MARKETING STRATEGIES FOR ORGANIC PRODUCE OF SIKKIM

Report submitted to

Sikkim Organic Mission

Govt. of Sikkim

Gangtok

2016-17

CCS National Institute of Agricultural Marketing, Jaipur

(Ministry of Agriculture and Farmers Welfare, Government of India)

Bambala, Kota Road, Jaipur- 302 033, Rajasthan

Ph: 0141-2795104 / 2770027 | Fax: 0141-2770595, 2771858

E-mail: dgniam@hotmail.com | Website: www.ccsniam.gov.in

CCS NATIONAL INSTITUTE OF AGRICULTURAL MARKETING
(An Organization of Ministry of Agriculture, Government of India)
Kota Road, Bambala, Pratap Nagar, Jaipur-302033 (Rajasthan)
Ph. : 0141-2795101 (D), Fax: 0141-2771938, 2770595
Website : www.ccsniam.gov.in

Dr. Irina Garg
Director General, CCS NIAM

Foreword

The Government of Sikkim demonstrated astute wisdom when it leveraged its challenges in the agriculture sector into an opportunity by declaring itself the first 100% organic state.

It was a matter of immense pride for CCS National Institute of Agriculture Marketing, (NIAM), when it was selected by the Government of Sikkim to draft a road map for implementation of the Project. The specific mandate given to the Institute was for developing a viable market plan for realizing optimal returns for the primary producers of the 5 identified commodities namely – large cardamom, turmeric, ginger, cymbidium orchid and buckwheat.

Right from the inception of the study we at NIAM were clear that we shall commence with the market analyses of the commodities and then work backwards along the value chain to identify gaps. This was a paradigm shift in approach hitherto taken, wherein the starting point was always an analysis of production, in studies of this kind. The Report has ratified this shift in approach, for a comprehensive understanding has emerged for enabling the primary producers. This has given valuable insights for developing an ecosystem to ensure remunerative prices for the producers through focused interventions by the policy makers and executives. The Report is very detailed and comprehensive for it has given specific and viable recommendations regarding source of funding, organizational restructuring and human resources. It would be our endeavor to work with the Government of Sikkim to help roll out the recommendations.

Preparing the Report has been a great learning experience for the team at NIAM which we constantly seek to upgrade. It gives me great satisfaction to place this Report in your hands with the assurance that, enriched by our experience we can only improve upon it, given an opportunity.

(Irina Garg)

Marketing Strategies for Organic Produce of Sikkim

Team Leader
Irina Garg
Director General
NIAM

Principal Investigator
Hema Yadav
Director
NIAM

Project Team
M.S. Jairath
Consultant Advisor
(NIAM)

Consultants
Tamanna Chaturvedi
Indian Institute of Foreign Trade, New Delhi

Global Agri System
New Delhi

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CCS National Institute of Agricultural Marketing
(A Govt. of India organization under Ministry of Agriculture and Farmers welfare)
Kota Road, Bambala, Pratap Nagar,
Jaipur-302033 (Rajasthan)
Tel. : 0141-2795111(D) Fax : 0141-2771938, 2795140

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Hema Yadav
Director,
CCS NIAM

EXECUTIVE SUMMARY

Sikkim is the first state of the country declared 100% organic in January 2016. Organic farming has led to sustainable agriculture production and has been instrumental in adding value to the State's reputation and economy. The state has a huge potential for diversified horticulture development with a thrust on cultivation of high value crops, which would fetch higher prices to the farmers ensuring higher net returns even if the production is low.

Presently, 99% of the cultivable land owned by 66,000 farmers in the State is under organic management. While Sikkim sets an example to the other States of the country, it is only a first step in the long term sustainability of organic agriculture, the next steps requires market linkages with domestic and International consumers.

In order to enhance the farmers' shares in consumer price, forward linkages to the domestic and international markets, standardization of quality and grades are the pre requisites. In addition to the creation of infrastructure an eco-system needs to be developed for creating conducive trading environment close to the production areas. In Sikkim the farmers are grouped under ICS, as per the mandatory requirement of certification process, this is an added advantage by which small-scale farmers can work together for traceability. This system will help the major buyers to access the farmers and disseminate information, inputs, technical and quality assistance, and meet various other needs to create a network for timely and accurate market information.

Purpose of the study: In context of the scope for leveraging the advantages of high value organic agriculture produce for high end market, this study was designed to do market analysis for five identified crops (Ginger, Turmeric, Large Cardamom, Buckwheat and Cymbidium) and suggest an action plan to link the producers of Sikkim state to consumers of premium market.

The study has been divided in three modules. The overall strategy and action plan for domestic market is covered in first module. The situational analysis of the market shows that in absence of organized markets, the organic spices and horticulture produce are sold at conventional markets resulting in a loss of value of the crop grown organically. A systematic plan of investment, establishing institutions to manage organic produce and capacity building of producers and stakeholders in market led extension is the key suggestion to achieve profitability in domestic market.

The second module has analysis of International markets in terms of requirement of WTO and other trade agreements After achieving efficiencies

in entire supply chain of the produce, the international market with premium consumers need to be reached with a value added product range. This study analysis product/sector wise profitability of the possible export ventures in both Indian as well as international markets and acceptance of these products in traditional markets of USA, EU, Japan etc as well as new emerging markets of Africa and Middle East.

The third module covers a commodity specific market plan for identified crops. Commodity plan incorporates an in-depth analysis of the consumption status reflected through import trends of product groups identified by the Sikkim Government at the 6 digit level of HS code. Analysis of situation analysis, production base, price spread, rate of return, value chain analysis has been done to draw an action plan under Mission on Organic Value Chain Development (MOVCD)

Findings:

The findings of the study are:

- The organic sector of Sikkim is constrained by low productivity, high cost of production, lack of post-harvest infrastructure, fragmented supply chain, lack of market led extension and poor market access.
- The organic produce in Sikkim is constrained by the quantity available by marketing as well as quality of the produce. The uneconomic quantity the each farmer increases the cost of taking produce to markets.
- Low base of production in Sikkim hinders the availability of threshold quantity in distribution channel of product. The organic produce in Sikkim is constrained by the quantity and quality of the produce. The uneconomic quantity increases the transaction cost and marketing cost.
- In spite of the produce being organic the produce from Sikkim has not been branded and positioned as a premium product. There is need to focus on aggregate the produce and have value addition. While Sikkim markets raw ginger and turmeric the trend in international market is for value added and diversified products.
- The study has identified that there is an absence of organized market and marketing channels for organic spices and horticulture produce. The organic produce is sold at conventional markets resulting in a loss in the value of the crop grown organically. The organic produce of Sikkim is sold at a regulated market of West Bengal which is not designed to handle organic produce. The organic produce here is mixed with conventional produce which results in to increase of the price of the conventional produce.
- For many commercial entities (such as exporters, big traders, retailers, processors etc.) the prospect of working with a large number of small

farmer raises concerns about communication, management, quality, reliability of supply and transaction cost and dispute resolution.

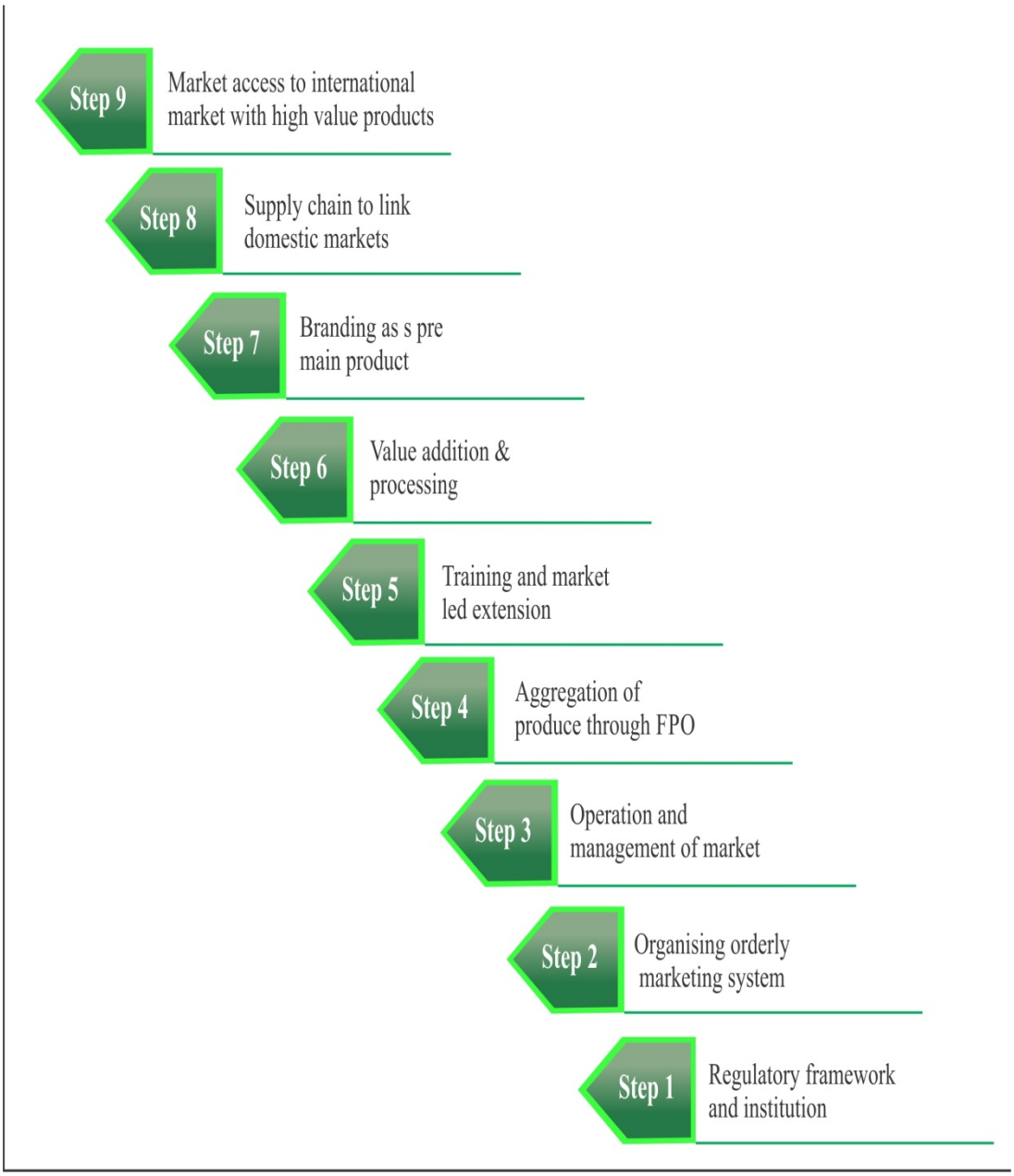
- One of the challenges that the agro exports of the state of Sikkim is the complete absence of branding and marketing of its products. It has been seen that while other states in NE including Assam has filed a lot of Geographical Indications towards promoting its image into international market for instance; Assam Karbi Anglong Ginger. However; state of Sikkim has huge production potential but only one GI has been filed for Sikkim Large Cardamom. State of Sikkim should go ahead with filing GI to improve its branding.
- There is an absence of a regulatory framework from governance of marketing which hinders the facilitation and development of markets.

Suggestions:

The study highlights the necessity of bringing reforms in the agri marketing system in the state both operational and infrastructure which can help in creating an enabling condition for state producers to take benefit of marketing of organic produce.

Market for Sikkim Organic Produce:

- Sikkim possess a strong production base but the absence of right market channel for Organic produce, absence of value addition by post harvest management and high transport cost has made Organic produce to be sold with limited choice of market. Outreach of Sikkim to national markets has been constrained by other factors, however Sikkim producers need to be linked with domestic retail chain and exporters who aggregate produce for international markets.
- The market for Sikkim Organic produce should target following segment:
    1. Organic Premium Market- (Superstores and hypermarkets in Tier-I Cities)
    2. Export Market with Value added products
- The first step in this direction should be to de channelise the flow of the produce to Siliguri market and capture the value of the Organic produce within State. This means Sikkim should aim for being a market of organic produce rather than putting the organic produce in a conventional market channel.



Nine steps strategy for marketing of organic produce of Sikkim

Marketing Infrastructure:

- Aggregation models for produce need to be developed with a network of assembly points, collection centres a terminal market in Sikkim. Government of Sikkim needs to invest in specialized markets and market infrastructure to handle organic produce and retain the organic attribute at each point of value chain. A systematic plan of investment, establishing institutions to manage organic produce and capacity building of producers and stakeholders in market led extension is a key suggestion to achieve efficiency in supply chain. The study has provided the list of the markets to be developed as assembly points, collection centres and wholesale markets based on different criteria.
- The study has developed a market plan for each identified crop by taking the value chain approach and there are suggestions on the interventions required at different stages of value chain.

Organic Produce Marketing Strategy:

The report suggests three pillars of strategic interventions for marketing of produce i.e.

(i) Formulating competitive strategies
(ii) Adding value to trade
(iii) Fostering marketing linkages

- As Sikkim Organic market is at nascent stage a good market mix and strategy to reach the premium market needs to be developed. Focused intervention on market development, product development, product diversification and place strategy is required to be taken systematically. There are lessons to be learnt from marketing strategy of Green Net and IFOAM which needs to be taken up as it a good example for organic produce marketing strategy.
- Insights from domestic scenario of marketing of Organic produce leads to the pointers that the State needs a plan to promote their select agro products with an aim to gain market access to in the international markets and ensure participation of small scale enterprises and agro units to be the part of global value chain.
- Sikkim would require skilled manpower to understand the marketing needs, devise appropriate marketing strategies, skilled to operate and manage specialized markets. A centre for excellence is suggested to be established to undertake capacity building and training of producers and other participants of the value chain.

Strategy to promote agro exports:

For formulating the competitive strategies to boost the exports from the State, the study suggest formation of online web based export competitive tool; possibilities of enhancing innovations to enhance competitiveness not only at national but also at international level; brand building for Sikkim agro products; promotion of Geographical Indications to promote exports from the state and finally tackling the non tariff barriers that the agro products may have to face thus reducing the possibilities of export rejections for the agro products from the state and finally enhancing the export competitiveness in totality.

Producer Participation in Organic Value Chain

- Smallholder participation in markets is limited by lack of access to markets and support mechanisms and is further dependent upon their ability and willingness to participate in the markets along with functionality of markets.
- As shown in the value chain analysis the gap between existing and ideal practices in large cardamom, turmeric and ginger needs to be plugged in by having interventions in providing marketing infrastructure and processing facilities. It emerges that market led extension to the farmers need to be in place to bring awareness about market demands and standards so that small and marginal producers can adopt the right methods of post harvest management. Their participation will depend on remunerative price realization. Installation and operation of requisite machineries will be provisioned under budget available in MOVCD.
- The participation of small and marginal producers in the value chain needs to be ensured by taking right steps in undertaking capacity building programmes and training them on handling the produce in a way that organic produce can be marketed at a profitable price.

Regulatory Framework and Institutional Set up

- It is recommended to have two bodies to have a legal framework which regulates, facilitates and promotes organic produce. It is important to form rules and bye laws for Agricultural Produce and Livestock Marketing Act 2017 and establish State Agriculture Marketing Board which will look into establishment, operation and management of market, develop market infrastructure, provide market information system and provide market linkages.
- Another body for product development, promotion and marketing of organic produce is required to be established on the lines of Uttrakhand Organic Commodity Board. This Commodity Board should act as facilitators for marketing and promotion of organic produce, undertake capacity building, product development, strategies for branding and strategies for market access in international markets.

- It is recommended that both Marketing Boards and Commodity Boards should work in consonance with each other.
- An action plan for investment in marketing infrastructure, training and promotion under the Mission on Organic value Chain Development has been detailed out.

Market based Solutions and Action Plan

The study offers a comprehensive market based solution and action plan adopting for development of the market infrastructure, capacity building, identifying markets for export, devising marketing strategies for branding and promotion.

The marketing plan for organic produce of Sikkim is to implemented under the Central Sector Scheme entitled" Mission Organic Value chain Development for North Eastern Region". The scheme aims at development of certified organic production in a value chain mode to link growers with consumers and to the support the development of entire value chain.

The action plan for Sikkim has been developed with the focus on:

- Creation of facilities for collection, processing, marketing and brand building is to be undertaken in mission mode.
- Developing a strong brand of organic products needs to be focused by taking consistent steps to manage the flow of the produce and marketing the produce as a niche produce rather than a mass produce.
- Operation and management of facilities under the ownership of growers organization/companies under Public Private partnership
- The funds for the infrastructure to be made available under MOVCD and other Central sector schemes

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OVERALL STRATEGY FOR DOMESTIC MARKETING

CHAPTER 1
EXPLORING THE AGRARIAN STRENGTH OF ORGANIC STATE OF SIKKIM

1.0 Introduction

Sikkim is a very small hilly state in the Eastern Himalayas with a total geographical area of 7096. sq. kms. The state is bestowed with abundant natural resources. The state of economy of Sikkim is largely agrarian, based on the terraced farming of rice and the cultivation of crops such as maize, millet, wheat, barley, oranges, tea and cardamom. Agriculture is vital to the progress of Sikkim as more than 64 per cent of the population depends on it for their livelihoods and contributes around 9.86 per cent to Sikkim's GSDP in 2014-15. Sikkim has become the first state in India to have become 100% Organic.

The Government of Sikkim has proposed to make all of the Sikkim's Cultivable land about 77,000 hectares Organic. The government has setup the Sikkim Organic Mission with year wise target till 2015. Organic farming demonstrations have been made in over 3,000 hectares (ha) of land and bio-fertilizers have been introduced in 5,340 hectares. The government has spent around 66 crores since 2010 enabling 66,000 farmers to adopt organic management.

Organic farming has led to sustainable agriculture production and has been instrumental in adding value to the state economy. The state has a huge scope of compost production due to the availability of bio-mass in plenty and for organic seed and planting materials production. Organic farming is likely to promote the tourism sector especially in the area of eco-tourism, village tourism, home stay tourism etc.

The Government of Sikkim through supportive of policies, subsidies to the inputs and several aggregation and marketing programmes is promoting high value crops cultivation that is all set to fetch higher prices to the farmers ensuring higher net returns even if the production is low.

The market for organic produce is for value added produce. Hence the focus of the State should be on processing and value addition of existing crops like ginger, turmeric, large cardamom, cherry pepper, Sikkim mandarin.

However of late, agriculture has been facing a lot of competition from other sectors which are less labour intensive and more lucrative. Sikkim also faces competition in domestic market from the States like Uttarakhand, Kerala, Himachal Pradesh. Moreover the hilly terrain of Sikkim also compounds matters where aggregation and

marketing of the agricultural produce are concerned. Low marketable surplus, constrained market access and lack of orderly marketing system for specialized Organic products has been a major obstacle in getting a profitable price for the organic produce by the producers. The existing support structures for marketing of agricultural products are not adequate to provide a right channel which discourages the farming community from producing marketable surplus.

To add to these woes, in this ever changing world, incidence of pests and diseases have also brought about a steep decline in the production of potential crops like large cardamom and ginger which are the most important cash crops of the state.

The existing organic produce market in Sikkim is at a nascent stage and has the potential to be developed and promoted towards an export oriented business. The state follows the North East Industrial Investment Promotion Policy, which provides several incentives and concessions for investment. Institutional support is provided through various central and state government agencies viz., North East Council, Ministry of Development of North Eastern Region and Commerce and Industries Department.

1.1 Agriculture Scenario in Sikkim

Agriculture is practiced in approx 11 % of the total geographical area of the State having 64 % of the people fully dependent on Agriculture for their livelihood. The net cultivated area is about 79,0000 ha. The geographical location provides optimum conditions for cultivation of wide range of Agriculture and Horticulture crops and animal farming in well settled terraced, mixed farming system.

Farmers of the State follow Organic farming by-default. Due to unavailability of assured irrigation, farmers practice rain-fed farming system with an integrated approach and therefore, mixed farming and integrated farming system is predominant in the state with agriculture, horticulture and animal husbandry in impeccable coordination. Sikkim has rich green cover with abundant plant species as a result the soil is rich in organic matter content and makes the organic conversion easier.

The major crops of the state are maize, rice, buckwheat among cereals, urad and rice bean among pulses, soybean and mustard among oilseeds. The main horticultural crops are orange & pears among fruits, ginger, cardamom, turmeric and cherry pepper among spice crops, cole crops, peas & bean, tomato, potato among vegetable crops. Besides, production of potato & pea seeds and off season vegetables cultivation at high altitude is done extensively. Of late, cultivation of flowers like cymbidium, rose, gerbera, anthurium is generating good income to

farmers and a large number of farmers have adopted floriculture as a commercial venture.

1.2 Areas Suitable for Investment: Supply Strength of the State


Floriculture

Sikkim's geographical and environmental conditions are quite conducive for development of floriculture at a higher altitude. Sikkim is home to around 5,000 species of flowering plants, 515 rare orchids, 60 primula species and 36 rhododendron species. This makes it one of the leading states in the Northeast region in terms of production and supply of cut flowers to mainland consumer markets. The Sikkim government has announced a technical collaboration with floriculturists from the Netherlands and Thailand to develop the state's potential in floriculture and market cut flowers from the state globally. Sikkim's most important commercial flowers are Cymbidium Orchids, Gladiolus, Carnation, Gerbera, Asiatic and oriental Lilies, and Anthurium, among others, that can be grown for domestic and export markets.


Cereals

Buckwheat is an important minor cereal crop of Sikkim. It is cultivated in the mountain region at elevation above 1400 m for grains and green leaves. In the higher elevation of Himalayas at up to 4500 m height, this is the only crop which grows successfully. Buckwheat is cultivated primarily to obtain grains for human consumption. It is a health food because of high essential nutrients content including protein and minerals. It is also used for livestock and poultry feeds. Buckwheat has potential to be processed and exported. The market potential of Buckwheat is required to be developed.


Spices are one of the strengths of Sikkim

Cardamom

Additionally, India is the world leader of cardamom, producing over 50 per cent of the global yield. Within the country, the state is the second-largest producer of cardamom and is considered as a huge cardamom epicentre of the world. It is home to the largest cultivated area

Ginger

The region as a whole produces over 207 thousand tonnes of raw ginger every year. The product is mostly marketed in the fresh form. The local demand being very limited, roughly 70-80per cent of the total production is reportedly available as marketable

Spices are one of the strengths of Sikkim

Cardamom

of cardamom producing around 80 per cent of large cardamom in the country. During 2013-14, the government proposed a plan to cover 2,720 ha. (large – 1,820 ha, and small - 900 ha) under replantation for cardamom. The Spices Board has proposed to replant 5,000 hectares and rejuvenate 2,500 hectares of large cardamom in Sikkim during the 12th Five Year Plan.

Ginger

surplus from the region. As it is abundantly available in the region, different products like ginger oil, ginger oleoresin can be prepared for export, which are very common in developed countries. The varieties with less fibre, high dry matter recovery, and high oil and oleoresin contents are having great export potential in international markets.

Turmeric

There are several cultivated types of turmeric available in the region, which are generally named after the localities they are being grown. The area under turmeric in the region is 17.27 thousands ha with a total production of 32.36 thousand tones. The productivity of the crop is much lower (1.87t/ha) compared to the national productivity of 3.47 t/ha. Dry matter recovery of these varieties have been found to be even equal or better than certain improved types.

CCS NIAM has undertaken this study of marketing of important crops of Sikkim to provide enhanced marketing opportunities and higher returns to the stakeholders particularly producers.

1.3 Purpose of the study

In context of huge scope for leveraging the advantages of high value organic agriculture produce for high end market, this study has been designed to do market analysis and suggest an action plan to link the producers of Sikkim state to consumers of premium domestic and international market

This report is therefore written to achieve following specific objectives:

- To develop a comprehensive and feasible market plan to yield better rate of returns on investment made by the producers and other stakeholders of value chain
- To prepare action plan for linking producers with premium consumers to enhance the returns on the crops being raised by them.

The market plan for five identified HS Code products ie. Large Cardamom, Turmeric, Ginger, Cymbidium Orchid and Buckwheat will focus on analysis of market, product quality and surplus, price and promotion.

1.4 Approach and Methodology

In order to take advantage of the global trends and gain access to premium markets, Sikkim needs a sound marketing plan for its niche organic products. There is a need to undertake situational analysis with a view to have deeper insight of crop specific market channel, improvement in supply chain, scope of value addition and understanding the international market and reaching right market with a right product. It is in this background that Sikkim has taken an initiative to prepare a focused marketing plan for important crops of Sikkim which have marketable surplus and has scope for growth. The identified products are:

- **Large Cardamom**
- **Ginger**
- **Turmeric**
- **Buck wheat**
- **Cymbidium**

The market study will act as a guide to prepare the right produce for the market. The forward linkage will be identified so as to reorient the backward linkages to ensure consistent supply of produce as per the market requirement.

Data collection and Data Source: The Sikkim Organic Mission has done desk review of the secondary data available on area wise production statistics, export and demand – supply scenario. An assessment of current status of organic produce being exported from the identified region for the identified commodities was done, benchmarking with best practices followed internationally.

Discussion: A field visit to Sikkim was made to collect data which involved meeting the farmer-producers, traders, sellers and entrepreneurs. Development of the

project concept was undertaken and feedback from the client was taken through extensive discussions. Discussion with policy makers of Government of Sikkim, Officers of Sikkim Organic Mission, NERAMAC, SIMFED, Central Agriculture University to understand the present market scenario and to seek suggestions on developing a market plan with a timeline and a budget.

