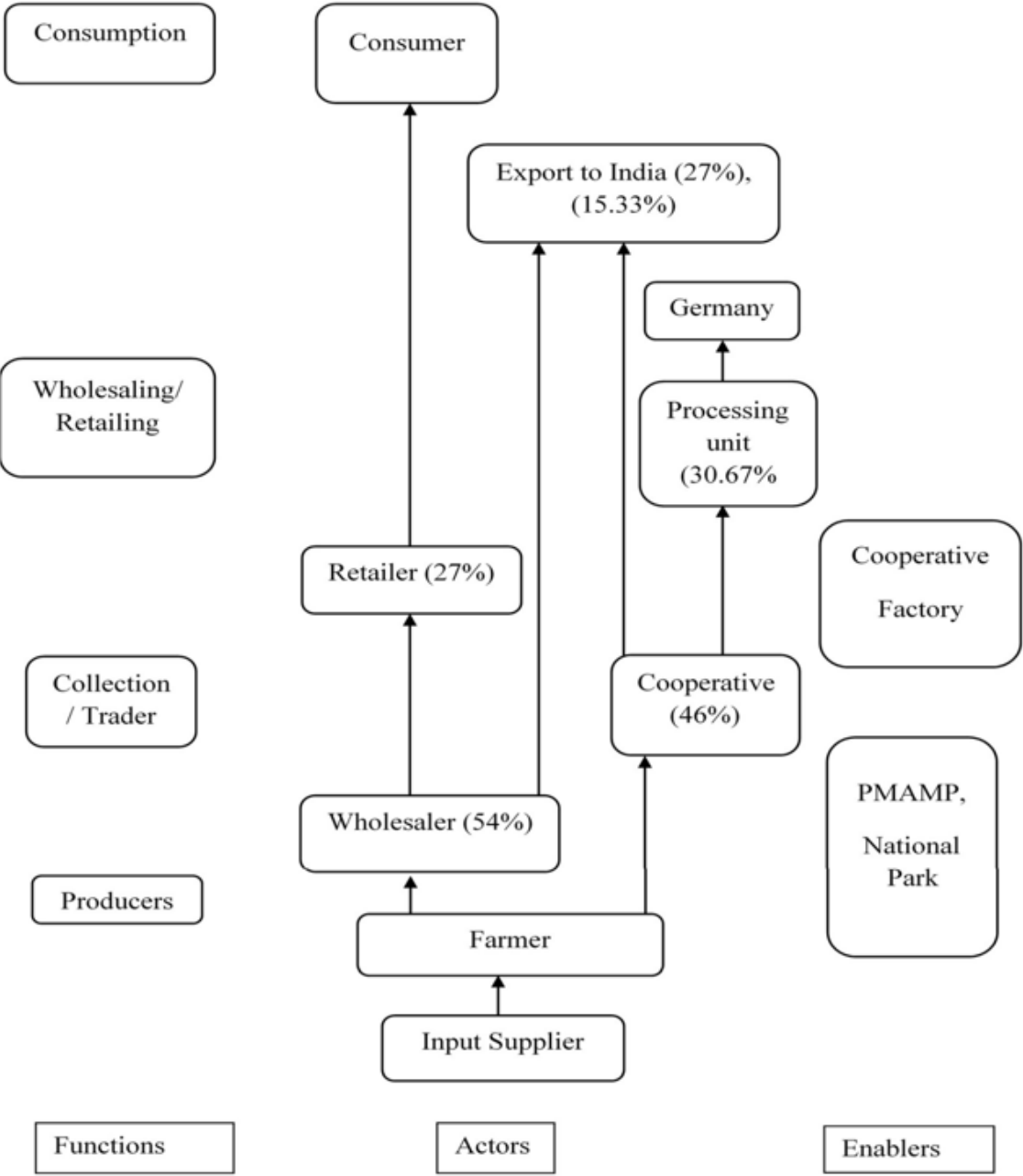


Figure 1: Value chain map along with marketing channel

Functions

Ginger cultivation involves several key value activities, including input supply, production, collection, processing, trading, and exporting. Common inputs used for ginger cultivation are seed rhizome, mulch, and FYM. Farmers cultivating ginger, and wholesalers or cooperatives collect the farmers' production. Gingers are then gathered and supplied to processing unit. The processed ginger products are distributed to the international markets, i.e. Germany. Additionally, sliced ginger is exported to Germany from the processing unit. Within the local context, consumers in Surkhet, Nepalgunj, and other retailers are among the recipients of the ginger products. In production level, simple value addition activities such as sorting and cleaning (washing) are typically carried out. The farmers supply their ginger products to nearby district wholesalers, facilitating the flow of goods to different markets and consumers.