Data Analysis: Cost and margin, Rate of return on investment by different stakeholders, trend analysis of export, trend analysis of markets, Revealed comparative advantage(RCA),Trade Intensity Index (TII) values for each identified crop have been worked out.

The entire study program was taken-up in the following method to achieve the objective.

- Primary data collection through questionnaires
- Secondary data analysis of data compiled from published reports, annual reports thesis, websites, international commodity data base
- Field visit to Sikkim and meeting with different stake holders:
  - Producers
  - Local Market people
  - Traders
  - SIMFED
  - NERAMAC
  - Spices Board
  - State Dept. of Agriculture / Horticulture, Govt. of Sikkim.
- Participatory Discussion with the Stakeholders.
  - Major Exporters,
  - Domestic Players,
  - APEDA, NCOF, ICCOA, ONCE CERT, Morarka Organics
  - Representatives of the Resource Organizations and Certification Agencies working in Sikkim
  - Farmer groups
  - State Govt. officials.

The study is structured as three modules

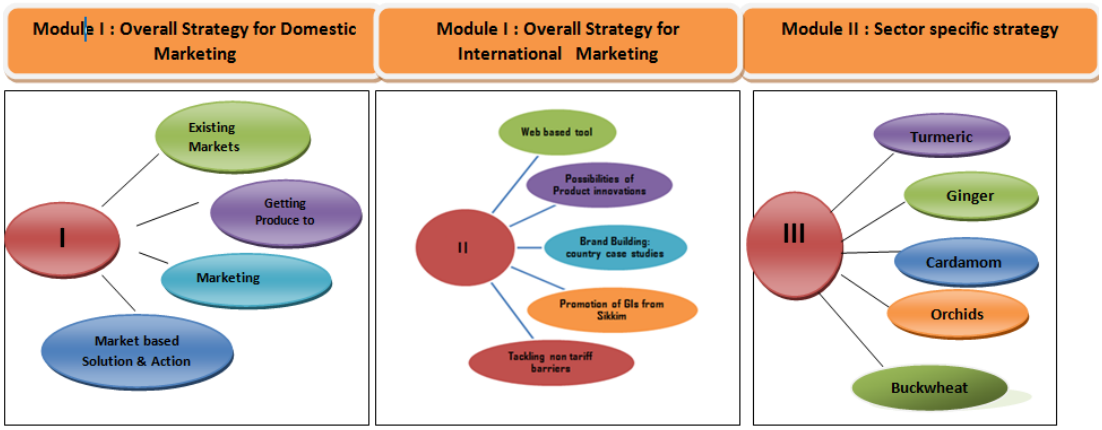
Module 1 -Covers generic strategies that the State of Sikkim needs to enhance the potential of organic produce to reach out to domestic channels and premium markets. The module covers:

- Identifying existing markets of Organic produce of the country and how the produce from Sikkim can have better access by doing a situation analysis

- Suggestion to improve product flow from upstream hilly areas to downstream urban market by having a network of markets so as to have a supply chain management facilitated through market infrastructure
- Organic Marketing Strategies for better market access in domestic and international markets.
- Identification of lacuna in existing structure and market based solutions
- Action Plan with budget and timeline is suggested

Module II- It cover generic strategies that the State of Sikkim may need to implement in order to enhance the export promotion of agro products from the state. This module analyzes export promotion strategies used by the other countries in the World producing similar commodities as that of the state of Sikkim.

Module III- Sector Specific Market Plan has been worked out for each identified crops. Each crop has export potential. Keeping this in mind, export strategies for the identified crops have been worked out.



CHAPTER 2

MARKETING OF ORGANIC PRODUCE

After being declared as 100% organic State, the key challenge for the State is to find the right market for Organic produce. The chapter discusses size of the market, growth in demand and various markets for Organic produce that are available. The chapter also explores the current situation of production and market in Sikkim and the gaps that needs to be plugged to market organic produce in a right way.

2.0 Organic Food Market – Growth & Size of Market

India's organic food market has potential to grow more than 25 per cent annually to touch $1.36 billion by 2020, provided there is more awareness about these products and the government incentivizes region-specific organic farming to ensure consistent growth in future. (ASSOCHAM, 2015)

Demand for organic foods is concentrated in countries like Japan and South Korea where consumers have high purchasing power. Moreover, high prices and lack of information on availability of products, undeveloped infrastructure and logistics and dealing with certification in emerging economies are the factors restraining the market from growing.

2.1 Market for Organic Produce

As per the report of the Yes Bank, India produces around 3.88 million tons of certified organic product which includes spices, basmati, pulses, flowers. Organic Food Industry is primarily a metro based industry. About 90% of the branches exist in top ten metros like Delhi, Kolkota, Mumbai, Pune, Chennai, Bangalore and other Tier II cities.

The market for Organic produce of Sikkim is within State itself, outside State and outside country. The marketing of Organic produce reaches these markets in following ways:

(i) The conventional regulated market where the lower quality of conventional products is improved by mixing with higher quality organic products.
(ii) Speciality products to processors and retailers of Organic food in India.
(iii) Organic premium international market.

2.1.1 Organic products sold through the conventional channel to a Regulated Market

The conventional method of selling organic produce is that the producers of Sikkim sell their produce e.g. Ginger, Turmeric, Large Cardamom, directly to local merchants or those in nearby towns. In exchange, the merchant sets up an account for the

farmer, which the farmer can use to buy provisions for the following year. In this practice farmers are at the mercy of the merchants and are offered less than the actual value of the large cardamom. It is also common to sell produce through a middleman. The middleman visits each farm in a locale, buying and collecting the cardamom and other produce from each farmer along the way. The middleman then sells the product either to local merchants or wholesalers in Siliguri or Guwahati. This method is prevalent in areas with little or no access to roads and with mostly small-scale farmers who have neither the time nor the money to bring their produce to market.

In case of spices, the difference between the 'organic-by default' and certified organic spice production is not recognized by most conventional middlemen and traders. Small scale traders often trade informally, they often buy lower quality, for example unripe, products at low prices. Both the channels do not pay an organic premium due to which spices loose their formal organic status. Farmers engage in selling to informal traders, because traders offers them instant cash. However, it negatively impacts the availability of good quality certified spices, posing supply problems for organic spice exporters and other formal market channels.

The Organic product is undifferentiated due to appearance and it is difficult to segregate a certified produce with a non certified one in conventional regulated market. Moreover, regulated markets are not specialized and do not have facilities to market and handle organic product.

The market channel for the Organic produce in a conventional market is as follows:

The commodity wise markets for the produce sold conventionally by traders middlemen and procurement of agencies are as under:

Table 2.1: Products and Markets

Produce	Markets	Procurements by Agencies
Ginger	Singtam	Aggregators
	Siliguri	SIMFED
	Guwahati	Trader
	Kolkatta	Trader
	Delhi	Trader
Turmeric	Singtam, Jorethang, Kolkatta, Delhi Kerala	SIMFED Aggregators and traders

Produce	Markets	Procurements by Agencies
Large Cardamom	Gangtok, Siliguri, Kolkatta	NERAMAC Spices Board Aggregators and traders
Buck Wheat	Siliguri, Delhi, Jaipur	SIMFED Aggregators and traders
Cymbidium	Kolkatta New Delhi	Suppliers to exporters

The produce is aggregated by the traders at procurement Centres operated by SIMFED and NERAMAC at Sub divisional level. There are no organized wholesale markets in Sikkim due to which the produce flows directly from Collection Centres of Sikkim to Silliguri which is a nearby Regulated Market of West Bengal. For Instance the transport cost of Ginger and Turmeric from Jorethang is about Rs 30 per bag (50 kg per bag) for transporting it to Siliguri which is at a distance of 70 kms. High transportation cost is one of the deterrent for the producer to access better market and fetch higher price.

What is required is to have a network of assembly points and collection centres as recommended by Food and Agricultural Organization (FAO).

Non existence of markets, short supply chain, low volume and absence of competing buyers have made the Organic Produce to be sold as a normal produce. The core attribute of organic produce is lost in this kind of fragmented and organized market environment. There is a tremendous loss of value when the organic produce is sold in a regulated market of another State. This loss can be eliminated by designing and promoting a market specialized for marketing of Organic produce. This will help a producer to realize value of the produce. ***If Sikkim has to earn a premium for its Organic produce then it should have specialized markets and market infrastructure to enable the produce to get the value of it being Organic.*** Logistical linkages also require having storage facilities, cold stores, refer vans for cymbidium. This report makes an assessment of the market infrastructure facilities that are required to be established for reducing losses and raising the value of the produce.

2.1.2 Specialty product to processers and retailers of organic food

The second market for the Organic products is that it can be sold as a raw material in the form of dried, powdered, paste form to processors and retailers of Organic produce. The traders of Sikkim supply the produce as a raw material to processors in Sikkim who process it as flakes, chips , powder etc to retailers and exporters. A value addition in terms of grading, drying packaging, labelling, branding takes place at the level of processors. The supply chain of Sikkim organic produce is short as it ends at a

level of supplier who may further aggregate the produce to get an economic quantity.

According to **India Organic Food Market Forecast & Opportunities, 2017**, Indian organic food market is anticipated to grow at a significant CAGR of around 19% during 2012-2017***. In India, majority of the demand for organic foods is originating from Tier I cities such as Mumbai, Delhi, Chennai, Bangalore, Gurgaon and Pune.*** Companies are witnessing increase in sales as a result of increasing demand from metro cities and the entry of several new players in the organic food market offering an online channel for purchase.

The major players in Indian organic food market are Conscious Foods, Sresta, Eco Farms, Organic India, Navdanya and Morarka Organic Foods. Organic food usually costs up to 20% to 30% more than conventional food items which is one of the major challenges in Indian market as majority of the consumers are quite price sensitive

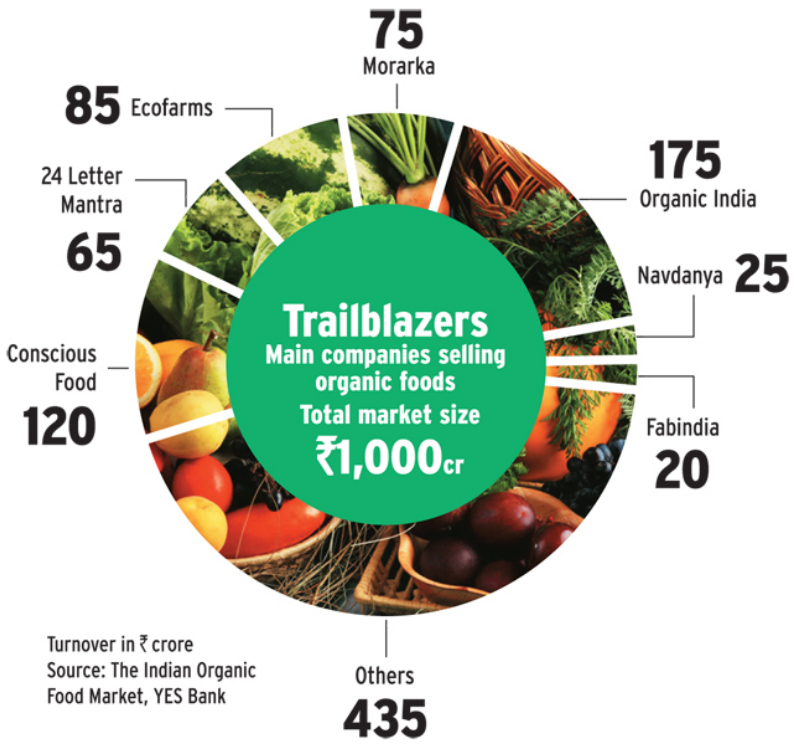


Fig. 1: Main companies selling organic foods

In India, the organic market is growing in premium segment. All major hypermarket and supermarket retail chains, ***including Spencer's, Fabindia, Hypercity, Nature's Basket, Namdhari Fresh, Le Marché and Nilgiri, have a dedicated shelf for organic food***. These modern retail stores are continuously increasing shelf space for organic food products, which is still a small part of overall business. In the last few years, organic food has captured a shelf space of about 2-5 per cent in modern food retail.

On an average, there are about 100-200 SKUs of organic food available in any retail chain offering organic food products.

Small and Medium enterprises are being established in Sikkim which are undertaking the process of making flakes and powder of Ginger and Turmeric. The semi processed produce is supplies as a raw material to retail chains and Institutions. One of the supplier of organic produce in Sikkim called Natures Gift has a business plan to reach out to the major retailers of the country.(Box 1)

Box -1

Natures Gift, Sikkim is certified by One Cert Asia Private Limited, Jaipur to undertake processing for the spices and pulses. It has both certification viz. National Program for Organic Production /NPOP (Indian standards) and National Organic Program (NOP) Technical standards, USA. The firm also has Food Safety and Standards Authority of India certification and trade license.

It has well equipped spices processing unit and processing commodities viz. Turmeric and Ginger. It has made an agreement with the Rural management and development department on buyback of organic cereals and vegetables from the Self-help groups mainly constituting the village women. He has target of 3000 SHG as part of organic movement. The members of farmers association and individual farmers all contribute to the farm product collection. The farm has 10 employees at the moment who are engaged in processing and survey /data collection and marketing activities. Nature's Gift retail packs are present in Sikkim and also in Darjeeling. It is currently processing Turmeric, Ginger, Buck wheat powder and pulses.

Markets/buyers for Nature's Gift

1. Organic India, Uttar Pradesh
2. Vision Organics, Rajasthan
3. Kasam, Orissa
4. Shree Chakra farm, Maharashtra
5. Manipal college, Sikkim
6. STNM hospital, Sikkim

2.1.3 Organic premium international market

The export potential products from the state of Sikkim have a growing demand in the world market. However, it is important to note that how far has India/ Sikkim been able to exploit this growing demands of spices (turmeric, ginger and cardamom), orchids and buckwheat. Except for turmeric wherein India captures almost 70% export share in the world market, followed by 19% share in the cardamom market; this share is very meager in case of ginger (5.3%) and further low in case of buckwheat (3.4%). Due to low production base and lack of value addition and processing capabilities, Sikkim has not been able to take advantage of export demand for spices. Large Cardamom from Sikkim finds a market outlet by supplying to the agents in Kolkatta who further link it to the exporters.

However there are inefficiencies in domestic supply chain which make the marketing price of the commodities high as compared to competing countries. In depth analysis of export strategy for the State has been deal commodity wise.

2.2 Targeting Premium markets: Situation analysis of Domestic Market

Sikkim possess a strong production base but the absence of right market channel for Organic produce, absence of value addition by post harvest management and high transport cost has made Organic produce to be sold with limited choice of market. Outreach of Sikkim to national markets has been constrained by other factors, however Sikkim producers need to be linked with domestic retail chain and exporters who aggregate produce for international markets.

The market for Sikkim Organic produce should target following segment:

1. Organic Premium Market- (Superstores and hypermarkets in Tier-I Cities)

The First step in this direction should be de channelise the flow of the produce to Siliguri market and capture the value of the Organic produce within State. This means Sikkim should aim for being a market of Organic Produce rather than putting the Organic produce in a conventional market channel

2. Export Market with Value added products

Before targeting the above markets assessment of domestic marketing scenario needs to be understood. The situation analysis of domestic market in terms of availability of produce, channels and markets is as under:-

2.2.1 Low Production base leading to uneconomic quantity

Like other States of India, Sikkim State faces a major problem of that the organic producers are small and marginal with small land holdings. The production base of

Ginger, Turmeric and Buckwheat is small. As seen in the table below although the share of Ginger in the production of state is 85% but its share in the national production is very meager. Its similar for other commodities except for Large Cardamom, where Sikkim commands a good position.

Table 2.2: Share of Production

Produce	Production in Sikkim (000 Tones)	% share of Production in Sikkim	% Share of production in India
Ginger	51.57	85.82	.79
Turmeric	4.68	7.79	.36
Large Cardmom	3.84	6.39	8.3
Buck Wheat	3.38	3.49	5.4
Cymbidium	233 (flowers in lacs)	12.47	.30

In terms of yield also, the commodities suffer from low yield. As seen from the table the low production and productivity of Ginger, Turmeric, Large Cardamom and Bukwheat are very low as compared to the best yields in other States.

Table 2.3: Yields and Comparison

Produce	Yield In Sikkim	Best Yields in the county	
Ginger	5-6 tones /ha	15-25 tones/ha	Tamil Naidu
Turmeric	3-4 tones/ha	35-40 tones /ha	Kerala
Large Cardamom	235 kg/ha	400 kg/ha	ICAR
Buck Wheat	955 kg/ha		

Low base of production in Sikkim hinders the availability of threshold quantity in a distribution channel of product. In order to make the value chain efficient and responsive, it is important to have an uninterrupted flow of products so that by the time it reaches the consumer market, the distribution channel is already replenished with a quantity.

The organic produce in Sikkim is constrained by the quantity available by marketing as well as quality of the produce. The uneconomic quantity the each farmer increases the cost of taking produce to markets.

2.2.2 Non premium price for a premium product

The price offered to organic produce is not in commensurate with uniqueness that the product has. This is because the growers of Sikkim set price on production cost analysis which sets out to be low. It is pertinent to mention that the cost of seed, fertilizer and crop production are subsidized by Government of Sikkim and does not

reflect the true market cost. The major cost incurred is on collection and transportation. Generally the price of organic produce is higher than conventional products but the organic ginger and turmeric are sold at available market channel at a non premium price. It is contextual to mention that the price of Organic produce is atleast 25 to 30 percent higher than the conventional produce. Unfortunately such a price is not being offered to Organic Ginger and Turmeric sold in the market of Siliguri and Gangtok as it is sold as normal non certified produce.

2.2.3 Non-existence of specialty channel for marketing of Organic produce

Organic producers have difficulty in access to the aggregation points and therefore are far from distribution channel. A high cost is entailed in terms of collecting and transporting the produce to the consumer markets. As Sikkim is a hill state the biggest challenge for access to markets is transposition cost. A specialty channel for marketing should comprise of special handling and transportation method. Opportunities in the organic market are very different from the conventional market. Sales of organic food stuffs rely on integrated and transparent chains with a relatively slow turnover but a high quality profile. Relevant markets for organic products are speciality shops, supermarkets and integrated tourist operations which offer premium to the organic produce.

A right market channel comprising of appropriate market infrastructure, traders, facilitators and buyers who recognize the brand value of Sikkim Organic is required. The downstream and upstream value chain of the organic produce needs to be developed by State which will be of help in creating product recognition for organic produce of Sikkim.

Conclusion

Market for organic produce are premium markets which have high standards. These standards are to be adhered to in the entire values chain of the product. The compliance and adherence requires a paradigm shift in the approach to marketing of produce. Sikkim requires this shift and act to market organic produce as a premium product to high value markets. The chapters that follows discusses this shift and ways to get the produce to a right market, develop appropriate market channels, product development and market strategies for new markets.

CHAPTER 3

MARKETING INFRASTRUCTURE FOR ORGANIC VALUE CHAIN

After being declared as 100% Organic State, Sikkim needs a market plan to manage the flow of product from upstream to downstream areas. A well coordinated network of assembly points, collection centres and a terminal wholesale market is proposed. The viability, function and location of these market points are discussed in the chapter.

3.1 Marketing Infrastructure

Infrastructure plays an important role in bringing competitiveness in agricultural value chain. Marketing Infrastructure includes : -

- Supports on-farm production (irrigation, energy, transportation, pre- and post-harvest storage), ensures efficient trading and exchange (telecommunications, covered markets),
- Adds value to the domestic economy (agroprocessing and packaging facilities)
- Enables produce to move rapidly and efficiently from farmgate to processing facilities, and on to wholesalers (transportation and bulk storage) (FAO)

This report considers direct infrastructure in terms of physical infrastructure that enables the produce to move efficiently and adds value to it by bringing it to market place. It also considers the related organizational systems that support the planning, location, regulation, operation and maintenance of this infrastructure.

Further the report considers indirect infrastructure which covers application of ICT tools, human and institutional systems and support mechanisms

3.2 Need for Marketing Infrastructure - Constraints and potential solutions:

If the premium for the organic produce is to be realized by farmers, the State has to ensure establishing market infrastructure which ensures small and marginal participation of famers in Sikkim. The major challenge in developing the marketing infrastructure in Sikkim is to provide market access to small holders of hill districts who seek to have better prices for organic produce. The factors which have limited the market access to farmers are:

1. Difficulty in aggregating the produce
2. Low marketable surplus
3. High transaction cost
4. Low storage capacity
5. Social relationship with traders for credit needs

In order to enhance participation of small holders of organic produce, better market access is to be provided by having a well designed and coordinated market infrastructure which enables the produce to move efficiently with minimum wastage and retain its value as organic within the State.

In order to assess the infrastructure gaps and also to identify the factors that hinder the access of small producers to markets, consultations were held with producers, buyers, processors and officers of Department of Agriculture and Horticulture in East, West and South district of Sikkim.

Stakeholders identified key areas that need to be addressed, from the perspective of both producers and buyers. The producers of ginger, turmeric and buckwheat highlighted the following issues as their main requirements

- Availability of collection centres and facilities for grading, weightment and related activities.
- Proper sheds in the markets
- Better and subsidized transportation system from farm gate to collection centres
- Availability of price and market information
- Improved training on farm business management, grading, and post-harvest handling and treatment
- Technical assistance in developing farmer groups
- Better access to finance through banks
- Developing the primary processing industry (drying, processing, slicing etc)

The buyers identified the following issues as their main requirements: -

- Better year-round consistency in supply and quality;
- Better markets to accommodate trading;
- Develop the domestic processing industry to diversify supplies;
- Introduce storage to consolidate supply;

During the field visits it was observed that the major constraints in marketing is the lack of proper infrastructure, i.e. space, sheds, storage facilities, lack of interconnections in markets which results in poor organization of the markets and hampers trading activities. Transport from the assembly markets to the markets outside Sikkim is expensive, restricted to 5 tonne trucks and roads are sometimes blocked. This affects timely dispatch of produce and quality of produce. At present limited and scattered production of produce leads to limited and unpredictable arrivals at assembly points, traders have to go to different markets to aggregate.

3.3 Existing marketing system and infrastructure:

In Sikkim clusters of villages have a market. These markets are rural haats which operate on a particular market day once or twice a week during which the produce from surrounding production area is assembled. These rural assembly markets play a vital role in marketing. It is uneconomic for small farmers to travel large distances with small quantities of produce. The produce from these assembly markets flow to wholesale markets. Few rural haats have sheds and many are devoid of any permanent structure. During the field visit the team observed rural assembly points managed by Department of Gram Panchayat under different schemes. The RMCs are owned by Gram Panchayats and are generally given on lease or without lease to individuals or SHGs to manage. The physical infrastructure created by Gram Panchayat sometimes are non-functional and were found to be abandoned as shown in Picture.

3.4 Consultation for identifying Infrastructure:

To develop an infrastructure plan for organic produce of Sikkim and to study the value chain of selected crop and constraints faced by different stakeholders in Sikkim, various levels of interactions and meetings was organized with the various stakeholders and officers of four districts of Sikkim viz. East, West, North and South Sikkim. The approach for identifying the product based and district wise infrastructure for organic produce or Sikkim is as follows:

1. **Identify the existing infrastructure and linkage with FPO –** In all districts Clusters have been formed under MOVCD. However, the formation of FPOs is still work in progress. SFAC, New Delhi will be visiting various locations and persuade the growers/producers of the area to form FPOs. On persuasion the process of formation of FPO is likely to gather momentum.

Deputy Director, West District shared information about the existence of Multipurpose Co-op societies (MPCS). At present there are 61 MPCS in the State. These are being utilised for PDS and input distribution. NIAM suggested that infrastructure available with MPCS could be utilized for marketing of produce in each catchment area. Accordingly a list of details of infrastructure available at each MPCS in respective district was compiled.

During the discussion Additional Director also mentioned that there are large number of Rural market centres (RMC).These are existing in all the districts but are abysmally lacking in basic infrastructure. Keeping this in view a list of infrastructure available in each district was also compiled.

Meeting with Special Secretary (Rural Market development): In the meeting the information on the existing status of rural markets in Sikkim was discussed. It was found that some of the rural markets have market sheds which are being operated by SHG, NGO and Entrepreneurs while many are without any permanent structure.

The RMCs are playing an important role in aggregation of produce at Gram Panchayat level. These RMCs have potential to be developed as assembly points and collection centres for establishing forward linkages of produce. NIAM suggested that some of the functional RMC can be recommended as collection centres after assessing situation at field level.

Vegetable sellers in RMC

On the basis of Information following work plan was undertaken:

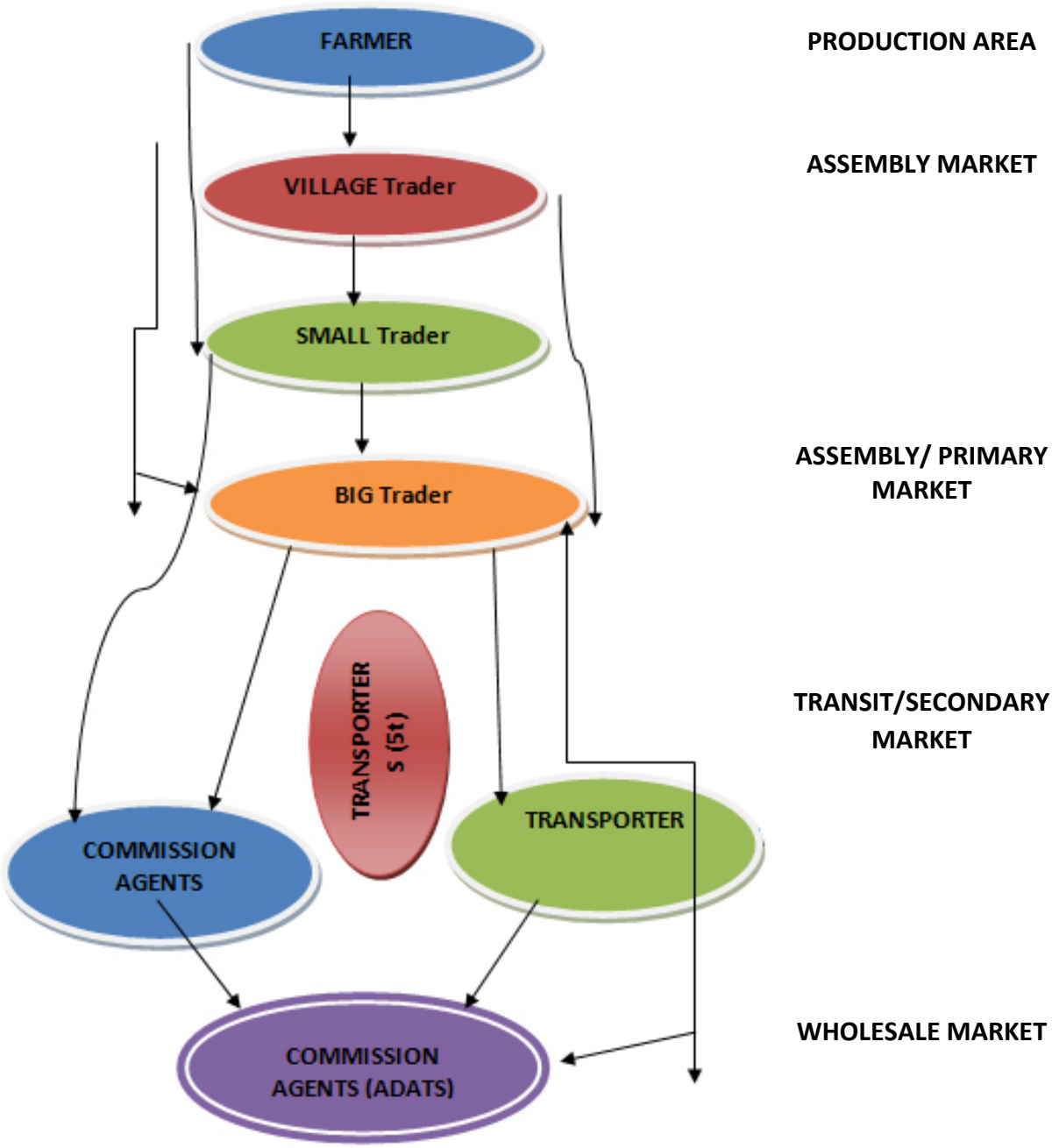
1. List of Clusters, RMC and MPCS were analyzed to examine the minimum infrastructure available.
2. Meetings with RMC officers and stakeholders were organized at each district head quarter to seek information on existing operation and management, revenue model, development plan and future plans.
3. Field visits were also made in the districts of South, West and East to know the status of existing infrastructure available at each cluster.
4. Stakeholders meeting along with officers posted at district head quarter and within the district were also organized to understand the need for additional marketing infrastructure.
5. Visit to Namchi, Dentam, Ravbangla, Legship clusters to gather first hand information from producers of Ginger, Buckwheat and large Cardamom.
6. Traders dealing with various commodities grown in Sikkim were also contacted to understand the infrastructure requirement for marketing of produce.
7. Existing environment for investment were examined by consulting entrepreneurs who have established various units in the state.
8. Discussion with agriculture scientist were also held at college of Central Agriculture University, Gangtok, Sikkim.

9. Visit to West district were made to cover clusters of Buckwheat, Ginger and Large cardamom.
10. To understand the existing processing of various commodities a visit to Processing unit at Majhitar and Packhouse at Rangpo were organized. Discussions with the Market Secretary, Rangpo wholesale market revealed that the physical infrastructure at Rangpo has been non-functional for past few years. This visit provided us the insight that building and infrastructure requires a careful operation and management contracts so as to make the infrastructure investment viable and sustainable.

Auction hall at Rangpo Wholesale market

Refer van laying non functional at Rangpo Market

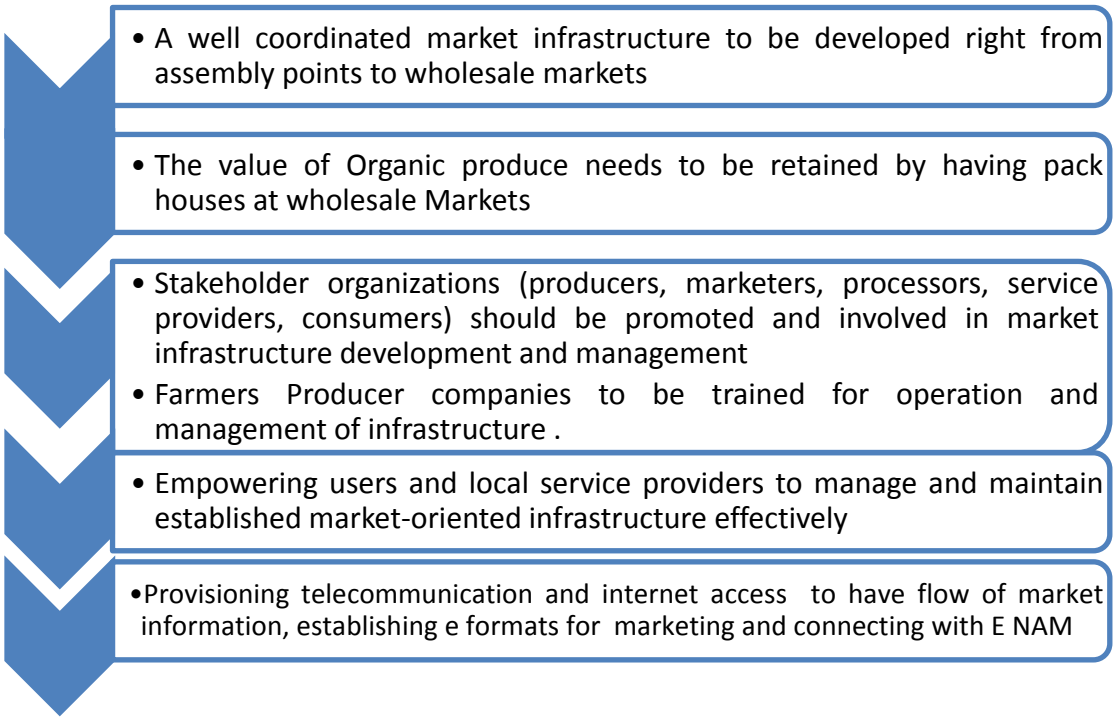
The information was analyzed and additional infrastructure required was identified in the State. This analysis resulted in an investment plan for next three years. Interaction with farmers and traders gave an insight on the flow of product from villages and the relationship between channel partners. The existing flow of produce and relationship between the markets is exhibited in diagram.



Flow of Produce and Linkages

The produce flows from the rural assembly points to Melli and Rangpo. From these markets the produce is taken to Siliguri markets in West Bengal. The organic produce of the State moves from farms to markets on head loads, two wheelers and local transport to a point from where the traders collect it from many producers. As such there are no organized markets for the Organic produce in the State. The produce moves within the district and outside the district. The pattern of flow of produce from gram panchayat units and blocks is from assembly point to collection points. All districts have collection points. At some of these collection points, there are sheds available which are very basic.

3.5 Approach to market Infrastructure development and market plan



Stakeholder organizations (producers, traders, commission, agents, processors, service providers, consumers) should be promoted and involved in market infrastructure development and management. Training of stakeholders in pertinent areas such as partnership management, infrastructure maintenance, networking and market information systems management is to be reckoned.

The report analyses district wise market infrastructure planning followed by commodity wise analysis of market infrastructure requirement. Sikkim after being declared as a 100% organic state will require establishment of collection centers and specialized markets to handle the premium produce. The existing practice of selling the organic produce at regulated market is not the right practice and regulated markets are not the right place for sale of premium produce.

The geographical distance between farms and market on an average is 70 kilometers. The hilly terrain, poses a challenge to move agriculture produce from farm to markets. Due to distance and terrain, the market access for the producers is constrained.

Along with production planning, market planning also needs to be in place to sell the produce with a core attribute of organic and healthy food. The marketing has to ensure an uninterrupted supply chain with a threshold volume for business. Physical linkages between the assembly points and Collection centres are necessary for a taking a produce to a terminal market.

The aggregation of the produce at collection centers needs to be developed to have better market access, reduce post harvest losses, reduce the cost of marketing and give better returns to producers. The collection centres need to have linkages with wholesale markets from where the produce with the brand Sikkim Organic will move to national markets. A suggested approach for market plan for marketing of Organic produce of Sikkim is as shown in Diagram

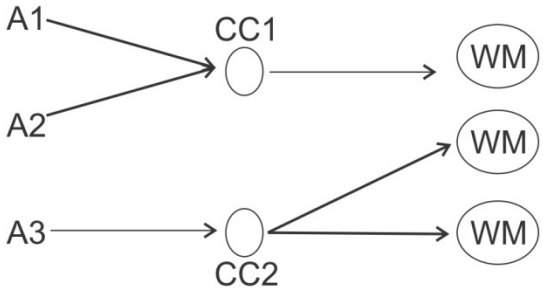


Fig. 2: Market Plan for Organic produce of Sikkim

A - Assembly Points, CC - Collection Centres, WM - Wholesale markets

It is suggested to have assembly points at village level. These assembly points are to be located at a transport node offering convenience to both producers and aggregators for preparing requisite quantum of produce to reap the benefit of economies of scale.

These assembly points need to be connected with collection centers where the produce from different assembly points flow. It is at this place where the best attributes of the organic produce need to be enhanced by cleaning, grading, packing, labelling and branding.

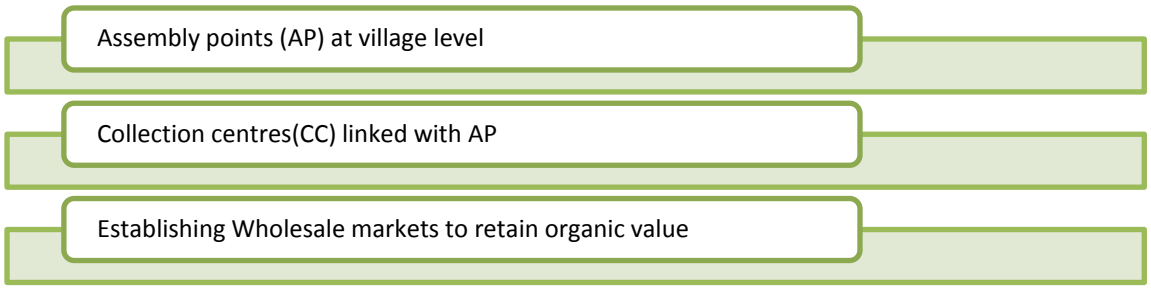
The collection centers need to have linkages with a Wholesale market of Sikkim. The Wholesale market will provide linkage with spot markets, pack house, storage, branding and promotion along with option of trading produce through National spot exchanges, commodity exchanges, e-trading on National Agricultural Market.

The characteristics of these markets are shown

Table 3.1: Market points in a network and characteristics

S. No.	Market Center	Characteristic	Operation
1.	Assembly Point	• Location Convenience • Usually located at transport node	• Pick up of produce by mini vans
2.	Collection Centre	• Aggregation of produce • Post harvest infrastructure is required	• PHM • Storage • Transportation • Extension and Training
3.	Wholesale Market	• Produce is standardized, labelled and branded as Organic • Offers alternative channel for Raw produce through Spot market, for exchange future trading or through E National Market • Financial through warehouse receipt system (WRS) • Traceability and export documentation	• Caters to national and international markets

The plan for having integrated markets at different level is suggested as under



3.5.1 Establishing Assembly points

Assembly points are the most preferred points of collection for agricultural produce especially in hilly areas where the terrain is difficult and road network is sparse.

Markets within Sikkim function as collection centres where the produce is aggregated. In some markets such as Jorethang, Singtam, Melli and Namchi primary transactions take place, i.e big traders purchase Ginger from small traders and village traders .Ginger assembled at the different markets is sent directly to Siliguri which

serves as transit market. Ginger traded at the assembly markets of south and West District passes through Melli checkpost and Ginger from North and East Sikkim passes through Rangpo. Melli market is the nearest market for the shipment of ginger to the transit and terminal markets. The trade flow from assembly markets is exhibited in Diagram.

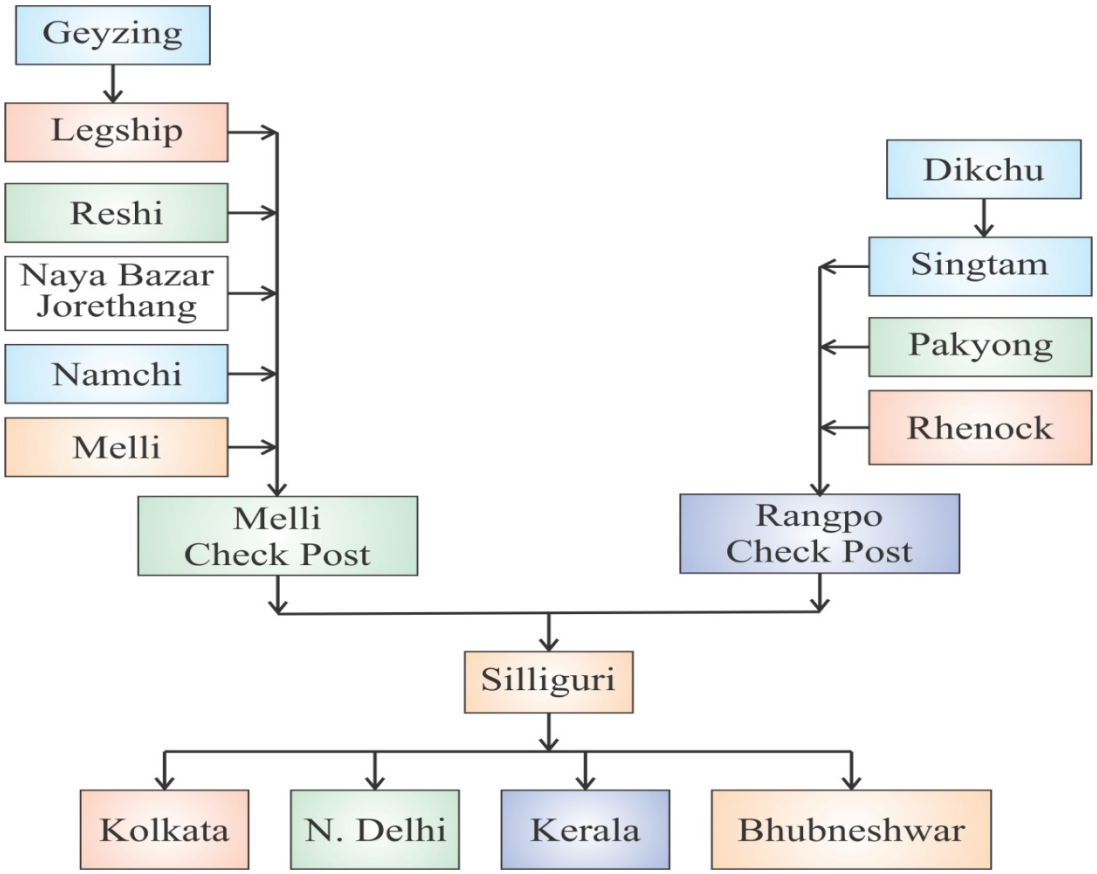


Fig. 3: Trade Flow

The endeavour to have well coordinated markets will require establishing assembly points for aggregation of produce. This requires finding the optimal location of assembly points.

It is necessary to upgrade the existing infrastructure and network to cater to the needs of producers. The location of these points should be determined by accessibility. The assembly centres do not require any infrastructure as the produce is kept at this place for a very short period. The infrastructure requirement is transportation facility of public transport, mini vans or trucks and sheds to keep the produce while it is being loaded for onward transportation. Accordingly for smooth flow of produce the assembly points are identified by taking following in consideration.

1. The distance between assembly point and a collection centres has been taken in the range of 3 to 5 kms.
2. The assembly points to be at the road head of a district, State or a national highway, taking into this as a consideration the assembly points are identified on the basis of existing pattern of product and accessibility.
3. The existing infrastructure under different schemes and departments to be upgraded to be used as Assembly points to bring synergy and cut costs.
4. Location to be determined on the basis of marketable surplus available
5. The RMCs under Gram panchayats to be upgraaded and used as assembly points

3.5.2 Collection Centers

Collection points provide a central and local place for farmers to take their crops, enabling traders to source large orders from many farmers, store the produce in good conditions before it is delivered, and reducing transport costs.

Collection centres are best for improving the link along the value chain through the development of facilities that allow the collection and grading of fruits and vegetables for processing, distribution and/or selling Buyers will also benefit from reduced transport costs and ease of sourcing from one location. Since all buyers have their own transport and packing materials, they have the ability and option to travel further in search of competitively priced produce. Indeed, the middlemen located in rural areas, of which there are many, predominantly source from nearby areas, i.e. neighbours and friends, and will continue to operate as such. These middlemen offer important services to households in the area not only by providing a market for produce, but through activities such as acting as courier of agro-inputs from the urban areas. These voluntary services create important social ties and help to develop trust.

3.5.2.1 Rationale for Collection Centres

Small-holder farmers face difficulties in accessing markets and in acquiring market information. Farmers rarely operate as farmer groups and endure high production costs due to lack of scale of economies. Expensive transport options prevent delivery to the market at a competitive price. Unfortunately, many of the farms are too widely dispersed or have bad road conditions for buyers to source directly.

The consequence of the inability to find viable markets has resulted in post-harvest waste. There are insufficient packhouses and storage facilities in rural areas, sharply reducing the shelf life and quality of the produce.

In addressing the needs of both producers and buyers, workshop participants suggested that the creation of an effective collection and grading system that allows

a supply cascade could potentially generate higher returns throughout the supply chain. It is believed that the collection centres could be an important component in improving the links between the buyers and the growers.(FAO)

During the discussions with stakeholders, centres having the potential to act as a marketing facility were identified these hard the potential to provide extension services and act as an information centres. The producers opined that the centres would be an important component in improving the links between the buyers and the growers. For effective linkages the centres should provide for product warehousing and be able to segregate varieties, grades, packing , price advisory and payments. As an information provider, collection centres should directly contribute to knowledge of farmers for better marketing and planning across the value chain.

Drawing from the study conducted by FAO on viability of collection centres in Fiji, the proposed collection centres for Sikkim should possess the following characteristics:

- They should serve between 15 and 20 farms.
- Provide information on a range of areas to educate farmers.
- Provide training to farmers in grading and post-harvest management.
- They should contain simple washing, grading, cool hygienic storage and phone connection facilities
- They should introduce appropriate packaging technology into the area and train
- Processors and Collection Point managers.
- They should encourage the grouping of farmers to expand volumes of similar varieties and improve quality.
- They should keep accurate farmer records along with Aadhar numbers to be used as collateral for small loans
- They should eventually evolve from simple collection points to a distribution and selling agency and training platform.
- They should provide services to the community, including the distribution of inputs, seeds, training of farmers, improve effectiveness of extension services, market information.

3.5.2.2 Features of Collection Centre:

The backward linkages with the farmers will be channelled through collection centers, owned and operated by the farmers' association in identified production belts. The participation of individual growers in a farmer association-owned collection centre strengthens their bargaining power through collective marketing. Each collection center will undertake following operations: (a) Facilitate farmers to undertake cleaning, sorting, grading activities close to farms, to ensure value-

addition to the produce and reduction of garbage generation (by un-cleaned, unsorted produce sent by growers) at the market level. (b) Ensure that the market receives sufficient quantity of produce to develop the market as a major and reliable supply centre not only to meet the requirements of terminal market. (c) Introduce standardization so that graded produce is marketed and price realization to farmers is optimized. Standardization is an essential part for successful central auction system. (d) Provide extension and market information services to the farmers of the catchment area to increase productivity and reduce costs in logistics by consolidation of produce.

3.5.2.3 Facilities in Collection Centres

The collection centers will be functioning for bulking (gathering together produce from different farmers to send to the buyer collectively). It should also focus on requirement of orderly marketing i.e cleaning grading, packing, labeling. These are a necessary process to check that the products meets the strict quality controls that are required to trade in domestic and export abroad.

The collection centers should have equipment like crates to pack the produce to prevent spoiling and weighing scales for weighment. For sorting and grading there should be a sorting and grading lines.

Initially the collections centres should focus on aggregation of the produce which need to have grading and sorting. Once the business has picked up and the traders association supports the collection centre activities the centres can be used as spaces for locals to receive training for upgrading skills for orderly marketing along with storage of products to prevent post-harvest losses which enhances returns to the producers.

Collection centers have the potential to act as a marketing facility, as a provider of extension services and as an information centre. The centres would be an important component in improving the links between the buyers and the growers. The centres should provide for product warehousing able to segregate varieties, grades to deliver to the markets. As an information provider, they should directly contribute to improved knowledge of the needs of the market and to better planning throughout the value chain.

3.6 Cluster approach for Market Infrastructure

Under the Mission for Organic value chain Development (MOVCD) Department of Horticulture of Sikkim has organized production centres in clusters. Taking these clusters as a basis of planning, assembly points and Collection centre have been identified. The cluster approach is adopted for location of assembly points and collection centre with three assumptions:

Marketable surplus is necessasry to have viable assembly point and collection center

FPC within the clusters are crucial for market linkages to collection center

Operation Management by SHG, NGO, company, entrepreneur etc in PPP

Clusters of turmeric, ginger, cardamom and buckwheat have overlaps in production areas. These overlap zones are the potential sites for location of collection centres as substantial throughput will be available for them.

The Cluster maps of four districts are given in Annexure-1.

3.7 Identifying location of Collection Center and district wise analysis

1. The ideal location of the collection centre (CC) should be at a point where the produce from the periphery of 15-20 km can flow to a central point. However this will vary from area to area depending upon availability of the produce. The most important characteristic is that it should be accessible and connected with road network. The best locations are at intersection of roads.
2. The collection centers will require to have a product mix so that the CC can operate year long. In Sikkim the product mix of ginger, turmeric and large cardamom along with other horticultural produce will ensure the operational viability of a collection centre.
3. The Collection centre should have a forward linkage with wholesale markets. In present situation the terminal point is Siliguri which is outside the State which results in loss of revenue for Sikkim. It is suggested that the whole sale markets should be at the border of the State of West Bengal which need to have a upstream linkage with production centres of the State.