Intermediaries

In the study areas, the major intermediaries in the ginger value chain were the wholesaler, retailers, and processing unit. Their activities included contracting to the farmer, transportation of the product, storage, sorting, cleaning, grading and selling of the product to wholesale market or Indian market or to the consumer. According to the study findings, it was observed that traders lacked formal unity and organization. Instead, they conducted their business activities independently and individually

Input supplier

The majority of farmers follow a traditional practice of using their own stored seed rhizomes for the subsequent ginger cultivation seasons. They have been cultivating local varieties, Nashe and Boshe for generations. To support their agricultural practices, farmers rely on mulching materials sourced from their community's forest resources. These materials include dried leaves from trees, thakal leaves, cattle litters, and forages residues. They also use farm yard manure derive from livestock and farm animal as a fertilizer. To encourage ginger cultivation, National Park and PMAMP, Surkhet provide subsidies to the farmers. These incentives aim to promote and support the ginger cultivation activities in the region.

Farmers

Farmers in Surkhet district can be classified into two main categories based on their approach to ginger cultivation: non-commercial farmers and commercial farmers. Non- commercial farmers grow ginger solely for household consumption and sharing with neighbours. They were not engaged in large-scale production for commercial purposes. These farmers typically cultivated ginger in marginalized and unproductive

lands, which was not suitable for extensive agricultural activities. On the other hand, commercial farmers focus on growing ginger for marketing and business purposes. They produced ginger on a larger scale and supply their fresh ginger to traders and processors for value addition.

Traders

The trader procured freshly harvested ginger from farmers and added value through processes like cleaning, washing, grading, and drying. Wholesalers and cooperatives act as main distributors, supplying ginger to retailers and exporting to India (Figure 1).

Processor

The processing unit was located in Ward No. 5, Tolikhola, within the Bheriganga municipality. Its main function was to gather ginger from local cooperatives. The ginger was purchased at a rate of Rs. 47.5 per kg. The facility engages in value addition by processing the ginger into sliced form, which was then exported to Germany. It is important to note that the processing unit exclusively deals with organic ginger. Therefore, before any ginger was sold, it must adhere to international organic standards. To produce 1 kg of sliced ginger, 5 kg of fresh ginger was required, it was found through KII.

Enablers

In a value chain, enablers refer to entities or organizations that offer ongoing support services or represent the collective interests of the various actors involved in the value chain. These enablers play a crucial role in facilitating the smooth functioning and coordination of activities within the value chain. Enablers and facilitators play a crucial role in supporting value chain activities. They provide services, subsidies, training, technical support, and market information systems to strengthen the value chain's functioning and enhance the connections between different actors involved. The PMAMP zone in Surkhet and Bardiya National Park, has taken an active role in promoting ginger cultivation. They had collaborated with cooperatives to encourage local farmers in the selected regions to engage in ginger farming. The cooperatives played a crucial role in this initiative by providing essential inputs such as ginger seeds and offering to purchase the farmers' produce either at a minimum support price or the prevailing market price. Moreover, PMAMP was actively involved in supporting commercial farmers by supplying seed rhizomes and mechanical tools to aid in their ginger farming endeavors. Similar research was done by Parajuli et al. (2021) in Solukhumbu District where all the actors were similar to this research, but there was a local trader who traded the ginger from the farmer

field and transport to the wholesaler, but in the study area it was found that, wholesaler and cooperatives, directly collected the seed from the farmer fields.

Marketing cost, price spread, market margin, producer share of ginger farmer in the study area

In our study area, farmers were not involved in any value addition activities and sold only fresh ginger. The benefit-cost (BC) ratio of ginger was found 1.6 (Table 10), which is slightly lower than 1.88, BC ratio reported by Neupane et al. (2019). The ginger value chain shows the costs, margins, price spread, and producer share. The average farm gate price for ginger was Rs. 35 per kg, while wholesalers and cooperatives sold it at Rs. 60 per kg, and retailers sold it at Rs. 90 per kg after performing basic activities like grading, cleaning, and sorting. The price spread was Rs. 55 per kg, with retailers earning the highest margin of Rs. 26.5 for fresh ginger (for wholesaler it is Rs. 19.5/kg). The producer's share is a meager 38.88%. In comparison, a study by Parajuli et al. (2021) in Solukhumbu district found that the average farm gate price for fresh ginger was Rs. 85.63 per kg, and dried ginger was sold for Rs. 200 per kg, indicating that ginger prices in our research area were much lower than in Solukhumbu.

Table 10. BC ratio of the ginger farmer in the respondent area

Parameter	Value		
	Total cost	Gross revenue	BC ratio
Fresh Ginger	11,061	18185	1.6
Types of traders	Purchase (Rs/Kg)	Sale price (Rs/Kg)	Marketing Cost (Rs./kg)
Wholesale and cooperative	35	60	5.5
Retailers	60	90	3.5

To analyze the price spread, margin of the middle man, producers share, the following formula were used (Shrestha, 2010).