3.7.1 North District

It is the largest district of Sikkim. Owing to hilly terrain, Large cardamom is grown by producers. Mangan is known as the Cardamom Capital of the world. The climate and terrain best suit the cultivation of the larger variety of Cardamom here. Ginger is also grown but the production is very low. The Area, production and Value of the produce is as under:

Production, Area and Value

Product	Area (ha)	Production(MT)	Value (Lacs)
Turmeric	91	260	14.73
Ginger	470	2084	544.55
Large Cardamom	5412	1262	7193

The clusters in North district formed under MOVCD for Large Cardamom and Ginger are shown in map

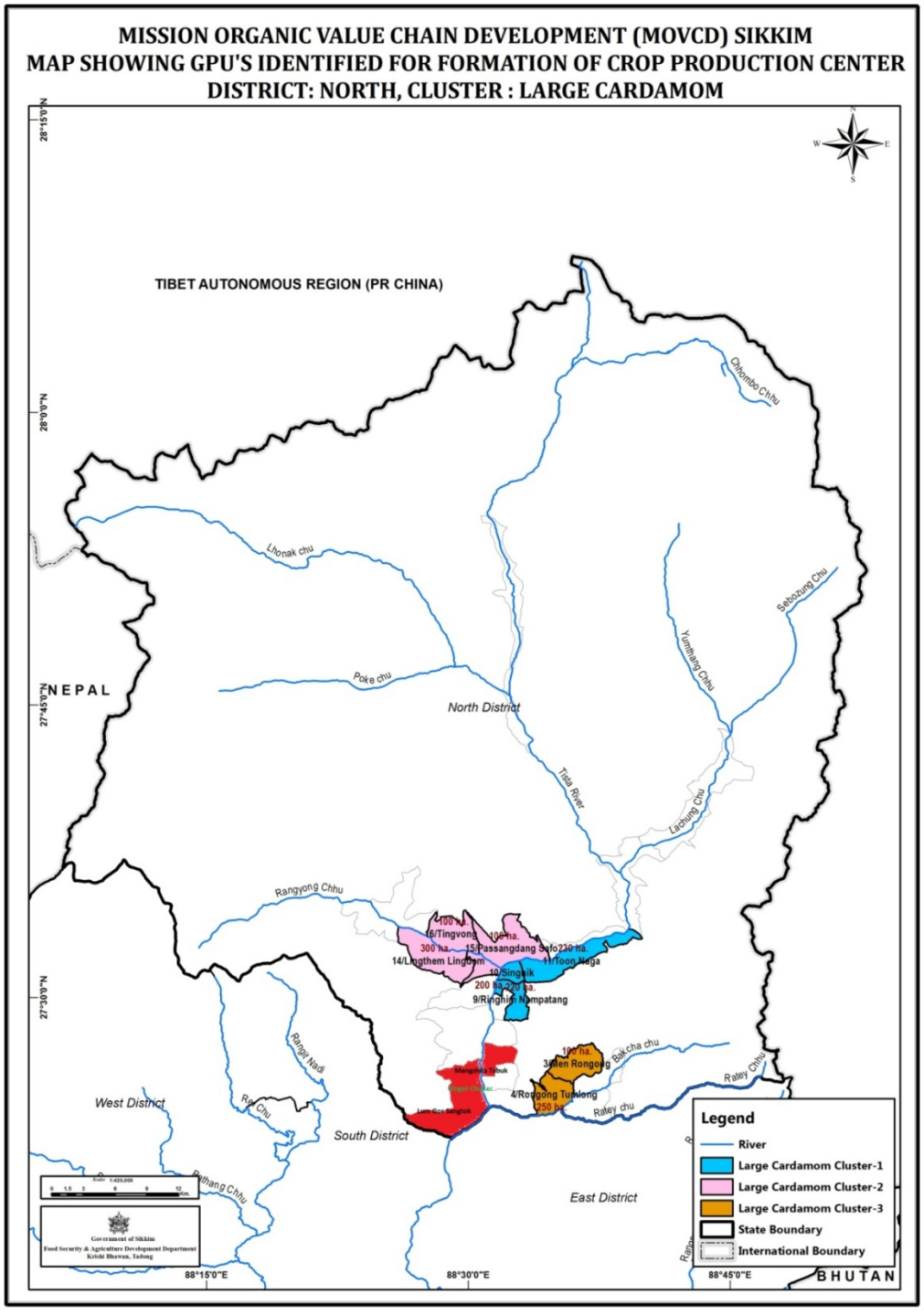


Table 3.2: Location of Assembly Points and Collection Centres- North District

Sl. No.	Assembly Points	Throughput of Ginger & L Cardamom	Existing Infrastructure and Ownership	Management
1	MEN-RONGONG	230	RMC Shed	Gram panchayat
2	RONGONG-TUMLONG	575	Rural Haat	Gram panchayat
3	MANGSHILLA-TIBUK	10000	Rural Haat	Gram panchayat
4	RINGHIM-NAMAPATAM	506	Rural Haat	Gram panchayat
5	SINGHIK-SENTAM	460	Rural Haat	Gram panchayat
6	TOONG-NAGA	529	RMC Shed	SHG Organic Stall and cafeteria
7	LINGTHEM-LINGDEM	690	Rural Haat	Gram panchayat
8	PASSINGDANG-SAFFO	230	Rural Haat	Gram panchayat
9	TINGVONG	230	Rural Haat	Gram panchayat
10	LUM-GOR-SANGTOK	16000	Rural Haat	Gram panchayat

Assembly Points (North District) :

- Ten Assembly markets are recommended to be developed in North District as shown in table above. These are the only places where a combined throughput is available to attract buyers
- Wherever there are RMC Sheds they should be renovated and equipped with weighing machines so that these points can be used for aggregation
- At points where there is no Infrastructure, the assembly points need to have sheds, weighing machines and other equipments.

Collection Centres (North District): The produce from 10 assembly markets will flow to collection centres for aggregating the produce. Mangan is recommended for developing a collection centre. Mangan is well connected with assembly markets which fall in the periphery of 20 kms.(Diagram)

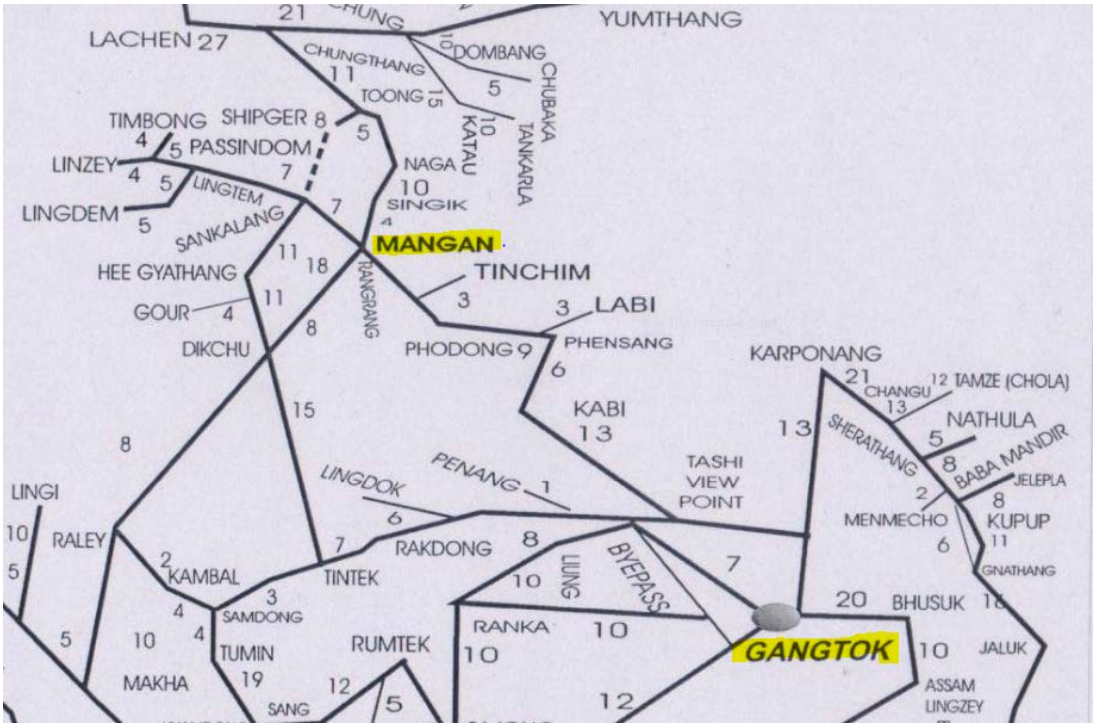


Fig. 4: Location of Mangan and Gangtok

Mangan is located at 52 kms from Gangtok of East district. The location of Mangan is suitable for collection centre having backward linkage with assembly points. The forward linkage with Ganagtok is proposed.

3.7.2 East District

East Sikkim occupies the south-east corner of the state. The capital of East Sikkim is Gangtok which is also the state capital. It is the hub of all administrative activity in the state.The major agriculture produce of the state are maize, rice, mandarin, ginger, Buckwheat and Large Cardamom. The clusters for the production of Ginger, Large Cardamom and Buckwheat are shown in Diagrams. The Area, Production and value of produce are as given below

East Sikkim - Production, Area and Value

Product	Area (ha)	Production(MT)	Value (Lacs)
Turmeric	**446**	**1347**	**76.3**
Ginger	**3105**	**16374**	**4279**
Large Cardamom	**4885**	**1139**	**6492**

Table 3.3 Location of Assembly Points and Collection Centres - East District

Assembly points	Throughput Buckwheat (q)	Throughput Ginger (q)	Throughput Large Cardamom (q)	Existing Infrastructure and Ownership	Existing Management
Chalamthang Pachey	325	2500		Gram Panchayat	
Namcheybong	390	2000		Gram Panchayat	
Aho Yangtam	455	2000			
Pakyong	0			RMC	ICD
Bering Taraythang	260	2500		Gram Panchayat	
Rhenock	325	2000		Gram Panchayat	
Sudunglakha	390	2000			
Aritar	585	2500		RMC	NGO
Dalapchen	780				
Premlakha Subaneydara			184	Gram Panchayat	
Rongli Chegeylakha			92	Gram Panchayat	
Thekabong Parkha			138	Gram Panchayat	
Latuk			230	Gram Panchayat	

Assembly Points (East District):

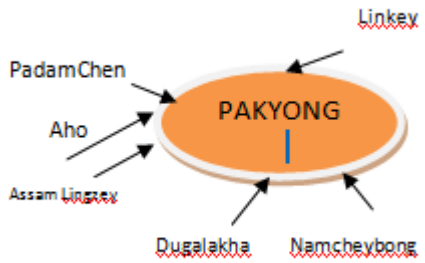
For the aggregation of Ginger, Large Cardamom and Buckwheat, Thirteen assembly points have been identified on the basis of arrival of produce in clusters. These assembly points are functioning as rural markets under Gram Panchayat. These market points need to be equipped with weighing machines and a shed with a space to keep the produce. Wherever there are RMC Sheds they should be renovated and so that these points can be used for aggregation of Organic produce . Some of the markets like Pakyong are well established markets with some basic infrastructure. The profile of Pakyong market is in Box -1.

The existing infrastructure and management of RMC by NGO or SHG can be continued on a contract basis. The service contract for aggregation of Organic produce needs to be devised on revenue sharing or on rental basis.

Box 1 : Pakyong Assembly Market

Pakyong is a major assembly market operation as a rural haat on Wednesday. It has a combination of wholesale, retail and direct sale by farmers.

Farmers come from production areas at a distance of upto 10 Kms to this market. There are local traders as well as traders from Gangtok visiting Pakyong for trade. These traders purcahse smaller quantities of Ginger, cardamom and seasonal vegetables from local farmer and take them to Gangtok or Siliguri for further sale.



Pakyong is linked to Gangtok(30 Km, 1 hour) and Siliguri (92 Km. 4 hours) and to Rangpo via Rorathang for Ginger and L Cardamom. There are some sheds in the market which are occupied by merchants. Most of the wholesale trade takes place outside the market.

As Pakyong is an important market of East Sikkim, it needs to have infrastructure for aggregation. The market needs to have retail sheds, weighing machines and a space for storage.

Collection Centre: Gangtok in East District is an ideal location for being a collection centre. The produce from Mangan in North district and from assembly points of east district can converge at Gangtok. The forward linkage with Gangtok with Wholesale market and national markets is an advantage.

Gangtok needs to be developed as an aggregation centre for domestic arkets. The produce needs to be retained here and branded Sikkim organic and promoted by developing Integrated Marketing communication. The capital town is a hub of tourist influx, the marketing strategy at Gangtok should focus on retailing and catering to the needs of tourists through Sikkim Organic retail outlets.

3.7.3 Plan for West District

West District of Sikkim is divided into two sub-divisions - Gyalshing and Soreng. West district has production of Buckwheat, Ginger and Large cardamom. The Production is small and is scattered. The Area, production and value of produce is given below:

West District - Production, Area and Value

Product	Area (ha)	Production(MT)	Value (Lacs)
Turmeric	556	1592	60.21
Ginger	2862	15600	4076
Large Cardamom	3344	782	4457

Assembly Points (West District)

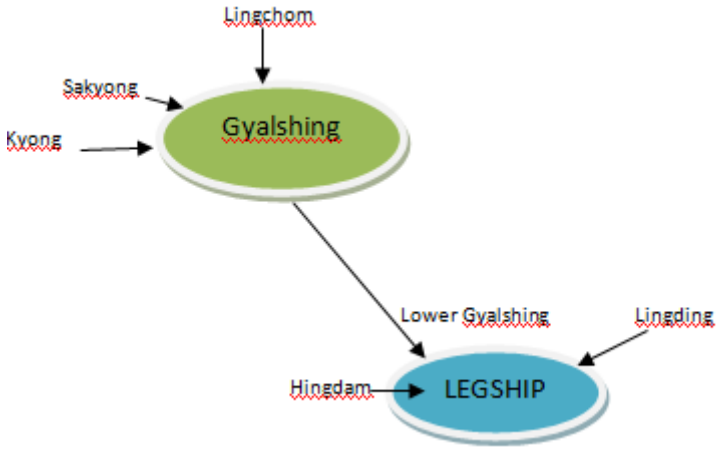
On the basis of marketable surplus available in each cluster, assembly points have been identified. The identified points are already working as rural haats as they happen to be the points of convenience to buy and sell goods of daily needs as well as to trade agricultural products .Some rural haats have sheds developed by Rural Market Committee. These sheds require to be upgraded and equipped so as to create infrastructure to handle organic produce. The proposed infrastructure in West District is as given in Table-3.4.

Table 3.4: Location of Assembly Points and Collection Centres - West District

S. No	GPU	Ownership	Management	Proposed Infrastructure	
1	Yuksom	Gram Panchayat		Assembly point for L Cardamom	
2	Thingling Khecheoperi	Gram Panchayat		Assembly point for Buckwheat	
3	Singyang Chumbung	RMC	SHG	Assembly point for Buckwheat	
4	Yangtey	Gram Panchayat		Assembly point for Buckwheat	
5	Gyalshing Omchung			Collection Centre	
6	Yangthang	RMC	Entrepreneur	Assembly point for Buckwheat	
7	Lingchom Tikjya	Gram Panchayat		Assembly point for L Cardamom	
8	Darap Namboo		RMC	Entrepreneur	Assembly point for L Cardamom
9	Karmatar Gitang		Gram Panchayat		Assembly point for L Cardamom
10	Dentam Begha		Gram Panchayat		Assembly point for L Cardamom
11	Pecherek Heepatal		Gram Panchayat		Assembly point for L Cardamom
12	Chingthang		Gram Panchayat		Assembly point for Ginger

Collection Centre (West District)

The produce flow in the assembly market of Gyalshing and Legship and the interrelationship is shown in the diagram. Such interrelationships are important for the produce to flow and to be in circuit of trade.



Gyalshing is in cluster of Buckwheat and highly suitable to act as a collection centre. Besides this, Gyalshing is also an important aggregation point for seasonal vegetables. The viability of collection centre of Gyalshing will depend on produce flow of season fruits and vegetables . The forward linkage of this collection centre will be to Legship and Jorethang wholesale market.

3.7.4 Plan for South District

South District of Sikkim lies at an altitude of 400 mtr to 2000 mtr. Area wise it is the smallest district of Sikkim and population-wise second one. It has rich agricultural resources. The production and value of the products is as given in table -

South District-Area, Production and Value

Product	Area (ha)	Production(MT)	Value (Lacs)
Turmeric	630	1824	103.36
Ginger	3145	18474	4827
Large Cardamom	3379	792	4503

Assembly Points (South District): To handle the arrival of Buckwheat, Ginger and L Cardamom 13 Assembly points have been identified. At some GPU there is only Buckwheat produced and hence Assembly points to handle the produce have been identified and similarly for Large Cardamom. The identified locations are given in table.

Table 3.5- Location of Assembly points and Collection centres -South District

S. No	GPU	Existing Infrastructure	Ownership and management	Proposed Infrastructure
1	Namthang Maneydara	RMC	Gram Panchayat	Assembly Point
2	Tanji Biktam	RMC	Cooperative Society on rent	Assembly point for Buckwheat
3	Turuk Ramabung	Gram Panchayat		Assembly point for Buckwheat
	Rong Bul	Gram Panchayat		Assembly point
5	Mamley Kamrang	Gram Panchayat		Assembly Point
6	Lingi	Gram Panchayat		Assembly point for Buckwheat
7	Paiyong	Gram Panchayat		Assembly point for Buckwheat
8	Sripatam Gagyong	Gram Panchayat		Assembly point for Buckwheat
9	Yangang Rangang	Gram Panchayat		Assembly point for Buckwheat
10	Ravong Sangmo	RMC	Local Public sell of Rural product	Assembly point for L Cardamom
11	Legship	Gram Panchayat		Collection centre
12	Borong Phamthang	Gram Panchayat		Assembly point for L Cardamom
13	Ben Namphrik	RMC	Milk collection Centre MPCS, Nen Peku	Assembly point for L Cardamom
14	Tinikitam Rayong	Gram Panchayat		Assembly Point

As a collection Centre Legship and Singtam is proposed as it has interconnections with adjoining markets and attracts produce from West Sikkim also.

3.8 Planning Wholesale markets:

The proposed Whole sale market is required to be linked to a number of collection centers .The producers, farmers and their associations and other market functionaries from any part of the State may use the infrastructure and facilities of the Wholesale market directly or through the collection centers. These Markets can source the commodities from the entire State. The wholesale markets are envisaged to be the exit point for the produce from the State which is then linked to national or international markets. It may extend its operations to the whole country. The detailed list of modern infrastructure to be made available to producer – growers both at Wholesale market and Collection Centre are as under

S. No.	Infrastructure
1	Mechanized Handling with Pre-cooling units.
2	Wholesale block cum godowns
3	One Electronic Grading-Sorting line
4	Washing, Grading and Shrink Wrap Packaging Unit.
5	Pack-house Facilities
6	Material Lifting and Ancillary Equipments
7	Cold Storage
8	Testing/Certification Laboratory and R&D center for SPS standards.
9	Commodity Exchange Platform for National Agricultural Market
10	Environmental Infrastructure for waste management
11	Provision for Food Processing Unit
12	Built up area for banks, Service providers, transport companies etc.,
13	Post Office, police post, fire services, parking for trucks and cars,
14	Information centre, rest rooms for farmers, drivers and exporters

Source: Detailed Project Reports on Terminal Markets, National Institute of Agricultural Marketing, Jaipur.

3.8.1 Viability of Wholesale Market

Wholesale Market at each location would have four Collection Centers and would handle a total produce of about 65000 MT annually. Each Collection Centre will have sufficient catchment area to help the producer and is geared to handle an average of 10-15 MT per day. Each farmer of the farmers association will supply on an average of 100 Kg to the Collection center. On an average a small farmer with a holding of 0-3 acres supplies 0.5 quintal, a farmer having 3-5 acre land holding supplies 1 quintals, a farmer with 5-10 acre holding supplies 4 quintals while a farmer with 10 acre and more supplies above 6 quintals per day making an average size of supply to 2.5 quintals.

The annual throughput of identified commodity is as follows:

Table 3.6: Annual Throughput (2015)

Commodity	Approx Annual Production (MT)	Marketable surplus (assuming 90%) (MT)
Large Cardamom	4000	3600
Ginger	52000	46800
Turmeric	5000	4500
Buckwheat	3000	2700
TOTAL	**64000**	**57600**

Thus establishing wholesale market for the above commodities is a viable option.

Location of Wholesale Market:

Jorethang, Singtam, Rangpo an Melli are ranked according to different criteria to decide about the location of Wholesale market:

1. Access to local and outside markets and to production clusters
2. Potential for expansion of the present infrastructure, trade and production
3. Number of actors(traders and agents) operating in the market

4 is best 1 is lowest (1-4)	JORETHANG		RANGPO	MELLI
	Ranking			
Access to Locak Markets and Production Areas	4	2	1	3
Access to Outside Markets	4	1	3	4
Existing Trade Flows	3	2	1	4
Internal Trade	3	2	1	4
Import	1	3	2	1
Existing Infrastructure	2	3	4	1
Tele Communication	1	4	3	1
Number of Actors	2	2	1	4
Potential for Expansion of Infrastructure	4	1	2	3
Potential for Increased Production	3	3	1	2
		54	48	82

The trade flows at these wholesale markets and its forward linkages are shown in Diagram.

Fig. 5: Proposed Market Locations

3.9 Economic Impact Assessment

Economic Analysis accounts for the indirect economic benefits or non-financial benefits of the project. These effects are reflected in the economic analysis which would give an estimate of the project's benefits to the whole economy. Economic benefits include both direct and indirect benefits. The direct benefits of the Collection Centre and Terminal Market will lead to low handling cost, lower transportation cost, reduction in produce losses etc. Indirect benefits include improved supplies of better quality produce, greater market transparency and more competitive trader participation. The economic impacts of these are discussed below:-

a. Because of lack of infrastructure and proper transportation facilities, currently around 25 per cent of produce get wasted. As a result of the provision of proper storage, proper packaging, transportation and other post-harvest handling facilities, the wastage levels could be minimized to a great extent.

b. In the present F&V marketing system, there are many intermediaries in the value chain. This increases the handling charges and freight costs. It is estimated that due to multiple handling and commissions at various stages, there is approximately 6 per cent (of value of produce) build up in the cost of the produce. Terminal Market would help in reducing the multiple points of sale and handling and increases the efficiency in transportation of the produce which would bring down the freight and handling charges.

3.10 Social Impact Assessment

Social Impact Assessment (SIA) refers to the determination of potential impacts due to an external source such as any development project, Government policies, technological change etc. It is anticipated that the Terminal Market would not have any adverse impact on the social environment of the state. The positive impacts of the development of the market are discussed below:

a. **Employment generation:** Development of Terminal Market would lead to employment generation in the State.

b. **Availability of better quality graded produce to the consumers:** The consumers would have access to quality graded produce.

c. **Increased share of farmer in consumer's rupee:** Because of many levels of intermediaries in the value chain, the farmer's share in consumer rupee is very low. As there would not be any intermediaries in the Terminal Market, the farmer's share in consumer's rupee would increase.

d. **Increased exports:** Modern Terminal Market envisages would class infrastructure which include grading, sorting, packaging, cold storage, reefer vans, quality testing station etc. This will facilitate farmer in exporting his produce and position Sikkim as a national market of Organic produce.

Conclusion

An orderly marketing system with a network of assembly points, collection centres and wholesale markets are necessary. The seamless flow of organic produce from remote areas of the hilly state is prerequisite to aggregate the produce. The markets need to be equipped with marketing infrastructure to handle organic produce within the State.

CHAPTER 4

ORGANIC PRODUCE MARKETING STRATEGY

Marketing Strategy for Organic produce is required to focus on Market development for current market and new market needs to be in place by product differentiation. A strategy to shift from traditional market channel to alternative organized market chains for domestic and export is suggested. A systematic plan to have promotion strategy using product life cycle concept for organic market has also been suggested in this chapter.

4.0 Marketing Strategy

An important part of the marketing strategy is to build value of a product and promoted as a niche product. **The first strategy is to get the buyers and consumers to recognize the produce as Organic. The communication to convey this is based on the attributes as defined.** A suitable strategy can be worked out by highlighting the following attributes:-

Table 4.1: Attributes of Organic Products

Core product	Organic certified produce
Tangible product	Good quality
Expected product	Free from pesticides and no side effects
Augment product	Protects environment
Potential product	Helps farmer enhance income

4.1 Product Characteristics

According to IFOAM proceedings, there is no difference in marketing, organic and conventional fresh produce. Since both of them have to meet consumer's demand in terms of quality, consistency and variety However, the point of differentiation is that the organic aims for higher standards than conventional ones in order to make a significant market impact.

The product characteristics of the organic produce of Sikimm vis a vis demand for organic products in International market is as under:

Table 4.2: Product Characteristics and Demand

Produce	Characteristics	Requirement for International Market
Turmeric	• Curcumin content is low i.e. around 3-4 percent • Uneconomic quantity 4000 MT • Sold as fresh or dry rhizomes produce	• Curcumin content -5-6% • Turmeric powder, dehydrated turmeric powder, oils and oleoresins
Ginger	• Popular varieties are Gorubathaney and Bhaisey • Contain high percentage of fiber and are not suitable for preparing ginger powder and oil.	• Demand for ginger oil and Oleoresin • Demand for high value and low volume products.
Large Cardamom	• Good quality with high oleoresin content • Curing is done in a traditional way	• High demand • Curing to be done by scientific method
Buck Wheat	• Meethey variety of Buckwheat grown • Used by poor and marginal rural people as an alternative food • Sold in the local market in the form of powder • Theetey variety of buckwheat is grown in few pockets	• Scope for applications in food sector, pharmaceuticals, cosmetic
Cymbidium	• Good quality and different colours • Volume is low • Requires cool chain and refer vain	• Competition from Thailand • Potential for value enhancement in terms of dry flowers etc

As it is revealed that the product is not competitive enough to reach the national market. A gap in what's available and what's required is seen. The product strategy is to be competitive in both quality and quantity. The product strategy should focus on–

Supply side: The right varieties required for the market for processing of ginger needs to be introduced. In case of ginger, Nadia and Rio de janerio are preferred varieties as they have high oleoresin. There are also requirement of achieving economy of scale by aggregation of produce at collection centre particularly in case of turmeric and buck wheat.

Demand Side: The demand is for differentiated different product in the market which is based on the quality, standard and organic certification. The export market

is for processed and value added product. This is discussed in details in the following cheaper. The demand side marketing strategy should focus on enhancing processing capabilities and adding value to organic products.

The product strategy is to be devised for current market and new market.

Table 4.3: Product Strategy for Sikkim Organic Produce (Igor Ansoff)

	Target Market	
	Current Market	**New Market**
Current Product (Fresh and Raw)	**Market Penetration Strategy** • *Expanding the place of distribution (e.g. collection centres)* • *Increasing arrivals / volume of produce in market*	**Market Development Strategy** • *Establishing linkages with retailers, corporate and export company* • *Reaching out to super markets and retailers with niche product*
New Product (Processed and value addition)	**Product Development Strategy** • *Developing processed produce line for existing varieties* • *New packaging for market* • *Creating brand equity through packaging and logos*	**Diversification Strategy** • *Research and Development* • *Diversifying in non food product category e.g. buck wheat, pillow use in textile industry*

- Here the current market is the domestic market in which the market points are Gangtok, Silliguri and local traders and processors.
- The new markets stand for high and urban market in metros and international markets.
- The products which are sold in the fresh form are taken as current product.
- The value added process forms are taken as new products.

4.2 Market Penetration Strategy

As shown in the matrix the market penetration strategy aims to increase sells in current product and sells in current market. The activities include increasing the number of collection centres to enable aggregation this will enable increase in the product flow across the distribution channels. The strategy also focus on expanding the market by having multiple distribution channels involving farmer producer organization, cooperatives, NGOs and self help groups and entrepreneurs. Expanding the market in the organic produce require high amount of long term investment (processing technology, skilled labour equipment) and external collaborations. The biggest challenge in expanding market is to maintain regular supply. The irregular supply occurs because of unavailability of organic seeds, availability of product for

few months by the demand is year long, limited range of products and unstable production due to weather conditions, crop losses and post harvest losses. High investment cost in having post harvest infrastructure like cool chain will going to maintain a good quality and regular supply of organic produce.

4.3 Market Development Strategy

The market development are required to reach out to connect to super markets, retails chains and international markets. This requires developing linkages with wholesale traders, processors and exporters and developing market for Organic Produce.

Product quality also deserves a great deal of attention from high end consumers in new markets. Organic products with already a higher price than conventional products would need to be of "high quality" as well. It is normal that consumers buying organic products for health reason would expect it to be clean/ hygienic and has a quality which is equivalent to conventional products. It is important to maintain quality parameters for developing markets which cater to health conscious consumers.

Developing products (Processed) for New markets

4.4 Product Development Strategy:

The product development strategy should focus on concentrating on fresh produce for local market and processed food for export market. As the demand is for processed and value added products in domestic as well as international market, the strategy should be to develop new products through research and development along with packaging to convey the brand and value. For example packaging Cymbidium in shrink wraps gift box for tourists who visits Sikkim.

Another critical area is product development, especially for processed products. When the market becomes more mature, consumers start demanding a wider product range. Developing new products requires long term investments, in terms of formulations, technologies, and processing facilities. Often external assistance and collaboration are required as present marketing organisations are
too small to make such investments by themselves

4.5 Product Diversification Strategy

The organic produce offers a huge scope of diversifying in to a category of pharmaceutical, handicraft, lifestyle products, agro tourism. This strategy is for international markets and offers a huge scope of entering the markets of EU, Japan, USA with a diversified and interesting products.

4.6 Place Strategy

The market channels facilitates distribution of produce from one place to another to make it available for consumers. The management of distribution channel is one of the key issues to the success of developing organic market. This involves finding the right channel for distribution.

The conventional channel for marketing of organic produce in Sikkim is through aggregators and traders who take the produce to local market or to Siliguri market. Traders and aggregators are not able to add value to the product which is grown organically. It is sold as a lot at prevailing price which is mixed as non organic produce and this bring value loss to the organic products.

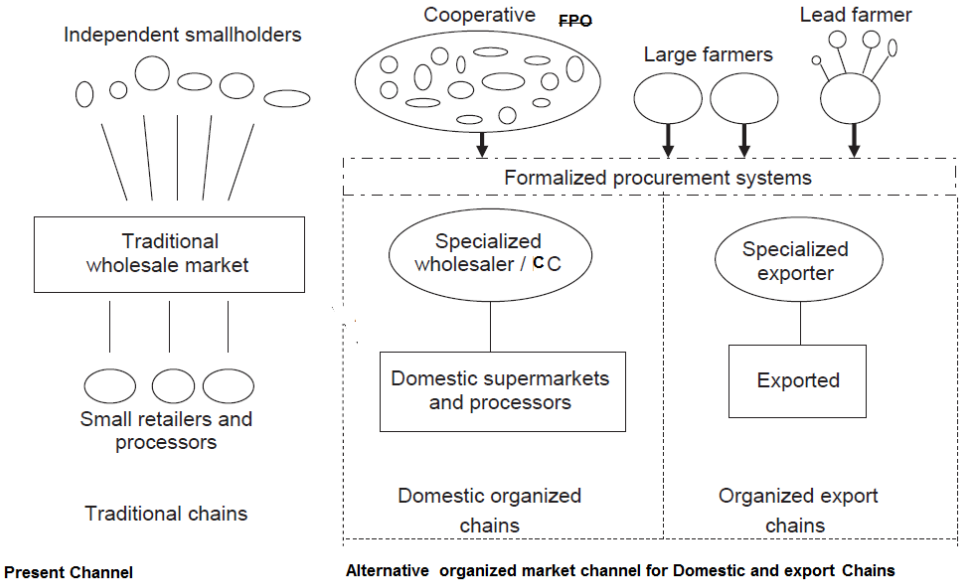


Fig. 6: Market Channels

The place strategy should be to move from traditional market chain comprising of independent small holders connected to traditional wholesale markets to one which is organized market chain. This will require forming farmer produce organizations and strengthen cooperatives and linking them to a formulize procurement system whereby the produce is sold at specialized wholesale market which further supplies to domestic super market and processors.

The traditional channel needs to be replaced by alternative organized market channels for domestic and export chains. The strategy should focus on following:-

1. Developing a market channel to take the produce to Kolkatta and Delhi, bypassing Siliguri regulated market. This requires training the producer growers on enhancing value of organic produce in the State. Since the produce is sent to nearby wholesale with a short supply chain, there is a need

to make the presence of Organic produce of Sikkim in major consuming markets which are located in the States of Delhi, Kolkatta, Pune, Mumbai, Bangalore.

2. Developing markets within State of Sikkim to retain the value of organically grown produce. Particularly in case of Ginger, the wholesale price of Ginger is higher than the price in Delhi and Kolkatta.
3. Developing a range of places and outlets where the sale and marketing of organic products can be made. For example, Organic Bazaar, retail outlets which are certified for selling organic produce on the lines of True value shops of HUL.

The conventional market channels for organic produce in Sikkim consist of producer, wholesaler and retailer. Each is a separate business seeking to maximize its own profit which also means the channel members do not have control on the quantity of produce i.e. moving across.

It is observed that there is not enough competition amongst the buyers as there are less buyers than the sellers. The distribution strategy should focus on having more buyers such as traders, processors, institutional buyers.

4. The marketing of organic food products is done by using online methods by many successful companies across the world, wholesale foods, Green net., Thai organic company etc. The internet and online channels should target consumers who are health conscious and have displayed the buying behavior of buying product online. The e-markets can offer a wide range of consumers which will lower down the logistic cost involved in the distribution. Looking at the success examples of e-marketing channels and social media formats, it is felt that Sikkim should use a website to showcase its organic product by highlighting its unique selling preposition (USP). The social media has a good potential to promote and reach out directly to end consumers. Thai Organic Company uses facebook to promote the organic product. Consumers can choose the product and pay by transferring the money to a bank account.

4.7 Promotion and communication Strategy

The promotion strategy includes all the ways available to make a product known to and purchased by customers and client. In order to market organic product help messages, good quality products are the best way to reach out the customers. The marketing promotion mix in organic products can use telemarketing, catalogue, newsletters, advertisements, local radio effectively.

Communication tools also change in cost-effectiveness at different stages of the product life cycle. In the introduction stage, advertising, events, experiences and publicity have the highest cost effectiveness, followed by personal selling to gain

distribution coverage, sales promotion and direct marketing to induce trial. In the growth stage, demand has its own momentum through word of mouth and sale promotion. In maturity stage, sponsorship, events, personal selling, and experiences become more important. In the decline stage, personal selling continues to be strong and other communication tools are reduced and salespeople give the products minimal attention. Figure-6 illustrates when integrated marketing communication can be implemented in the product life cycle.

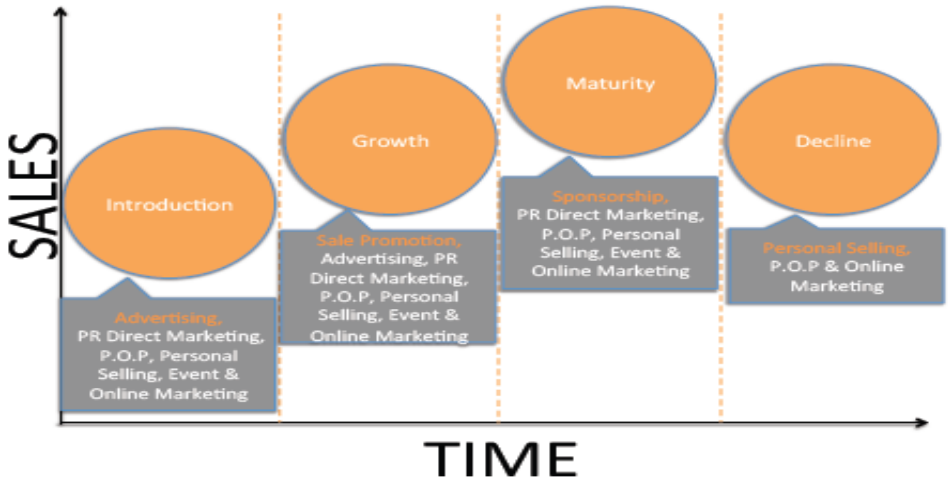


Fig. 7: Integrated Marketing Communications and Product Life Cycle

Source: Developing Marketing Strategies for Organic Products Employed by Small and Medium Retailers in Bangkok, submitted by Chusin Mateechaipong

Organic market development can be compared with a public education campaign. Convincing consumers of their interest to support additional production and social requirements is a long-term affair. Often consumers are mostly attracted to organic because of personal reasons, but the challenge is in communicating and cultivating the consumers' primary enthusiasm to get their support for the non-direct consumer benefits.(Ong Kung Wai, 2000).

Generally, the different marketing organisations emphasize firstly the direct benefits of organic agriculture to consumers. Sometimes, they add an explanation of the differences between organic products and other "safe" products

Secondly, the benefits to the producers are emphasized by often painting the picture of "the person behind the product". Organisations such as Green Net (Thailand), have established an information database on their producer groups to support Green Net's publicity activities. Similarly Wholesale foods also has picture of the producers of organic produce in stores.

The promotion strategies by IFOAM for organic produce is in Box-3.

Packaging and Logo: Another important means of communication is the organisation's packaging and logo. Packaging should be attractive and be in line with the organic identity of the products. Whenever possible, recycle materials, such as paper, should be used to convey the importance they have on environment. Some commonly used packaging materials are plastic bags (transparent), paper, carton and locally made containers like bamboo crates.

A good logo is attractive, easy to recognise and also confirms the organic identity of both company and products. Many organic marketing initiatives have developed their own logo at a very early stage and have found that the use of a logo improves the communication about the products and the company. In some countries, the company's logo has become almost synonymous for organic products.

The branding strategy should focus on following:-

- Design of uniform packing material for Branding purpose.
- The local resource person can also act as market (extension) voluntary workers disseminating information on market trends, collection of market intelligence and price situation in the long run.
- SIMFED/ any similar agency (An agency such as Sikkim Organic Marketing Board may be formed for this purpose), of Sikkim Govt. has to act as the Nodal agency, responsible for all these operations.
- Indicating **"Made from Organic Product of Sikkim''** on every packaged product from Sikkim/ processed food item produced using any produce of Sikkim, with organic labeling.
- Anything going out of the state, needs to be packed in specially designed packing material with printed Logo and Brand
- The local traders selling the local produces should use the Logo and the **"Sikkim Organic"** brand.

BOX-3 – Promotion Strategies suggested by IFOAM

Local Marketing of Organic Products – A Guide for SMEs

The different marketing initiatives apply a wide range of methods to communicate their products and organisations to consumers. The following is a list of the most common methods applied:

Consumers meetings: IIRD, for example, organises consumers meetings in association with women's groups and social clubs like the Lions, Rotarians, etc. to discuss the importance of organic agriculture, food security and health. While providing information about upcoming organic bazaars, the IIRD also discusses strategies on how citizens may decrease environmental pollution.

Printing and distribution of leaflets: Promotional materials are printed in mass quantities and distributed, providing information about the organisation, products, and sometimes activities. The format is generally a one to two pages leaflet.

Mass media: Articles are published in the printed media such as newspapers and magazines, describing the benefits of organic agriculture. Many organisations maintain relationships with journalists who are interested in the issue and support the organic movement. Press conferences are sometimes held and press releases are another way to further the local organic movement.

Advertisements: Several organisations regularly advertise in local newspapers that have wide circulation. Placing banners in strategic locations within the city may also be attempted. In addition, stills or moving ds may be broadcasted through local TV network..

Direct marketing: The bazaar, market or shop itself presents a forum for person-to-person marketing of organic products. This forum allows consumers to inquire about organic products or agriculture directly from the producer or staff of the marketing organisation. Direct marketing may also be undertaken through door-to-door campaigns or over the phone. However, the latter methods are time consuming and labour-intensive.

Word of mouth: Publicity may also be generated through personal interactions among consumers. If consumers are satisfied with the organic bazaar, market or shop and their purchases, they may recommend it to their friends and colleagues. This would also help to spread information about organic agriculture and the organic movement in general. Many organisations have benefited from this kind of "advertisement" in their start up phase.

Field visits: Many organisations organise regular meetings between consumers and organic producers. By sharing experiences and offering suggestions, these meetings have been found to be useful to both parties.

Consumer newsletter: Some organisations send regular newsletter to their members or regular customers. These newsletters include information about upcoming events, articles about organic agriculture or health issues, recipes, etc. To this end, these organisations have prepared a consumer register with the names of regular consumers and members.

Display information and photographs. Keystone, for example, produced a video on honey collection, which is shown in their shops to sensitise the customers about the people behind the product.

Participation in trade and food fairs: Organic producers could display and sell their products at these events, which are regularly organised in most countries at both the national and local level.

Conclusion:

Marketing strategies needs to be developed by keeping Product life cycle in mind. As Sikkim Organic market is at nascent stage a good market mix and strategy to reach the premium market needs to be developed. Focused intervention on market development, product development, product diversification and place strategy is required to be taken systematically. There are lessons to be learnt from marketing strategy of GreenNet and IFOAM which needs to be taken up consideration as it sets an example for organic produce marketing strategy.

CHAPTER 5

REGULATORY FRAMEWORK AND INSTITUTIONAL SETUP

Sikkim has been declared as an organic State and may emerge as Organic Bowl of India to procure various commodities by different stakeholders. Obviously this requires specialized organizations to handle the commodities of the state. The State needs to explore the various options available for establishing marketing institution and regulatory framework for adherence to food safety and standards. This chapter discusses the regulatory framework for organic marketing

5.0 Organized Marketing: Options for Governance and Regulations

Organic Agriculture in Sikkim can become sustainable only when it can generate profitable returns to the producers. In absence of a regulatory framework for governance of marketing of organic produce, the value realization by producers by selling organic produce is likely to be abysmally low.

The importance of having a good policy environment is that it creates a conducive environment for selling and marketing the produce, wherein the stakeholders/actors of organic value chain are required to adhere to basic regulation to ensure fair and transparent trading. The major market for organic food are export markets which is showing increasing demand. Compliance to international standards is important to gain market access however, there is a complete absence of marketing institutions which can govern and promote marketing in the State and promote organic marketing . The State needs to explore the various options available for establishing marketing institutions. This chapter discusses the regulatory framework for organic marketing with two perspectives –

I. Establishing Physical Markets under a suitable Act and System for Operation and Management of these markets.
II. Institutional Mechanism and Regulatory Framework for compliance of the Organic Products with Food, Safety and Standards (Organic Food Regulation 2017).

I. Establishing Physical Markets under a suitable Act and System for Operation and Management of these markets.

Agriculture markets play an important role in delivering products from sources to consumers, matching demand and supply, promoting efficient use of resources in production and distribution and improving the welfare of producers and consumers. Therefore, agriculture markets should be treated as integral to developmental policies. Sikkim State has achieved the target of 100% Organic Production,

establishing agricultural markets to provide the desired backward and forward linkages to the producers of organic products are a must. The regulatory framework for agricultural market consists of two sets of measures. First is the measure for development and second is the regulation of wholesale market and guidelines for operation and management of these markets and trade activities. As there is an absence of regulatory framework for agricultural markets in Sikkim, it is required to establish a framework in which markets can handle organic produce.

The country has a long history of regulations of markets which has yielded mixed results. There are various models of Agricultural Marketing System in the country followed by different States for regulation and promotion of agri marketing. On the basis of these models, Sikkim government can opt from four options of governance to establish a systematic agricultural marketing system for organic produce.

1. Establishing State Agriculture Marketing Board and implementing Agriculture Produce and Livestock Marketing Act 2017.
2. Establishing Organic Commodity Board under Societies Act.
3. Establishing Organic Promotion Council under Companies Act.

1. Establishing State Agriculture Marketing Board and implementing Agriculture Produce and Livestock Marketing Act 2017.

Sikkim Agriculture Marketing Act 1993 has been enacted by the State to provide better regulation for orderly marketing of agricultural produce by establishing market for agriculture produce and their administration.

Sikkim had notified the reforms in their *APMC Act in 2012* as suggested in the model act circulated by Department of Agriculture and Cooperation, Government of India. The major modifications made in the Act were as follows:

- Withdrawal of the restrictions posed on private /cooperative sector or local bodies to establish the market yards and direct purchase from farmer.
- Establishment of consumer/ farmer markets.
- Contract farming agreement and its model specifications, Registration of Agreement with the prescribed officer.
- No title, rights, ownerships or possession to be transferred or alienated or vested in the contract farming sponsor or his successor or his agent as a consequence arising out of the contract farming agreement.
- Levy of single point market fee in the state.
- Market fee not to be levied more than once in commercial transactions between traders or consumers.

However, the rules and bye laws for implementation of this Act have not been made due to which the Act has not come into force. This has resulted in two situations:-

(i) Absence of State Agricultural Marketing Board or Directorate of Marketing.
(ii) Absence of Regulated Wholesale Market and Market Yards.

The uninterrupted flow of organic produce from Sikkim State needs to be disrupted by having a specialized market for organic produce in Sikkim where the total flow of organic produce converges at the specialized market facilitating price discovery, processing, and packaging of produce to cater to both domestic and international market.

Organized marketing through wholesale market is imperative for Sikkim State to gain premium price for the organic produce and to inculcate competitive marketing environment.

The Ministry of Agriculture and Farmers Welfare is promoting liberal and progressive regulatory framework enabling free competition, transparency, unhindered flow of commodities across space and time and operation of multiple marketing channels by market players. It has drafted Agriculture Produce and Livestock Marketing Model Act 2017. It is a right time to adopt the Act in totality by making Rules and Bye Laws along with establishing regulated markets.

The first step in the direction is to adopt APLM Act 2017 which shifts focus from regulatory to developmental and facilitative practice for wholesale market.

(i) Establishing Wholesale Markets with backward and forward linkages

The Act provides for the setting up and operation of private wholesale market yards. As recommended in the Chapter on Market Plan, wholesale markets need to be established at Rangpo, Jorethang and Melli so that organic produce has access to local and outside markets. Appropriate infrastructure and facilitation system should be available to handle organic produce. The options available for operation and management of these markets are:-

(a) Operating them as regulated markets under Sikkim Agricultural Marketing Board.
(b) Leasing these markets to farmer cooperatives like IFFCO and NDDB to operate and manage.
(c) Inviting private companies to operate and manage these markets in public-private partnership mode.

(ii) Bringing PRI markets under the regulation:

The action plan for infrastructure suggests having backward linkages with the farmers through collection centres. The markets functioning under Gram Panchayat and managed by communities have potential to be developed as regulated markets to function as collection centres.

APLM (Model) Act allows markets which are under the control of local bodies (who own and operate rural periodic markets or haats under the regulation.

Sikkim State may take steps in this direction by holding consultations with local bodies so as to develop a consensus on revenue sharing, responsibility mapping, and partnership for operation and management of these rural periodic markets. A modus operandi for bringing the identified rural haats under regulation needs to be evolved to develop these markets to function efficiently as collection centres of organic produce. The report has identified the markets which have a potential to be developed as collection centres in all four districts. These collection centres will function for aggregation of the produce with a focus on grading and sorting. These collection centres will be required to have appropriate market infrastructure and pack house like facilities.

(iii) Promotion of Direct Interface between Farmers and Buyers

APLM Act provides ways to have direct linkage between farmers and processors /exporters /bulk buyers /end users so as to reduce the price spread and increase producers' share in consumer rupee.

An essential step in this direction is to develop formats for direct marketing by organizing buyer seller meets and farmer markets. Online marketing and E-commerce format is the most established way of direct marketing of organic produce. Examples from Thailand, Malaysia and Philippines show that large proportions of organic products are marketed through online and internet.

(iv) Promotion of E-Trading to enhance transparency in trade operations

To deal with the problems in agriculture marketing (high transaction cost, large number of intermediaries, long processing time, poor storage, leading to wastage, inadequate price information and poor infrastructure in market), Government of India has approved Centre Sector Scheme for promotion of a Electronic National Agriculture Market.

Electronic National Agriculture Market (ENAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.

In order to link the farmers of Sikkim to the National Markets, State of Sikkim should initiate establishing ENAM for trading of organic produce of Sikkim on priority. The organic produce of Sikkim needs to be notified and buyers and sellers of organic produce need to be registered on the portal. The e-NAM Portal will provide a single window for information and services. This includes commodity arrivals & prices, buy & sell trade offers, provision to respond to trade offers, among other services. While material flow (agriculture produce) continues to happen through mandis, an online market reduces transaction costs and information asymmetry. The e-NAM as an alternative marketing channel will provide a win win situation for the organic

producers by providing them forward linkages with national markets. There are two challenges in establishing eNAM:-

1. The special case of Sikkim requires to develop eNAM for organic produce by defining grades, standards for assaying. As assaying is an important requirement for the functionality of eNAM, it is required to establish grades and standards so that same can be used for assaying by buyers of organic produce within India.
2. In spite of the fact that the new APLM Act allows States to have their own electronic platform for trading the State of Sikkim is yet not ready for this as there is absence of a legal framework and an institution to establish electronic platform for organic produce.

2. Establishing Organic Commodity Board under Societies Act. Reference Point: Uttrakhand Organic Commodity Board.

Governance and Promotion of Marketing of Organic Produce by establishing Organic Commodity Board is best suited to Sikkim. The Organic Commodity Board can be established under two frameworks –

(i) The Organic Commodity Board can be established under the APLM Act and assigned the task of marketing and promotion of organic produce.

(ii) The Organic Board can also be registered under the Societies Registration Act and function as the nodal agency for the state to enhance organic activities in agriculture and allied sectors.

The Organic Commodity Board is proposed to act as a promoting and facilitating agency. It will be entrusted with the task of promotion and establishing market linkages for organic produce. The Board will be responsible for management and operation of market networks, assembly points, collection centres and terminal markets. Developing market infrastructure, marketing facilities, marketing linkages, market information system, market advise, market development and related activities will be undertaken by Organic Commodity Board.

The Board would be constituted of Centres headed by experts in the field of marketing, promotion, market analysis, infrastructure development, regulation and other specialist to manage marketing of organic produce. Sikkim Organic Commodity Board would act as a facilitator for marketing and promotion of organic produce, undertake capacity building, product development, brand development and management, develop strategies for new and existing markets.

Uttarakhand Organic Commodity Board which had taken a lead in management and marketing of Organic Produce could be the reference point for Sikkim. The activities undertaken by Uttrakhand Organic Commodity Board and its successful efforts in building linkages are reflected in Annexure-2.

3. Establishing Promotion Council under Companies Act Reference Point – Vegetable and Fruit Production Council Kerala (VFPCK)

A Promotion Council under Section 25 of Companies Act can be established to promote and facilitate marketing of organic produce. A Company of this kind will have majority stake of farmers along with the Government and financial institutions as other shareholders.

Learning from the example of Vegetable and Fruit Promotion Council Kerala (VFPCK) a company registered under the Companies Act which has successfully implemented schemes, improved the livelihood of farmers by empowering them through value addition and marketing as a profitable venture in a sustainable way. In VFPCK share of self help group of farmers constitutes 50% followed by Government of Kerala as 30% and other related institutes hold remaining 20% of VFPCK shares. The major area of interventions by VFPCK has been in promotion of self help group, supply of planting material, extending credit facilities, promoting organic farming programme, aggregation of produce, maintaining supply chain, managing farmers markets and running retail outlets.

Sikkim could also form a Promotion Council on similar lines which would provide integrated solutions from aggregation to supply to marketing through the retail outlets. The advantage of this system is that group of farmers in the form of self help groups or farmers producer organizations can take up the responsibility of marketing through an organized marketing structure and ensure a sustainable way of managing production and marketing system.

Institutional Mechanism and Regulatory Framework for compliance of the Organic **Products with Food, Safety and Standards (Organic Food Regulation 2017)**

The country has a regulatory mechanism for quality assurance and compliance of internationally acclaimed certification process for export, import and domestic markets. National Programme on Organic Production (NPOP) defines the regulatory mechanism and is regulated under two different Acts for export and domestic markets. NPOP notified under Foreign Trade Development and Regulation Act (FTDR) looks after the export requirement. The NPOP notified under this Act has already been granted equivalence by European Union and Sweden. USDA has also accepted the conformity assessment system of NPOP. Due to this, the product certified by any Indian accredited certification agency under NPOP can be exported to Europe, Sweden and USA without the requirement of re-certification. To look after the requirement of import and domestic market the same NPOP has been notified under Agriculture Produce Grading, Marking and Certification Act (APGMC). Regulatory body of NPOP under FTDR act is Agricultural and Processed Foods Export Development Authority (APEDA) under Ministry of Commerce and of NPOP under

APGMC act is Agricultural Marketing Advisor (AMA) under Ministry of Agriculture. Accreditation of Certification and Inspection Agencies is being granted by a common National Accreditation Body (NAB). At present 20 accredited certification agencies are looking after the requirement of certification process. Out of these 4 agencies are under public sector while remaining 16 are under private management.