Margin of the wholesaler and cooperatives

$$\begin{aligned}
 A_{mi} &= PR_i - (PP_i + CM_i) \\
 &= 60 - (35 + 5.5) \\
 &= 19.5 \text{ Rs/kg}
 \end{aligned}$$

Where, A_{mi} = Absolute margin of the i^{th} middleman

PR_i = Sale price

CM_i = Cost incurred on marketing per unit

PP_i = Purchase price

Margin of retailerWhere, A_{mi} = Absolute margin of the i^{th} middleman

$$A_{mi} = PR_i - (PP_i + CM_i)$$

PR_i = Sale price

$$= 90 - (60 + 3.5)$$

CM_i = Cost incurred on marketing per unit

$$= 26.5 \text{ Rs/kg}$$

PP_i = Purchase price**Price spread**

$$\text{Price spread} = PR - PF$$

Where, PR = Retailer price

$$= 90 - 35$$

PF = Farm gate price

$$= 55 \text{ Rs/kg}$$

Producer share

$$\text{Producer share} = \frac{PF}{PR} \times 100\%$$

Where, PS = Producer's share

$$= \frac{35}{90} \times 100\%$$

PR = Retail price

$$= 38.88\%$$

PF = Farm gate price

Economic analysis of sliced ginger

Based on our KII and discussion with traders and processing unit, to produce 1 kg of slice ginger, 5 kg of fresh ginger is required and cost incurred for 1 kg of ginger was Rs.7.15 and cost of 1 kg of fresh ginger from cooperative was Rs. 47.5 and gross revenue was Rs. 500 (Table 11). The margin of the slice ginger was Rs. 226.75, where the purchase price was Rs. 237.5 and cost occurred during processing and marketing was Rs. 35.75 and selling price was Rs. 500.

Table 11. Economic analysis of sliced ginger

Parameters	Value
Purchase Price	$47.5 \times 5 = \text{Rs.} 237.5$
Cost of processing and marketing	$7.15 \times 5 = \text{Rs.} 35.75$
Total cost	Rs. 273.25
Sales price of 1 kg slice ginger	Rs. 500
Margin of the product	Rs. 226.75
BC ratio	1.8

Production problems

During the pilot survey in Surkhet district, problems related to ginger production were identified. Farmers were asked to rank and prioritize their problems based on their opinion (Table 12). The major problems were then ranked and presented in a table to provide a clear and simple overview of the problems faced by the farmers during the ginger production. It was found that major problems was rhizome rot with index value (0.99) followed by lack of technical services (0.68), lack of road access (0.49), lack of inputs and labor (0.48) and scarcity of irrigation water (0.38). Similar research was done by Parajuli et al. (2021) in Solukhumbu District and they found major production problem to be the white grub infestation.

Table 12. Production problems ranking

Problems	Index Value	Rank
Rhizome rot	0.99	I
Lack of technical service	0.68	II
Lack of road access	0.49	III
Lack of inputs and labour	0.48	IV
Scarcity of irrigation water	0.38	V

Marketing problems ranking

The major marketing problems faced by the ginger farmers are shown in Table 13. The major problem faced by the farmer was dominance of trader in price determination with index value (0.94), followed by low market price (0.75), price fluctuation (0.49), unawareness of market price information (0.47) and lack of storage facility (0.33), respectively. Similar research was done by Parajuli et al. (2021) in Solukhumbu District and they found that major marketing problems was price fluctuation.

Table13. Marketing problems ranking

Problems	Index Value	Rank
Dominance of trader in price determination	0.94	I
Low market price	0.75	II
Price fluctuation	0.49	III
Unawareness of market price information	0.47	IV
Lack of storage facility	0.33	V

Opinion of the household heads towards the ginger cultivation

The majority of household heads (73%) expressed a moderate level of satisfaction towards ginger cultivation (Table 14). However, there were 15% of household heads who felt moderately unsatisfied and 12% who were highly unsatisfied with ginger cultivation. No household head reported being highly satisfied. On average, the satisfaction level was relatively low. Similar research conducted in Panchthar district by Neupane et al. (2019) reported that ginger cultivators are dissatisfied with the current market price due to its poor value.

Table 14. Opinion of the household heads towards the hinger cultivation

Satisfaction Level	Respondent (%)
Highly satisfied	0
Moderately satisfied	73
Neutral	0
Moderately unsatisfied	15
Highly unsatisfied	12

CONCLUSION

The study conducted in Surkhet District of Bheriganga Municipality highlights both the potential and challenges of ginger value chain. Ginger cultivation remains profitable in this area, with limited landholdings and dependence on local varieties. Productivity remains below national level, primarily due to issues such as high seed costs, prevalence of rhizome rot, inadequate technical services and weak market linkages. The main challenges that limited farmers earning was the lack of value addition. Despite these problems, the value chain analysis shows that processors who use value addition strategies, like making sliced ginger, earn more than primary producers. This highlights a key opportunity to increase farmer incomes by improving processing and diversifying markets. To strengthen the ginger value chain, authorities and stakeholders should invest in building skills through training programs. They should promote the use of better technologies for harvesting, sorting, grading, and packaging. It is also important to ensure access to high quality seeds. Setting up proper storage facilities and using standardized pricing would help stabilize market fluctuations and improve farmer satisfaction. By increasing output and profitability, tackling these issues thoroughly will support the long term success of the ginger farming industry.

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