(i) Food Safety and Standards (Organic) Food Regulation 2017

The Food Safety and Standards Authority of India (FSSAI) has proposed stricter norms for organic food in the country to address the issues of traceability. As part of the draft regulations, it has proposed that traceability should be established at the producer level for accuracy of organic status claims of the products.

Major highlights of the notification include:

- No person shall manufacture, pack, sell, offer for sale, market, distribute, or import any organic food products unless they comply with the regulations;
- Organic foods should comply with provisions from at least one of the following :
  - National Program for Organic Production, (NPOP),
  - Participatory Guarantee System of India (PGS-India);
  - Any other system or standards notified by the Food Authority.
- Organic labeling requirements should be accurate, in addition to the standard labeling requirements;
- Any seller of organic food either exclusively or as part of their retail merchandise shall display such food in a manner distinguishable from the display of conventional food.
- Traceability should be established up to the producer level;
- All organic foods should comply with the Food Safety and Standards (Food Product Standards and Food Additives) Regulation 2011, and the Food Safety and Standards (Contaminants, Toxins, and Residues), Regulations, 2011;
- Sellers of organic foods will be required to display organic food items in a distinguishable manner from conventional food items;
- Organic food imports under bilateral or multilateral agreements on the basis of the equivalence of standards between NPOP and the organic standards of the exporting countries shall not be required to recertify on import; and
- All organic food consignments should be accompanied by a Transaction Certificate (TC) issued by an accredited certification body covered under the terms of equivalence agreement.

Presently Sikkim Organic Mission is looking after traceability of organic produce. An institutional mechanism needs to be established to look into compliance of Food Safety and Standards Regulation 2017 by having traceability from farm to fork.

In order to move forward Sikkim Government may chose any one model of Regulatory framework for organized marketing system for Organic produce which is responsive to domestic standards and complies with internationals standards for export.

Conclusion:

It is recommended to have two bodies to have a legal framework which regulates, facilitates and promotes organic produce. It is important to form rules and bye laws for Agricultural Produce and Livestock Marketing Act 2017 and establish State Agriculture Marketing Board which will look into establishment, operation and management of market, develop market infrastructure, provide market information system and provide market linkages. Another body for product development, promotion and marketing of organic produce is required to be established in the lines of Uttrakhand Organic Commodity Board. This Commodity Board should act as facilitators for marketing and promotion of organic produce, undertake capacity building, product development, strategies for branding and strategies for market access in international markets. It is recommended that both Marketing Boards and Commodity Boards should work in consonance with each other.

CHAPTER 6

PRODUCERS PARTICIPATION IN ORGANIC VALUE CHAIN

Like other States of India, Sikkim State faces a major problem of small and marginal farmers with small land holdings. The production base of the identified organic produce namely Ginger, Turmeric and Buckwheat is small. Low base of production in Sikkim hinders the availability of threshold quantity in a distribution channel of product. To achieve product flow across the supply chain it is important to have increased participation of small holders in markets so that the benefits of price achieved in national and international markets can flow to these producers in Sikkim.

6.1 Issues in integrating small holders with markets

Smallholder participation in markets is limited by lack of access to markets and support mechanisms and is further dependent upon their ability and willingness to participate in the markets and the functionality of these markets that they access. For example producers of Large cardamom in West Sikkim are located in isolated pockets of hills. The producers sell the produce to a local aggregator at the nearest point at which the aggregator collects at his convenience.

During the discussion with the producers of West Sikkim it emerged that there is no incentive for curing and undertaking better post harvest activities such as cutting Calyx as it did not result in better realization of value. In fact, the chances of getting produce rejected on the grounds of curing and calyx cutting being too close were high. The producers have no incentive to undertake better post harvest practices leading to poor quality of large cardamom offered for sale with high moisture, uncured, open pods which in turn leads to :

- Low realization of price
- Unwillingness to Participate in Value Chain

Thus there exists a self sustaining vicious cycles.

The nearest point of sale for the producers of Sikkim is a place near the road. The producers of ginger, turmeric and large cardamom carry the produce on head loads. There is no infrastructure just a shed built under a Scheme. From the discussion with the farmers it emerged that they are willing to engage with markets if following facilities are provided :-

- Connectivity and efficient infrastructure to transport their produce to markets at a reasonable cost

- Well functioning markets which giver better incentives or at least cover the transaction cost.
- Payments to be easy and quick

If the premium for the organic produce is to be realized by farmers, the State has to ensure better participation of famers with small produce and land holdings. It is required to identify the factors which hinder the process of marketing and to find ameliorative measures. The factors that hinder the process of market development are -

- Difficulty in aggregating the produce
- Low marketable surplus
- High transaction cost
- Low storage capacity
- Social relationship with traders for credit needs

The producers and processors of Ginger, Turmeric, Large cardamom and Buckwheat were consulted and visited to understand the requirements of the producers and their expectations. From the field study and interaction with stakeholders it is revealed that there are several infrastructure gaps which needs to be plugged in for seamless flow of produce by the State Government. This is necessary so that the value of organic produce can be protected and enhanced and constraints faced by small holders of hill districts removed to provide access to markets. Better facilities for aggregation, drying, processing, labelling will facilitate access to buyers and retailers.

To ensure better participation of stakeholders in value chain there is a need to examine the ideal practices required for post harvest management of organic produce. At the same time effective post harvest management will require specific infrastructure to be established so that recommend practice of collection, cleaning, drying, curing etc. can take place. The following tables summarises the existing practices, recommended practice, infrastructure requirement and suggestions on operation and management of these facilities. The information provided inthis Table is to be used for designing value chain for Large Cardamom, Turmeric and Ginger.

Table 6.1: Large Cardamom-Existing practice and recommended

Value Chain Stakeholder	Existing Practice	Ideal Practices	Infrastructure Required	Mode of Operation
Farmer	After harvest, drying down to 30% by traditional method of spreading produce on the floor in the open space.	**Drying and Curing** Curing through solar dryer for even curing and retaining aroma and colour of produce.	Solar dryers	Machines to be owned by FPOs or by Government and provided usage for a fee
	Volumes are grouped by farmers, sold alongside the road	**Aggregation** Produce has to be aggregated at assembly points	Assembly points need to be established	Functional RMC will act as assembly points and managed by FPO or entrepreneur
Buyers at the farm gate	Buys in the village/collects alongside the road.	**Selling** Point of sale should be collection centre	Establishment of collection centre	Under PPP operated by traders/processor/ entrepreneurs
	Stores in low conditions, sells when price is to his liking.	**Storage** Scientific storage	Establishment of storage having capacity of 100 MT at collection centre	FPO /PPP
	Quality loss during transportation and storage.	**Transportation** Pick up Van for transportation of produce from assembly point to collection centre	Provisions for transportation vehicle/s having maximum capacity of 5 MT	Arrangements to be out sourced to service providers
	Ungraded produce sold as a lot	**Grading** Grading of produce	Provisions for grading cards and sieves. Reference point Mercy Corps Nepal	Grading apparatus to be made available at farm gate and collection centres

Value Chain Stakeholder	Existing Practice	Ideal Practices	Infrastructure Required	Mode of Operation
	Weighment and Payment	**Payment** Settlement of Payment within two days	Installation of Electronic Weighing Machine	Government or FPO
	Produce is packed in LDPE/HDPE bags and tied loose leading to packaging losses	**Packaging** Produce is to be packed in gunny bags/jute bags reducing packaging losses	Packaging material like jute bags having capacity of 50 kg. each is to be made available at collection centres along with stitching machines	Service providers at terminal market at Rangpo
	The practice of labelling and branding is non-existent	**Labelling** Labelling and branding with a logo of Sikkim Organic Produce needs to be initiated.	Certifying service providers ensuring label and certification of Sikkim Organic Produce	ICS Managers/ Accredited Certifying Agencies at Terminal Market Rangpo
	Sale of produce through spot markets	**E-trading** Sale of produce through E-trading	Establishment of E-trading platform at Terminal Market by inviting EOI from Boards and Exchanges	
	Publicity and Communication is absent	**Promotion** Publicity and Advertisement of Sikkim Organic Produce as a Brand	Development of Mobile App for promoting brand of Sikkim Organic Produce	Sikkim Organic Mission

6.2 Value chain interventions in Organic L Cardamom

Large Cardamom is a high impact commodity giving a high profitability in market. It generates a revenue of 40-50 crores to State. Its also a commodity enabling food security for the vulnerable communities as it is cultivated by marginal farmers of profits to the farmers. From the subsector analysis the major problem in existing value chain is shown in Figure .

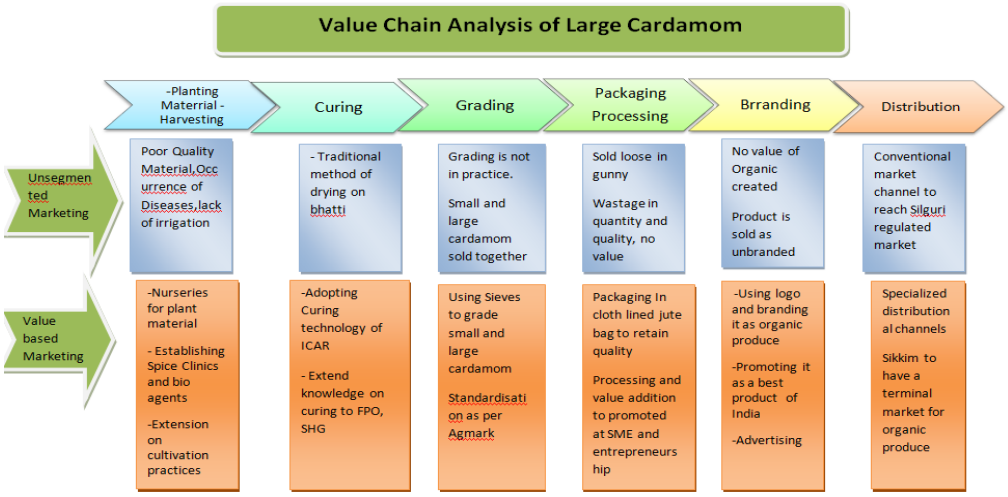


Fig. 8: Value chain Analysis of large Cardamom

The major problem is the inherent quality of Large cardamom being Organic is not captured at any point of existing value chain. It is sold to unsegmented market without any value addition.

- Value chain interventions are to be made using local knowledge an resources so that interventions are sustainable
- The interventions need not be expensive simple common sense technologies, equipment can enhance the value of Large Cardamom to a great extent.
- Innovations need to be set in to examine as to which point innovation in process can maximize the value.

Box - 7: Improved Bhatti for Curing - Intervention of ICRI

ICRI project had installed a improved bhatti in North Sikkim. The Cost installation ICRI bhatti was around Rs. 28,000 (2007-08) with an expected life span of 10 years. The farmers got opportunity to cure their large Cardamom capsule through the ICRI Improved bhattis scientifically. The Improved bhattis cure capsules fetches higher price around Rs. 50 to 100 per kg in the auction market which was conducted by NERAMAC, Govt. of India with the help of Spices Board (Marketing). This higher price for ICRI Improved bhatti cured cardamom was achieved due to better quality of the cardamom capsule. In ICRI Improved bhatti, curing is completed through indirect heating process at a temperature ranges from 50 ± 5 OC. The cured product retained high oil content with attractive aroma, flavour and colour. Maintaining of these qualities is not possible in Traditional bhattis cured product as the curing continues in a direct heating process with smoke laden heat. The cured capsule in traditional bhatti imparts charred, black, unattractive colour with less aroma, flavor and low oil content. Around 100 farmers benefited from ICRI improved bhattis during 2008 - 11.

Large Cardamom Based Farming System – a Viable Option forIncome and Employment Generation in North Sikkim- T.N. Deka, U. Gupta and N.K. Bhattarai Indian Cardamom Research Institute (Spices Board), Regional Station, Tadong, Sikkim

Box - 8
Cardamon grading- Mercy Corps Market Innovation in Nepal

Mercy Corps worked with LCEAN to develop standard grading cards that divided cardamom pods into two simple grades based on size. These cards were then disseminated to farmers and traders. At the same time, Mercy Corps worked with local manufacturing businesses to design a sieve that allowed producers to separate larger pods from smaller pods; this sieve went through several iterations each improving its weight and functionality. These sieves where then disseminated to farmers groups, initially through subsidized distributions until sufficient farmer demand could encourage sales of the graders through market channels. As a result, by late 2008, wholesalers had begun to bulk cardamom according to these standardized grades, and had begun to market both grades at a differentiated price. In the September-December 2008 sales season, exporters earned an additional 5 – 25 NPR per kilogram for the higher standardized grade. A portion of this differentiated sales price for improved quality cardamom was also passed to farmers, since farmers groups sold to traders according to agreed upon grades.

Strengthening Cardamom and Ginger Value Chains in Eastern Nepal (20028)Sanjay Karki, Mercy Corps Nepal (skarki@np.mercycorps.org) **Josh DeWald**, Mercy Corps Nepal **Keith Polo**, Mercy Corps

The interventions are required at three levels;

Production Level: Producers need to be trained in cultivation practice and harvesting techniques. The occurrence of pest and disease needs to be managed by establishing spice clinics and bio agents. The ICS producers need to be consolidated in Farmer Producer groups which need to be trained on preparing nurseries for plant material, post harvest management . It is required to establish low cost storage for the producers to store the produce so that producers cantake benefit of market opportunities.

Processing level: The interventions should support improved curing, drying, grading, sorting. The ICRI interventions in North Sikkim reveals that Large cardamom which were cured using improved bhatti was able to receive a better price in auction. (Box)In Nepal Mercy Corps developed a card systems and a sieve for grading for large cardamom as of small and large size by innovative method. The grading helped Cardamom to get better price.

Marketing level: Value chain interventions are strongly required to build the value of Large Cardamon as Organic. The first requirement is to organize farmer groups and inculcate collective marketing, The collective marketing helps in creating volumes and taking shared responsibility for post harvest activities, transportation, storage, grading, packing and channeling it to domestic retail channel.

Building integrated value chains through the private agriculture company for the organic produce of Sikkim farmers by building marketing linkages along with packaging and branding. Mahindra SubhLabh Services procures L cardamom from the producers of Sikkim by eliminating several non value adding middlemen, passing on the value to the farmers. It also sell their organic produce in larger markets under a branded name(eg. Mahindra Subhlabh services ltd.). It is thus integrating Sikkim farmers into the main value chain and elevating their living standards.

Another intervention is of a company called Parvata. Parvata is creating an identity for the organic produce of Sikkim and communicating its better characteristics to the consumers. Eg. Parvata pays farmers 70% of its receipt at farm-gate, which is one of the highest in fruit and vegetable category in India. After primary collection, the product is transported to a central processing plant for processing, packaging and distribution. Processing, packaging and branding the produce, tasks that are not feasible for individual farmers, create substantial value for the farmers. The increased supply helps meet the growing demand for organic produce and spices. Parvata also provides hand-holding to the farmers by educating them about better agricultural and post-harvest practices. This enables Parvata to impact and improve the overall living standards of the farmers.

The niche market for the Large cardamom is for value added and processed items and processing capabilities need to be established by nurturing entrepreneurship, encouraging investment and developing SME.

Producer participation in turmeric and ginger value chain

Both turmeric and ginger are root crops which fall in the category of spices. The post harvest management practices of ginger and turmeric are similar to some extent. Looking at the increasing demand for organic turmeric and ginger, there is a strong need for the small producers to undertake value enhancing activities so that participation in profitable value chains of turmeric and ginger can be increased. Following table analysis the existing post harvest management as compared to the recommended practices. The table further analysis the infrastructure and machines required to have profitability and value enhancement which encourages stakeholders to participate in value chains.

Table 6.2 Turmeric and Ginger- existing practice and recommended

Level	Existing Practice	Ideal Practices	Infrastructure Required	Mode of Operation
Farmer	**Curing**-After harvest , washing is done followed by curing. Curing is done by boiling water in earthen vessels or in Iron vessels with enough water to soak them to separate mother rhizomes from fingers. Results in damage to colour or makes the product brittle	Indian Institute of spice research recommends using perforated trough of GI sheets containing fingers and boiling water is poured into the trough. Rhizomes are boiled in lime water till the fingers become soft	Turmeric washing and polishing machines	Machines are to be made available at collection centres
	Drying -Dried in sun by spreading them in 5-7 cm thick layer on bamboo mats or drying floor. It may take 10-15 days to dry to a moisture level of 10-15%	Artificial drying using cross flow hot air. It gives brighter coloured products than sun drying	Ginger and turmeric dehydration machines (Specifications are enclosed in Annexure)	
	Polishing-Manual polishing by rubbing the dried turmeric fingers on a hard surface. Loosely packed Filled in a gunny bag	Power operated drums for abrasion	Hand operated drums - Power operated drums	
Buyers at the farm gate	**Selling** Buys in the village/collects alongside the road	Point of sale should be collection centres	Establishment of collection centres	Under PPP operated by traders/processor/ entrepreneurs

Level	Existing Practice	Ideal Practices	Infrastructure Required	Mode of Operation
	Grading Ungraded produce is sold as a lot	Scientific grading on the basis of size of fingers, firmness and colours	Provisions for grading cards and sieves. Reference point Mercy Corps Nepal.	Machines are expensive. The purchase decision to be made if the buyers are willing. Grading apparatus to be made available at farm gate and collection centre
	Storage Stores in unscientific conditions, sells when price is to his liking.	Scientific storage	Establishment of storage facility having capacity of 100 MT at collection centre	FPO /PPP
	Transportation Quality loss during transportation and storage.	Pick up Van for transportation of produce from assembly point to collection centres	Provisions for transportation vehicle/s having maximum capacity of 5 MT	Arrangements to be out sourced to service providers
	Payment	Settlement of payments within two days.	Installation of Electronic Weighing Machine and settlement of payment	Government and FPO
	Packaging Produce is packed in gunny bags with capacities ranging from 10kg to 70 kg	Produce is to be packed in gunny bags/jute bags with a liner reducing packaging losses	Packaging material of jute bag having capacity of 50 kg. each is to be made available at collection centre along with stitching machine	Service providers at terminal market at Rangpo

Level	Existing Practice	Ideal Practices	Infrastructure Required	Mode of Operation
	Labeling and Branding The practice of labelling and branding is non-existent	Labelling and branding with a logo of Sikkim Organic Produce needs to be installed	Certifying and service providers ensuring label and certification of Sikkim Organic Produce	ICS Managers/ Accredited Certifying Agencies at Terminal Market Rangpo
	E-Trading Sale of produce through spot markets	Sale of produce through E-trading and connecting to Commodity market and E NAM	Establishment of E-trading platform at Terminal Market by inviting EOI from Boards and Exchanges	
	Promotion Absence of Publicity and Communication	Publicity and Advertisement of Sikkim Produce	Development of Mobile App, Online systems and social media for promoting brands of Sikkim Produce	Sikkim Organic Mission

6.3 Value chain enhancement in Ginger

The existing value chain in the un-segmented markets reveals that organic ginger is sold as a conventional ginger resulting in non differentiation of the product. A shift to a value based marketing is required which will focus on adding value at each stage of marketing. This calls for availability of good planting material, adopting of curing technology, using grades and standards, branding, processing, developing specialized marketing channels for organic ginger.

The interventions in value chain need to be made at market level, enabled by traders association, processing level enabled by ICAR and Agriculture universities, at production and input availability need to be enabled by Department of Horticulture, private nurseries etc. The interventions in value chain are shown in figure below:

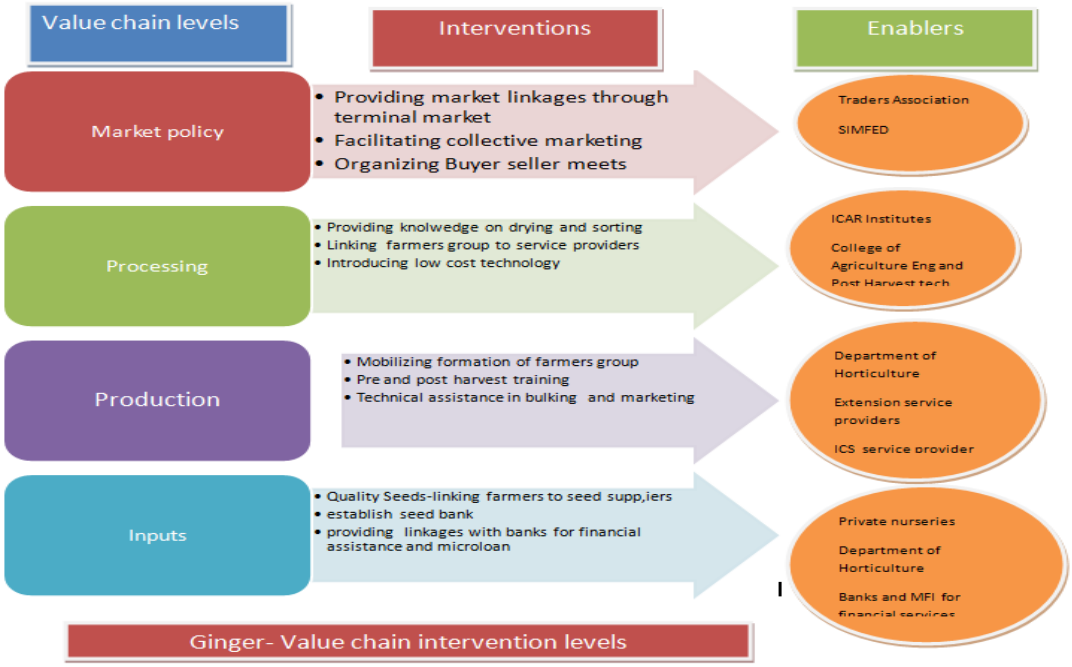


Fig. 9: Ginger-Value Chain Intervention Levels

In foreign markets, there is a requirement of clean and attractive product and therefore, appropriate washing, grading, drying and packing facility for ginger needs to be created.

Conclusions:

The gap between existing and ideal practices in Large Cardamom, turmeric and ginger needs to be plugged in by having interventions in providing marketing infrastructure and processing facilities. It also emerges that market led extension to the farmers need to be in place to bring awareness about market demands and standards so that small and marginal producers can adopt the right methods in post harvest management. Their participation will depend on remunerative price realization. It is a possibility that Government of Sikkim may have to bear the

financial burden of installation and operation of requisite machineries till the farmers become financially strong and acquire managerial skills. The participation of small and marginal producers in the value chain needs to be ensured by taking right steps in undertaking capacity building programmes and training them on handling the produce in a way that it can be market at a profitable price.

MODULE - II

MARKETING STRATEGIES FOR EXPORT OF ORGANIC PRODUCE

CHAPTER 7

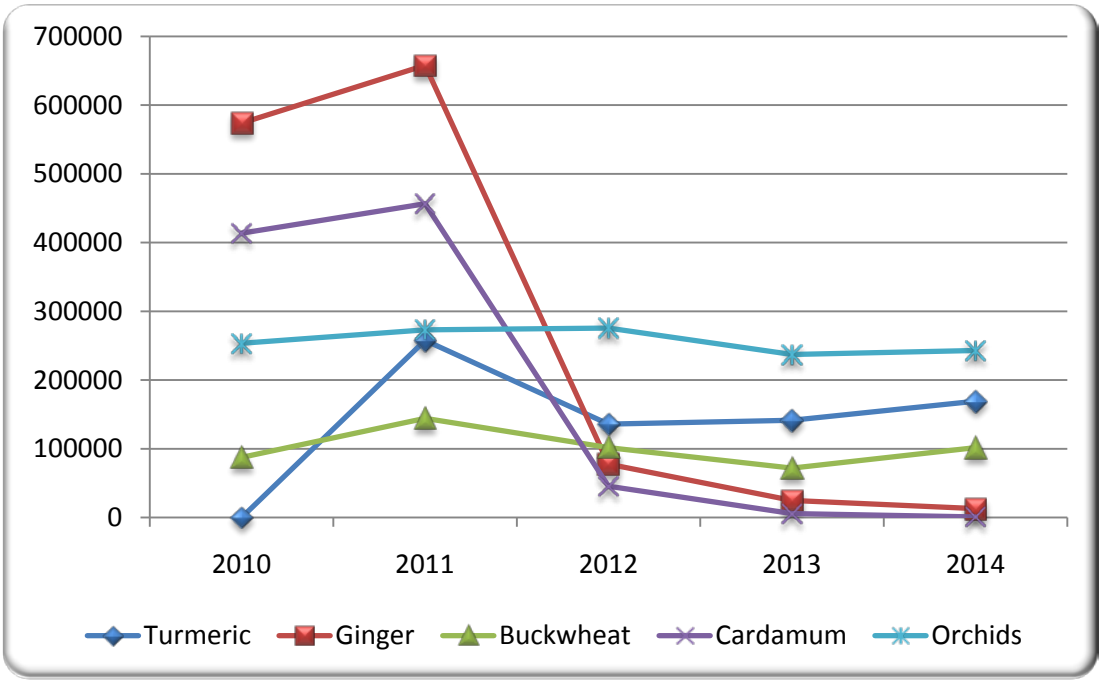
EXPORT POTENTIAL OF ORGANIC PRODUCTS- SITUATIONAL ANALYSIS

A situational analysis of export potential of organic product is important to assess the competitiveness in terms of price and quality. The chapter assesses the potential of Sikkim in having access to export market and at the same time the constraints limiting the access of organic produce to international markets. The chapter also discusses a strategic plan incorporating an in-depth analysis of the consumption status reflected through import trends of product groups identified by the Sikkim Government at the 6 digit level of HS code. Examination of National Tariff lines at 10-12 digit level has been done to capture the specificity of the consumer demand for the product lines depicting high consumption levels in these markets. Three pillars of strategic intervention for marketing of produce of Sikkim have been discussed.

7.1 Rising Import demand of Sikkim Products in International Market

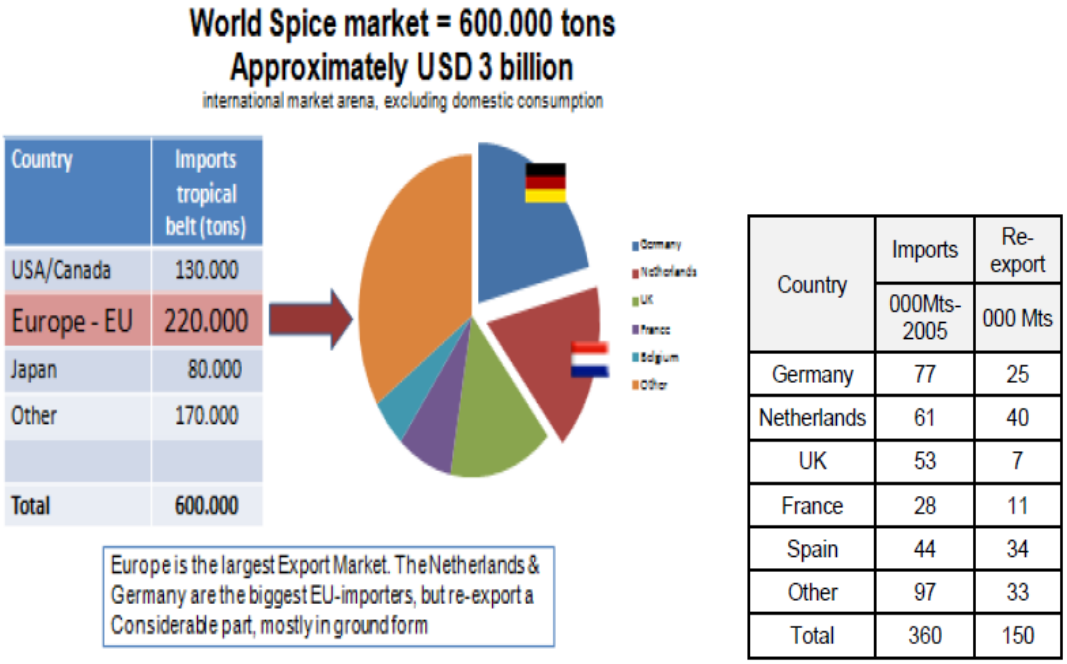
The global spice market is directly influenced by the growing processed food industry. The rise in consumption of bakery products, confectionery products and ready-to-eat & fried food in the developed economies is driving the market for spice. Supported by the growing demand in food service, home cooking and growing consumer fascination for different cuisines, the total flavouring markets maintain an upward trend in volumes and values. To meet increasingly varied food needs, multinational retailers and manufacturers are expanding their presence in developing countries and food retailers are adding value and differentiating their products in developed countries. Spices and herbs are increasingly used in the food industry for flavouring and colouring, while a growing trend for greater variety is fuelling the demand for spices in the production of 'exotic' meals. At the retail level, spice purchases are moving towards 'convenience' spice mixtures that can be used for instant flavouring, colouring and marinating.

This is quite visible via statistics wherein the projection of the import demand of spices globally is likely to exceed US$6.5 billion per year in the near future. It was valued at USD 12,530.5 million in 2013 and is expected to grow at a CAGR of 4.8% from 2014 to 2019, to reach an estimated value of USD 16,628.6 million in 2019.



Source: ITC trade database 2015

Fig. 10: Import demand in World market for export potential products from Sikkim



Country	Imports	Re-export
	000Mts-2005	000 Mts
Germany	77	25
Netherlands	61	40
UK	53	7
France	28	11
Spain	44	34
Other	97	33
Total	360	150

Fig. 11: World Spice Market

Although the import demands for ginger and cardamom are coming down for last five years; but orchids, turmeric and buckwheat are facing reasonable growth in world imports during 2010-2015. Increasing demand from the organic segment offers great opportunity for the market.

Europe and USA have the largest intra continental trade. Latin America, Africa, Asia and Europe export to these continents. Of the existing markets, USA has emerged the last decade. Furthermore the consumption per capita has been rising due to rise of income and developments in culture in countries in Europe, USA and Japan. Asia and Easter Europe have big potential as new markets because the level of prosperity is rising. Totally the worldwide demand has grown.

7.2 Has Sikkim been able to take leverage of this increasing demand in the world market?

It is visibly clear that the export potential products from the state of Sikkim in question have a growing demand in the world market. However, it is important to note that how far has India/ Sikkim been able to exploit this growing demands of spices (turmeric, ginger and cardamom), orchids and buckwheat. Table 1 below indicates the share of Indian exports in global market against its other competing suppliers for the products having high production potential in the state of Sikkim. It is quite visible, that except for turmeric wherein India captures almost 70% export share in the world market, followed by 19% share in the cardamom market; this share is very meager in case of ginger (5.3%) and further low in case of buckwheat (3.4%).

Table 7.1: Presence in Global market

Product	HS code	Competitors for Sikkim products in the Global market
Turmeric	091030	India (70.6%), Myanmar (4.4%0, Netherlands (3.2%), Indonesia (2.8%)
Ginger	091010	China(57.1%), Netherlands (10.5%), India (5.3%), Indonesia (5.1%)
Buckwheat	100810	China (32%), RussianFederation (14.2%), USA (10.9%), India (3.4%)
Cardamom	090830	Guatemala (60.9%), India (19.9%), Nepal (8.3%), Singapore (2.6%)
Orchids	060313	Netherlands (38.6%), Thailand (28%), Chinese Taipei (9%), Singapore (9.9%)

Source: International Trade Centre, 2015

Assuming the fact that, state of Sikkim posses a strong production potential, this vast difference between the ranks in production versus exports clearly proves the presence of enormous domestic inefficiencies existing with the state agricultural system emanating into poor export performance from the State.

The report therefore tries to understand the reasons behind this gap and build a linkage between the domestic and international markets. It aims at understanding the possibilities of reforms in the agri marketing system within the state which can possibly help in improving the competitiveness of agricultural exports from the state of Sikkim in the International market and thus create an enabling condition for state exporters to benefit from distortion-free domestic agriculture markets created in light of various global agreements.

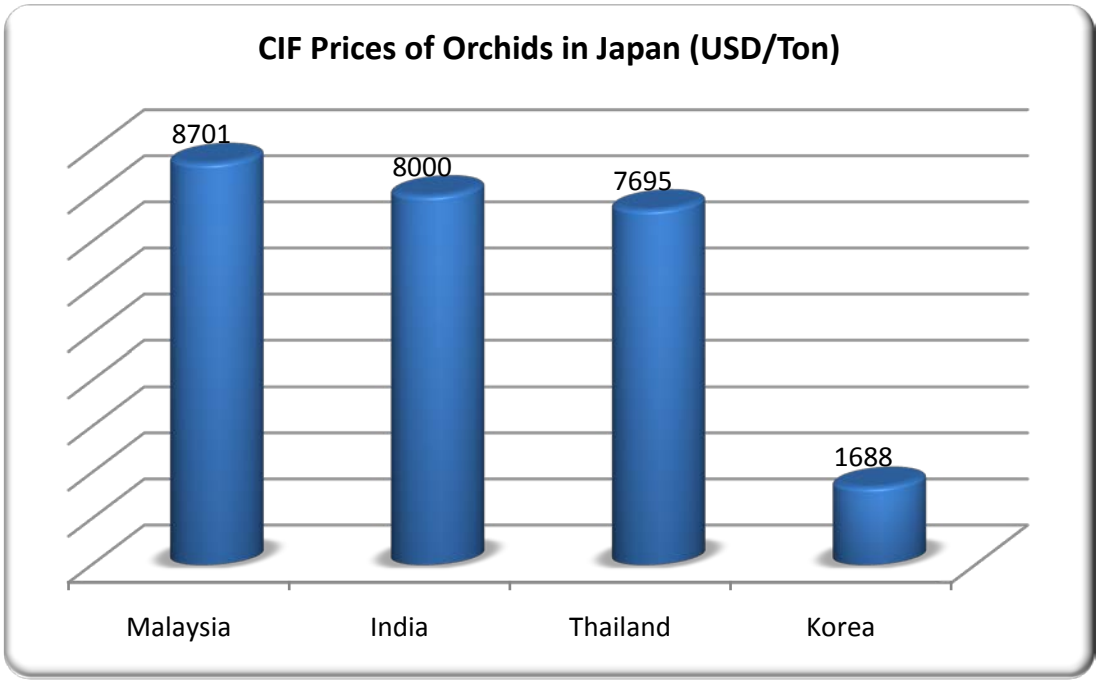
7.3 Production potential in Sikkim not getting converted into exports despite global demand

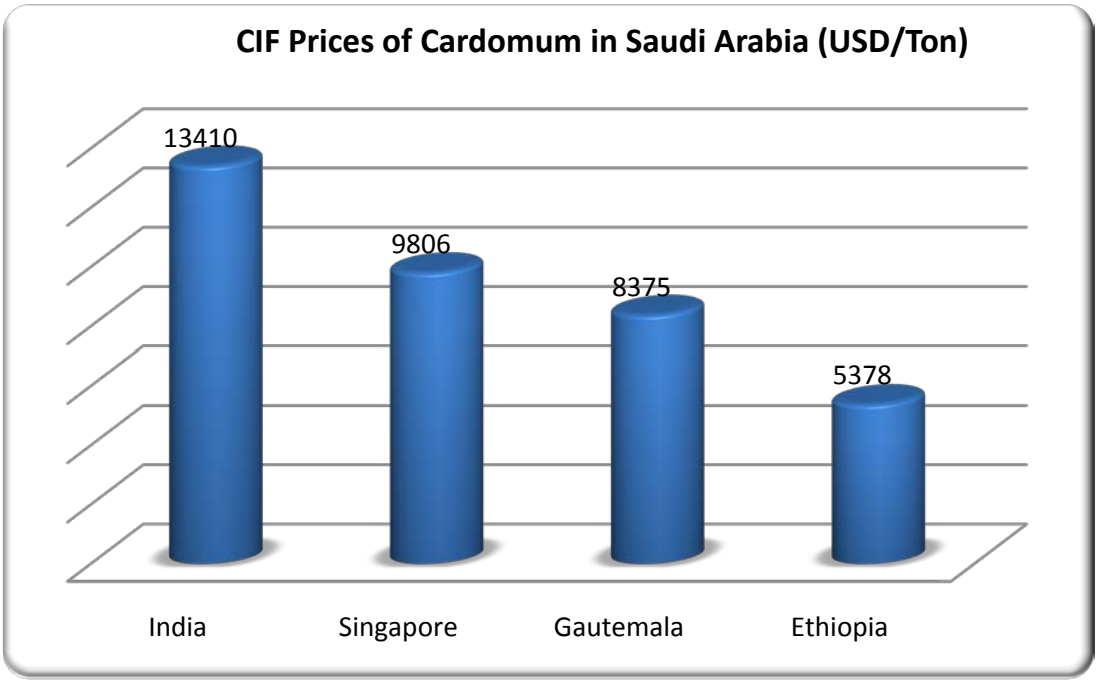
An insight towards developing an Export Promotion Strategy

High C.I.F price of Sikkim exports in foreign ports

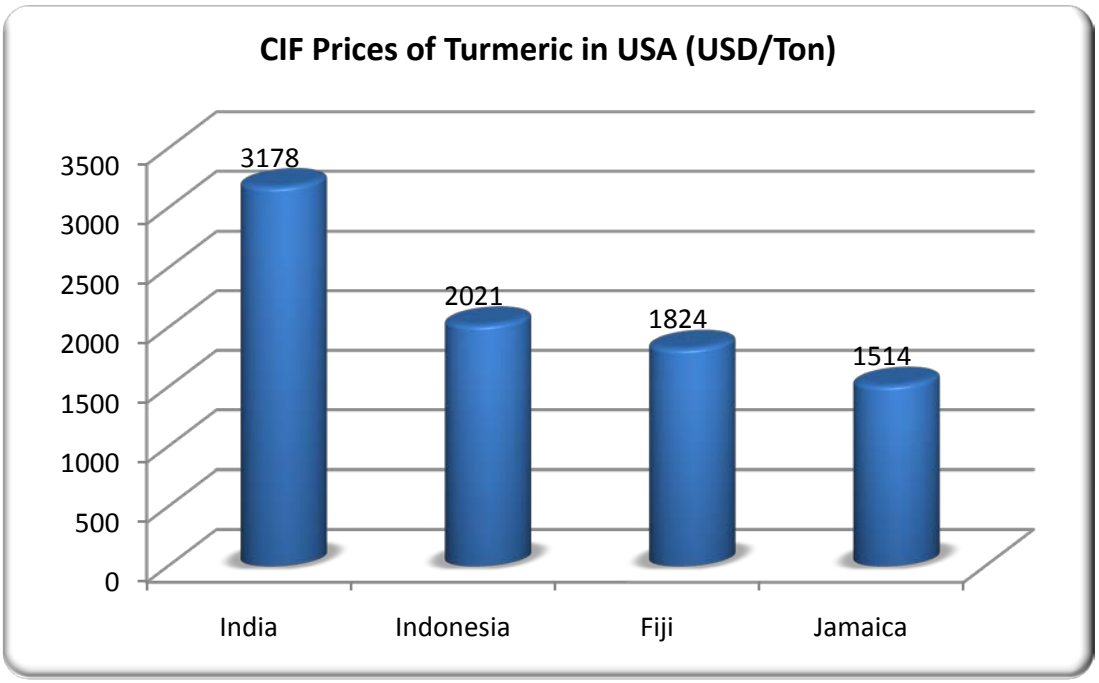
One of the primary reasons for low export share in major import markets for the commodities of export interest to Sikkim is a very high final landing price in prime importers as compared to other competing suppliers. This is quite evident from the figure below for instance Japan seems to be one of the biggest global importers for ginger and orchids. All the other competing suppliers of ginger in Japanese market including Thailand, Indonesia, China & Vietnam; reaches its port at much cheaper price. Similar situation prevails in case of Sikkim Cardamom in Saudiand turmeric in USA.

Fig. 12: Price comparisons for select export items from Sikkim versus other global suppliers in major importing markets





Source: Author's compilation based on International Trade Centre and Customs manual, India 2014



- ***Price Volatility:*** During recent past the domestic prices in the case of most of the crops/produce are higher as compared to the prices ruling in the international markets making exports a difficult proposition. On the other hand international prices of most of the agricultural commodities in question (ginger, turmeric, orchids, buckwheat etc) have been highly volatile and more unpredictable due to (i) intrinsically irregular supply of agriculture commodities as results of unpredictable and unavoidable shocks like weather, eg. Cardamom etc and (ii) the very different nature of agricultural planning process where production decisions for most farm products are made much in advance of the time the product is marketed. Such shocks drastically hamper the export competitiveness.
- ***Poor Information:*** Lack of awareness and incomplete information available to the stakeholders like farmers, exporters, and processors in Sikkim regarding international export standards including SPS measures post globalization and liberation. Lack of information systems with which Sikkim agriculture can respond quickly in a globalizing phase and that the knowledge gap with respect to the opportunities and liabilities of entering into the WTO is reduced.
- ***High Cost of Capital:*** Inadequacy of low cost commercial borrowings in agriculture sector as compared to other countries hindering large scale projects aimed at promoting export orientation. Capital Need for Marketing Infrastructure- More than 1 lakh crore (12th plan working group). e.g. Mega Food Parks, Wholesale Markets etc. and even Marketing Loans.
- ***Heterogeneity of Production Conditions:*** Even though the state of Sikkim may have a comparative advantage in agriculture as a whole, certain crops, regions, and holdings are not internationally competitive. The heterogeneity has persisted because low productivity regions have been shielded from competition by policy restrictions on, and the high transport costs of, the internal movement of agricultural produce.

Summary

Profitability of any export business depends on the profit margins governed mostly by the cost of production/ procurement, logistics, pricing, import duties/tariffs paid at the importing destination. Hence the strategic plan includes the comparative analysis between the Sikkim agro products versus similar goods entering from an alternate country on the basis of the above indicated factors thus narrowing down to the most cost effective procurement source for these items. Considering the fact that Sikkim also wants to enter into value added goods which are high up in the value chain, issue of tariff escalation has been checked to ensure the extent of indulgence/ movement in the value chain.

The choice of the right procurement source depends on the trade complementarily between the two countries which is highly influenced by the final import duties faced on products. The WTO clause of MFN (Most Favoured Nation) implies absolute indiscrimination on import duties if the concerned trading partners are WTO members. However, an exception to this clause arises in situations wherein any two partner countries enter into a Regional Trading agreement (RTA) and therefore this highlights the need to consider the existence of any such arrangement between India and the countries importing the products from the state in terms of preferential tariffs, generalized system of preferences (GSP), rules of origin, sensitive list, negative list, schedule of concessions for India vis-à-vis other competing/supplying countries.

In order to examine the trade impact of all these concerns, the strategic plan therefore incorporates the comprehensive analysis of various trade competitive indexes used by exporters across the globe including Revealed Comparative Advantage (RCA) which is an indication of the comparative advantage of the products originating from the country vis-a vis other competing suppliers in the International Market. A high RCA value is a green signal for exporters to venture into the business.

Further, the relations between the two countries in terms of trade relations or socio political relations is an area of immense importance to be analyzed in the export-plan since it may result into a complete embargo or stringency in regulations for an exporting country resulting into poor competitive position vis a vis other competing suppliers.. Implications of any such change are captured through an index termed as "Trade Intensity Index" indicating the strength of a bilateral trade between the trading partners. Analysis of such indexes for India with importing countries versus other suppliers of similar product lines results into identification of the right procurement sources.

Non tariff barriers faced by the exporting companies in the international markets add to the cost of compliance ending up into a loss of profit margins for an exporter. These non tariff barriers for identified agro sector in EU and UK are majorly in the form of certification requirements, environmental regulations, labeling and packaging, identification and marking, quotas, sampling. Hence it becomes very important for the exporting companies in Sikkim to understand these issues before entering into the market. Therefore an in-depth compilation of these requirements in importing countries has been done.

Just high growth in export destinations is not indicative of profitable business. An exporter would like to know his competitive position in the target market. This competition could be in the form of

i. domestic competition from existing players in export business of the same commodity within the country for e.g existing cardamom or ginger exporters from India
ii. existing players in same commodity in importing countries and lastly
iii. other suppliers from competing countries like China, USA, Brazil in case of buckwheat; Iran, Malaysia, China as in case of Turmeric and Thailand, Netherlands and Italy in case of orchids.

Hence this plan has also included the list of big players and their business details in similar product having presence in Indian markets, existing players in importing countries which can be a possible threat to Sikkim exporters or a possibility of joint

venture and lastly list of other competing countries. This competition could be reduced if an exporter is aware of the export incentives extended by Government of India having direct impact of the cost of production, logistics cost (transport and freight subsidies), incentives for infrastructure development, incentives at cluster level (Town of excellence scheme). Therefore a compilation of all relevant export promotion schemes and institutions for respective product categories have been included for ready reference which would act as a facilitator while establishing the production centers at cluster level within the state of Sikkim.

7.4 Three pillars of the Strategic interventions for Marketing of Produce from Sikkim

Considering the scope of the research as mentioned above, the report therefore works on the strategy based on three pillars:

The entry point for assistance for Sikkim exporters and policy makers in this area is based on identifying SMEs with export potential, determining the current market needs of these SMEs, and ensuring alignment between these SMEs and the assistance to be provided. The process begins with a sound understanding of the factors that shape SME international competitiveness. Maximising this competitiveness requires SMEs to understand the needs of their customers in order to develop an offer in response to those needs.

Concurrently, SMEs need to respond to the highly competitive global market, which requires constant innovation of products and services, as well as in their production and distribution processes and organisational set up. Approaching these two priorities in tandem is crucial for SMEs which are already connected to markets in which they need to maintain and constantly upgrade their operational productivity. Due to the increasing importance of value chains, one of the focus of this strategy is to facilitate SMEs' access to these value chains and build partnerships with the private sector. For example, links can be established with multinational companies

which have, as part of their "shared value" strategy, the priority of diversifying their network of suppliers and distributors in developing countries.

The process of value addition is crucial in taking advantage of new trade opportunities for economic growth and diversification. On an average, more than 90% of gross margins are captured by the importer and foreign retailer, leaving most undifferentiated SMEs with only a small share in the total profits of the value chain. Value addition is a multi-faceted notion comprising of following:

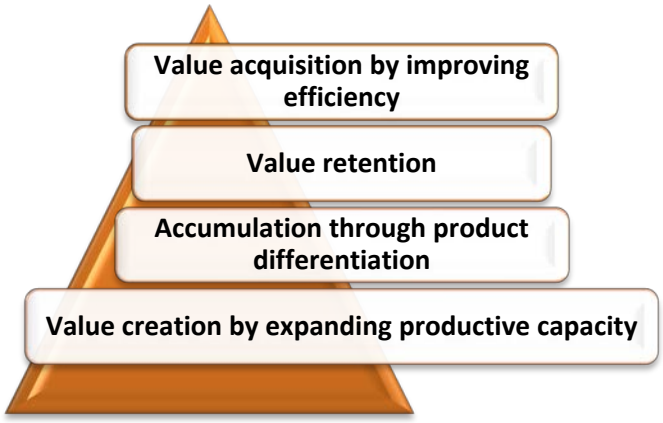
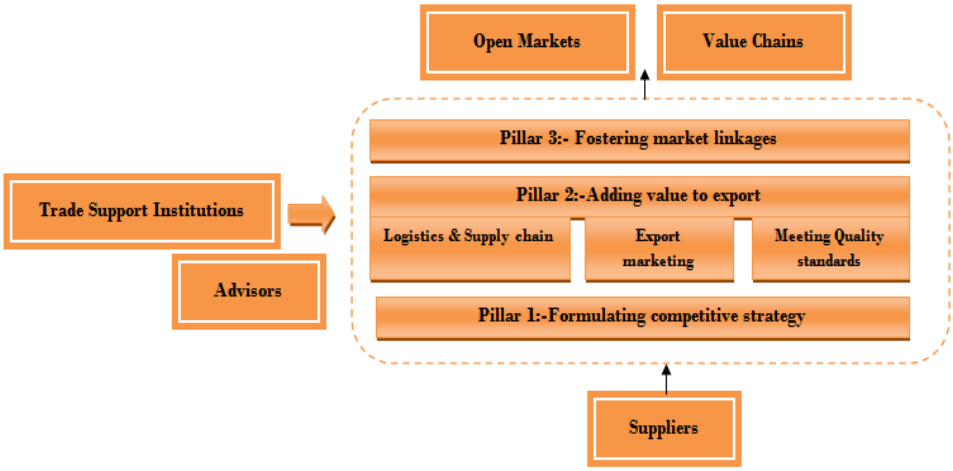


Fig. 13: Three Pillars of Strategic Interventions

The interventions suggested in the report would therefore assist Sikkim exporters to capture more value by producing higher quality goods and services, building stronger brands, and developing marketing programmes which can promote greater export diversification.

Fig. 14: Strengthening ability of agro based MSMEs in Sikkim to maximise international competitiveness



Report therefore provides solutions which would help SMEs develop or strengthen their capabilities to provide a differentiated and value-added offer, and address production and logistics-related difficulties that SMEs face in becoming internationally competitive across the export value chain. This is linked to:

- **Logistics and supply chain**: Meeting customers' product or service requirements through effective and efficient production management, operations, procurement, sourcing of materials, inventory management, as well as inbound, outbound and internal logistics.
- **Export marketing**: Differentiation through branding, innovative products/services packaging design.
- **Meeting technical/quality requirements**: Complying with standards, technical regulations, and sanitary and phyto-sanitary (SPS) measures, organizing after-sales services and achieving internationally recognized certification. In this respect, the report provides a solid information base to help SMEs ensure compliance with quality standards.

SMEs need to market their products and services to targeted clients. The report therefore helps SMEs by developing and/or addressing the problems SMEs face when attempting to identify clients and enter international markets –either directly or as part of a regional or global value chain. Existing or potential clients may have different or changing needs and purchasing habits. SMEs need to adapt their design, offer and approach to these clients depending on these specificities. E-solutions and e-platforms can play a part in transforming the way that SMEs communicate, sell and deliver their offer by providing faster and cheaper connection to international markets.

Conclusion

Insights from domestic scenario of marketing of Organic produce leads to the pointer that the State needs to plans to promote their select agro products with an aim to gain market access to in the international market and ensure participation of their MSME agro units to be the part of Global Value Chain. It becomes important to analyze product/sector wise profitability of the possible export ventures in both Indian as well as international markets and acceptance of these products in traditional markets of USA, EU, Japan etc as well as new emerging markets of Africa and Middle East. ASEAN markets are the potential market considering the proximity of Sikkim to these countries and the development of transport corridors enhancing the trade facilitation between NE states in India and the GMS countries including Myanmar, Lao PDR, Thailand, Vietnam, Cambodia and China.

CHAPTER 8

OVERALL STRATEGY TO PROMOTE AGRO EXPORTS FROM SIKKIM

This module explores the possibilities of enhancing the overall export competitiveness of the agro exports from Sikkim based on the three pillars as stated above (i) formulating competitive strategies (ii) adding value to trade and (iii) fostering market linkages. The chapter has formulated problem statements and provide solution by giving examples from competing counteries.

Problem statement

As indicated above, the State of Sikkim seems to possess a huge production potential for most of the agro commodities including spices (turmeric, ginger and large cardamom); medicinal plants and floriculture (orchids) and buckwheat, however, the export presence of these products from the country/ state has been miniscule.

In such a scenario what should the Government of Sikkim do?

In the process of formulating the competitive strategy to boost the exports from the state, possibilities towards the formation of online web based export competitive tool; possibilities of enhancing innovations to enhance competitiveness not only at national but also at international level; brand building for Sikkim agro products; promotion of Geographical Indications to promote exports from the state and finally tackling the non tariff barriers that the agro products may have to face thus reducing the possibilities of export rejections for the agro products from the state and finally enhancing the export competitiveness in totality.

8.1 Integrating Supply Chain

Problem Statement 1: The supply chain of Organic products is un integrated and has no direct access to International Markets

Solutions from LDC Countries

With the upgrading of milling equipment in countries of origin and the stricter procedures followed by suppliers, clients in Western Europe have increased confidence to source ground Spice directly. In turmeric, origin grinding is already common for years. At the same time, it has experienced most of the food scandals

with adulteration in the last 10 years. Sikkim exports its ginger and turmeric in whole form. EU importers prefer ginger to come in sliced. Hence to connect better to the international markets, domestic market of Sikkim needs to improve upon its supply chain.

Learning for Sikkim from Ethiopian spices market

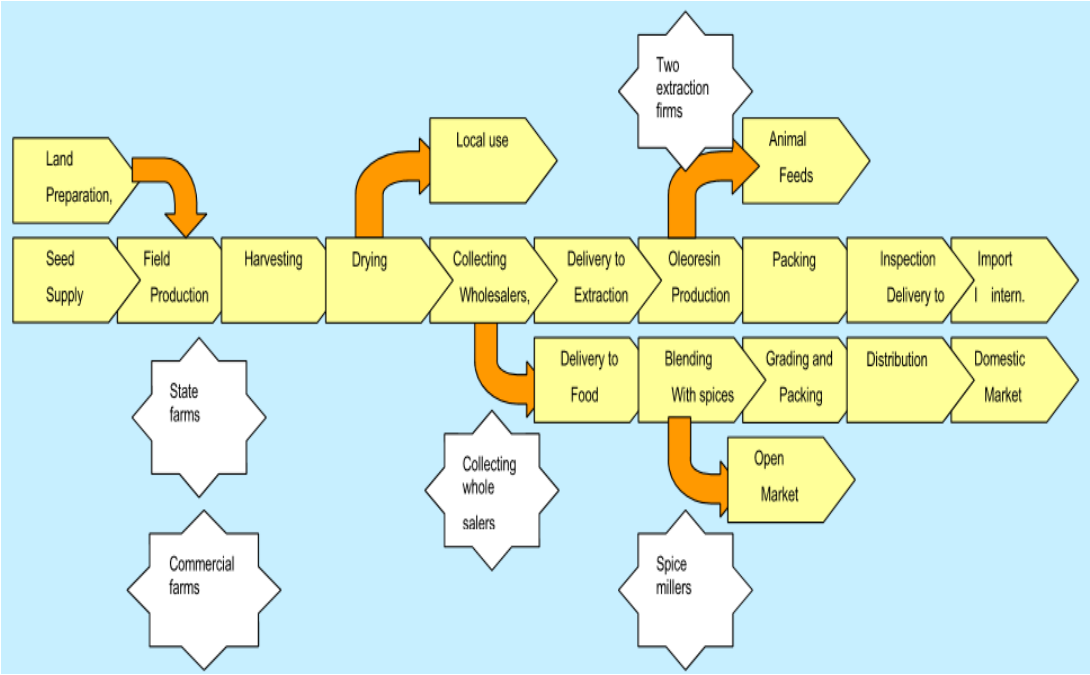


Fig. 15: Global Supply Chain of Ethiopian Spices

- The small holder farm households /the predominant production system for spices in Ethiopia/, and also their cooperatives/unions, and limited emerging cases of commercial farming, selling to local and regional traders in the nearest towns. They sell the spices in a wet/fresh stage (in most cases), or after drying, depending upon their cash need, interest and experience in spice drying processes.
- Small to big local collectors and regional traders (buyers) /including small local shops in growing areas, engaged in purchasing and bulking from farmers and their cooperatives/unions/. They sell their spices purchases to local wholesalers after making a sort of processing (drying), and also sell directly to consumers
- The local traders/buyers in turn may do further drying of the spices, do bulking operation till it reaches the level to be transported using trucks, 50-90 quintals (1quintal=100kg or 0.1ton) and above, to transport and selling to traders in central/terminal markets in major urban areas,
- There are national level wholesales of spices in terminal markets, who do further bulking mainly from regional traders/buyers and mainly engage in selling to processors /that ground, mix with other spices/, exporters, or other

local wholesalers and retailers, including to those regions that do not grow or do not have adequate supply of spices,

- Millers: village and spice market centre milling houses who, for instance, do pepper milling for customers or do own milling and sell the flour to different traders, and consumers,

Problem Statement 2: CIF prices of Sikkim exports too high as compared to other competing countries: Guatemala (Cardamom), China (Ginger); Thailand (Orchids)

- **Reducing price spread: learning from the case of Ethiopian Commodity Exchange (ECX)**

  Since the agricultural markets in Sikkim are characterized by high costs and high risks of transacting, forcing much of its produce into global isolation; with only one third of output reaching the market, commodity buyers and sellers tends to trade only with those they know, to avoid the risk of being default or cheated. Trade is done on the basis of visual inspection because there was no assurance of product quality or quantity, this drove up market costs, leading to high consumer prices. Small-scale farmers, who produce 95 percent of the output, came to market with little information and were at the mercy of merchants in the nearest and the only market they knew, unable to negotiate better prices or reduce their market risk.
- **Sikkim can adopt the model of ECX; a new initiative for Ethiopia**. It aims in connecting all buyers to sellers in an efficient, reliable, and transparent way, by harnessing innovation and technology, and based on continuous learning, fairness and commitment to excellence. The ECX assures all commodity market players, the security they needed in the market by providing a secure and reliable End-to-End system for handling, grading, and storing commodities. The system also provides matching offers and bids for commodity transactions, a risk-free payment and goods delivery system to settle transactions all in a fair and efficient manner. It creates trust and transparency through the aggressive market data dissemination to all market actors, with clearly defined rules of trading, warehousing, payments, delivery and business conduct and also an internal dispute settlement mechanism. It provides market integrity of the product, the transaction and the market actors.
- **Farmers' organizations: case of Guatemala's Cardamom.** State of Sikkim can look into the possibility of creating farmers' organizations which can play an important role in the economy of the smallholder farmers as is done in case of Ethiopia. The formal farmer's organizations in Guatemala are primary

cooperative Associations, Cooperative Unions and Cooperative Federation. In 2010, about 26,800 cardamom Farmers organizations existed in Guatemala. These organizations provides the smallholder farmers with the opportunities to access different services in a more cost effective way. A good example is **access to credit services** where most smallholders are deemed not creditworthy by the financial institutions but are nevertheless able to access credit within the umbrella of their associations.

By formation of such farmers' organizations, Government of Sikkim can provide **enhanced direct access to markets; opportunity for bulking of produce thus making it possible to have adequate quantities of good quality produce to attract the market.** Besides, the organizations could improve access to storage facilities which is crucial in spreading the supply of farm produce away from periods of glut. This will ensure that farmers do not sell their produce at non remunerative prices during periods of surplus to avoid loss due to perishable nature of most agricultural produce. Efficient farmer groups will also act as catalysts for investment in agro-processing. The associations are able to leverage finances which can be used to establish processing and grading facilities for perishable products this enables smallholder farmers to add value to their produce and attract better returns on their produce.

- **Some activities initiated by private businesses**: **case of Ethiopian Spice Extraction Factory**

Most of services provision to Spice producing smallholding farmers in Sikkim; fall within the remit of the public sector, through the Ministry of Agriculture. However, it is noted that some of the services can be devolved to be more effectively delivered by the private sector players. Extension services for example, could be undertaken by the farmer groups, input suppliers and exporters of the spices. There are unutilized opportunities by leveraging synergies of public sector and private sector to ensure more sustainable solution to the provision of services sought in the spice subsector with the view to addressing some of the challenges currently existing in this domain.

8.2 Web based market Information System

Problem Statement 3: One of the major reasons behind the gap between huge production potential and poor export status in the case of Sikkim agro exports is lack of market information on behalf of exporters and policy makers in identifying the best export market to take focussed approach in

- **Solution: Web based Application for Product market Identification for Agro exports from Sikkim**

In order to leverage these production advantage of the state optimally, identification of the right product market mix is essential to reflect these production advantages in the form of enhanced presence in the International market. For this, the identification of the right product-market mix i.e deciding which product to sell in which market becomes one of the most important decisions, a potential exporter will need to make. It is important to research foreign markets and tailor one's products to regional tastes. This application on Product Market Identification will help agricultural exporters of the state of Sikkim to identify the right market by the use of online databases and information. It would help them in finding countries with the largest and fastest growing markets for their product and help determine which foreign markets will be the most penetrable &profitable. A web based application for product market information is required to be developed as done by Maharashtra. This application also would provide an in-depth analysis of the Export Promotional Policies and schemes available to the agri exporter both at the Central level and the state level and the institutions working towards the export development of agriculture in the state of Sikkim.

Model that Sikkim can follow:

i. **Case of PMI application for Greater Mekong Sub Region (China, Lao, Vietnam, Cambodia, Thailand and Myanmar) at International Level [reference point: www.gmspmi.com]**
ii. **Product Market Identification for agro exports from Maharashtra: developed by Maratha Chambers of Commerce and Industry (MCCIA) [reference point: www.aemis-mccia.com]**

8.4 Methodology to be followed for Product – Market Identification for Sikkim Exports

Step 1: Trend Analysis of Exports

After identifying the right HS code of the given products, first step is to estimate the trend analysis of exports of this HS code. The report provides you the last five years data and the performance analysis of each HS code at six digit level. The growth rates for each of the identified HS code have been calculated for the stipulated time period to give an indication about the export performance of the commodity. Compound Growth rates have been calculated for the purpose.

Step 2: Revealed comparative advantage (RCA)

After this an exporter will need to know the comparative advantage of the product he needs to export. For this a competitiveness tool has been used namely Revealed comparative advantage (RCA) which is defined as a country's sectoral share divided by the world sectoral share. The values of an RCA indicate the country's competitiveness vis-à-vis the world. It also helps to assess a country's export potential. The RCA indicates whether a country is in the process of extending the products in which it has a trade potential.

$$RCA_{ij} = \left(\frac{X_{ij}}{\sum_j X_{ij}} \right) \div \left(\frac{\sum_i X_{ij}}{\sum_i \sum_j X_{ij}} \right)$$

Where.....

X_{ij} = Export of ith Commodity by the jth Country

$\sum_j X_{ij}$ = Total Agricultural Export by the jth Country

$\sum_i X_{ij}$ = Total Export of ith Commodity by all Countrie

$\sum_i \sum_j X_{ij}$ = Total World Agricultural Exports.

An RCA value of greater than 1 for a certain product signifies that the country has exported that commodity more intensively than the rest of the world in that year and generally this is taken as a proxy measure of a country's competitiveness. These RCA values for the selected HS code at six digit are calculated for each HS code at six digit code from 2001 and 2008. An exporter will select the product with rising RCA Values.

Step 3: Trend analysis of Markets& Market fluctuations

After selecting the product which has most comparative advantage, the next step is deciding the right market for this product. Hence this report gives you a readymade list of the performance of major countries for all the products of export importance for the state of Sikkim. Commodity wise description is dealt in various commodity chapters later in the report.

Step 4: Understanding Trade complementarily between the markets

Just knowing the major markets trends will not suffice. In order to shortlist the export market an exporter needs to know the trade complementarily. This report calculates the Trade intensity index for this purpose.

$$TIIij = (Xij/Xi) / (Mj/W)$$

Where:

Xij = exports from Country i to Country j

Xi = the total exports from Country i ,

Mj = total imports of Country j , and

W = world trade volume

Trade intensity index is based on an actual observation of bilateral trade flow, and it measures the intimacy of the trading relationship between any given two countries. Higher is the Trade intensity Index, better will be our export possibility and therefore an exporter should choose the market with high TII values.

This report has worked out the Trade Intensity Index values for all major markets where there are rising trends for all the commodities of export interest to the state of Sikkim.

Step 5: Understanding Export Competitiveness of Sikkim in Identified market

However, high trade intensity index with the importing partner does not guarantee the success of an agri exporter from the state in the particular market. An exporter also needs to know its competitive position in the export market he wants to enter. This report analyze the competitive position for agri products of the state in the target markets in three different ways.

1. ***Understanding the share of India in the total imports of the identified HS code***: An exporter should know its competitive position in the export market he wants to enter. For this, the application would analyses the share of India in the total imports as compared to the imports from other competing suppliers. Higher is the share of our country, good is the indicator for an exporter to target that market since there we face least competition.
2. ***Exploring the trade strength of other competing suppliers***
   In order to capture the trade strength of other competing suppliers of the identified commodity in the target destination which Sikkim exporter must have chosen, it is important to compare the Trade Intensity Index of the competitors versus that of ours in the target export destination that an exporter chooses to export his product. This report has calculated these TII values with respect to India versus other competing suppliers in the same market. Agri exporter from Sikkim should target his exports to the market where the Trade intensity index values for India is better off as compared to the other competing suppliers.
3. ***Existence of Free Trade Agreement/Preferential trading agreement for OCS***
   Existence of Free trade agreement between the target destination and the other competing suppliers will make an Indian exporter loose the market due to lack of price competitiveness by paying a higher import duty as against its competitor supplier having to pay either no duty in case of an FTA or low duty in case of an PTA. Therefore while making a choice of the market; an exporter needs to choose the market where it's competitors preferably have not signed any such bilateral arrangement.

Step 7: Modulating the Business plan as per WTO parameters

Two major agreements under WTO that have the impact on the decision making of an agricultural exporter from any country/state are (i) Agreement on Agriculture (AoA) and (ii)Agreement on Sanitary and Phyto Sanitary Measures (SPS).

8.3 Agreement on Agriculture: Parameters of importance for an Agri Exporter in Sikkim

Market Access

Market access is the extent to which a country allows the importation of foreign products. Countries have traditionally used both tariffs and non tariff measures to regulate imports of agricultural goods. Tariffs, in terms of import duty and sometimes in other forms and Nontariff barriers are therefore one of the most influential decision making tools for the selection of the right market since it can ease or restrict the market access of an exporter in the particular market The market access provisions aim to regulate and lower protectionist barriers to trade. As indicated; exporters from Sikkim should take care of the import duties while targeting their exports to the foreign market.

Tariff Rate Quota

A tariff-rate quota system allows an importer to fix a two tier structure of import duty. A tariff-rate quota is a quota for a volume of imports at a lower tariff. After the quota is reached, a higher tariff is applied on additional imports. An agro exporter from Sikkim should therefore look into the existence of TRQ for his products in the importing countries. This would help him decide his priority for exports.

- **How does a presence of TRQ impact the business decision of the Agri Exporter from Sikkim?**

A TRQ has three components:

A quota that defines the maximum volume of imports charged the in-quota tariff,

- an in-quota tariff, and
- an over-quota tariff. The values of these three components are part of the URAA and are defined in member nations' tariff schedules. If the TRQ is scheduled to be liberalized, the rates at which the quota is to increase or the tariffs to decrease are also specified.

This would mean that if an exporter is able to send his consignment in that export market before the quota is filled, then he will have to pay a lower import duty termed as in quota duty else a higher duty have to be paid termed as out of quota tariff rate.

Tariff Escalation

Tariff escalation refers to the situation where tariffs are zero or low on primary processed products then increase or escalate, as the product undergoes additional processing.

	Import Duty Structure	
	Ginger	**Ginger Bread**
Market	**Primary**	**Processed**
Australia	0.00%	5.00%
Morocco	25.00%	49.00%
Spain	0.00%	17.38%
United Kingdom	0.00%	17.38%
United States of America	0.00%	0.00%

8.4 Non tariff barriers-challenges in food safety and traceability

Problem Statement 4: Apart from tariff, the other issue that the exporters from Sikkim would face in the international market would be rejections on the grounds of non tariff barriers.

Indian spice traders and producers are facing challenges like food safety, sustainability and traceability. Food safety regulations are affecting spice exports especially to the countries like Germany, France, England, Japan and Australia. India is biggest producer and exporter of spices in the world. As the regulations vary from country-to-country, it is becoming hard to maintain all the required standards. The countries that import the maximum of spice products from India are Malaysia for chilli and coriander, USA for pepper, celery, spice oils and oleo resins, China for mint products, Saudi Arabia for cardamom, UAE for turmeric, Bangladesh for ginger and garlic, Pakistan for cardamom large and fennel, UK for cumin, Japan for fenugreek, Nigeria for curry powders and Nepal for other seed spices. The maximum containers are rejected from European countries, Japan and Australia.

As an initiative, to ensure traceability the Spice board has established quality evaluation labs in major centres like Cochin, Chennai, Mumbai, Guntur in Andhra Pradesh and Tuticorin in Tamil Nadu. These labs service testing of spices specifically chilli and turmeric to match international requirements. New labs are under construction in Kandla in Gujarat, Delhi and Kolkata.

To cater to the fast developing international requirements, India is focusing on development of infrastructure facilities. The Board has set up spices parks which offer common facilities to cleaning, grading, value addition, storage and marketing in major spices growing states. Spices Parks are established in Chhindwara in Madhya Pradesh and in Puttady in Kerala focusing on garlic in the former and on pepper and cardamom.

Similar steps are proposed to be undertaken by Govt of Sikkim under he Action Plan for investment under MOVCD

8.4.1 Development of Sector specific Database on NTMs

- Understanding the fact that Non-Tariff Measures (NTMs) have increasingly become important in trade negotiations between countries and group of countries. With the tariff barriers coming down under commitments as members of WTO or different economic integrations, countries are increasingly using NTMs as trade restricting mechanism which is impacting the exports from the SME sector in a big way. developing a database on the sector specific/product specific non tariff barriers with an in-depth analysis on the extent of trade impact :positive or negative (trade restrictiveness) is required.
- It has been seen that there is no structured and systematic process of dissemination of the SPS and TBT regulations existing across major export markets important for SMEs in India.
- Further keeping in mind the frequency of country WTO notifications, in order to take advantage of such notification system, it becomes essential for all member countries including India to keep track of the emerging SPS notifications on regular basis, analyze the possible trade impact of such measures and submit their comments in the stipulated time period. A systematic notification system should be in place.

8.5 Creation of Business Database

Problem Statement 5.: Agriculture sector in Sikkim is highly unorganised so as to get the value players in touch with each other. Also since the production zones are scattered loosing economies of scale, big export

Though at the macro level the value chain offers a good understanding of the sectoral relationships within the Industry, capacity building of the firms to be competitive in Exports require mapping of the value chain at the cluster level. In the light of the above background, it is important to bring out a model for mapping value chain of the export clusters in the traditional as well as nontraditional sectors and also try to evolve system for upgrading the data for such value chain which will enable policy as well as firm level efforts to be fruitful for improving the cluster competitiveness in the international markets.

Action Point: Government of Sikkim can propose to create a business database of all its players across the value chain for the identified products.

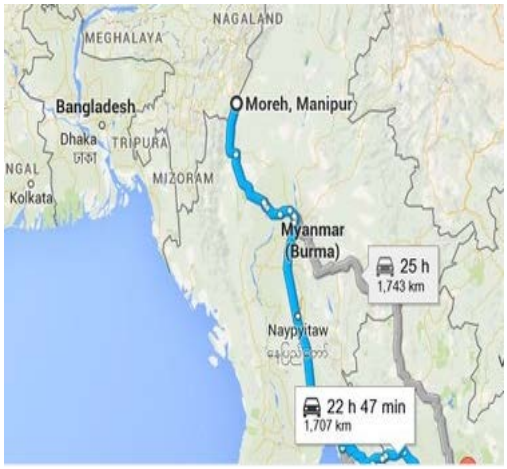
Reference point" East West Economic Corridor developed by Mekong Institute, Thailand along with IIFT for MSME agro exporters in various product categories including spices and floriculture.

With support from the Japan-ASEAN Integration Fund (JAIF), Mekong Institute (an Inter Governmental Organization of GMS Countries) located in the heart of Khon Kaen University in the North East Thailand has therefore developed EWEC business database for information about members of CCI and BAs and the profiles of the 11 provinces along EWEC.

8.6 Connecting with Thailand

Problem Statement 6: Sikkim being a North Eastern State and a land locked state is not able to reach the foreign ports due to high transportation cost and time taken towards logistics to reach the nearest sea port of Haldia. Appreciating the fact that ASEAN market offers huge export opportunity to the exports from Sikkim due to Indo ASEAN FTA and subsequent connect of India with Thailand with the inauguration of India-Thailand International highway; adds to an enhanced trade opportunity for Sikkim exporters. Sikkim Government now has to work on better connectivity to reach the point of connect with Myawaddy-Thinggan Kawkareikstate of Myanmar.

Indian-Thailand International Highwa has opened in November 2015 The Myawaddy-Thinggan Kawkareik section of the Asian Superhighway starting from Manipur has been opened in November 2015. The first 26.5 km stretch will bring the travel time down to one hour from the previous journey time. The road runs from Moreh in India to Thailand's Maesot via Myanmar's Tamu, Mandalay and Myawaddy sharing the border with Burma. The road runs further inside the Mandalay and Tamu of Myanmar. This is a strong possibility for Sikkim traders for using truck service between India and Myanmar. If introduced, the service will ply between Imphal, Manipur, and Mandalay. The India-Myanmar-Thailand (IMT) trilateral highway, a 3,200-km road will entail linking India to Myanmar and then further to Southeast Asia, as priority. The government is set to ink a strategic agreement to operationalise the highway to enhance regional co-operation giving flip to agro exports to the NE states including Sikkim.



8.7 Geographical Indicator for Sikkim Products

Problem Statement 7: Preparing for GI for Branding and Marketing of Sikkim Organic Products

One of the challenges that the agro exports of the state of Sikkim is the complete absence of branding and marketing of its products. It has been seen that while other states in NE including Assam has filed a lot of Geographical Indications towards promoting its image into international market for instance; Assam Karbi Anglong Ginger. However; state of Sikkim has huge production potential but only one GI has been filed for Sikkim Large Cardamom. **State of Sikkim should go ahead with filing GI to improve its branding.**

MODULE - III

IDENTIFICATION OF SUITABLE EXPORT STRATEGIES FOR LARGE CARDAMOM, GINGER, TURMERIC AND BUCKWHEAT

CHAPTER 9

IDENTIFICATION OF SUITABLE EXPORT STRATEGIES FOR LARGE CARDAMOM (091030)

Large cardamom is the main cash crop of Sikkim, contributing about 88% to 90% of India's production. The chapter identifies the major markets and consumption pattern in global market and highlights the potential for export of large cardamom. In order to identify suitable export strategies analysis of price, marketing channels, cost and margin, existing marketing infrastructure and domestic supply chain has been done. A threefold strategies promotes Sikkim Cardamom in global market has been defined in chapter on opportunities in value addition has been recommended. Solutions coming from competing countries like Srilanka, Guatemala have been highlighted so that marketing interventions in these countries can be adopted by Sikkim also.

9.1 Analyzing Strength of Sikkim Cardamom

India is the largest producer of large cardamom with 54% share in world production. Large-cardamom is cultivated in an area of about 23082 ha (2015-16) with an estimated annual production of 4075 tons (2015-16) in Sikkim, large cardamom is the main cash crop of Sikkim; contributing upto 88-90% of India's production.

Rich genetic diversity, scientific production and processing practices as well as well informed planters and better institutional support has made cardamom from the State of Sikkim as number one in quality. The productivity is highest in the north district, followed by the east district due to favourable shade, humid environment and soils rich in organic matter. Productivity among different plantations varies from a low of 100 kg/ha to a high of 450 kg/ha, the average being 150 kg/ha. There are two species of cardamom grown in Sikkim, namely Golsey or Bada Dana and Ramsey or Chota Dana. Golsey is grown in the north and east districts of Sikkim, and the west and south districts grow both Golsey and Ramsey. More than 50% of the production of cardamom is from the north district.

9.2 Major Markets

Major assembly markets of Large Cardamom are Gangtok & Singtam in Sikkim and Siliguri in West Bengal. Siliguri is a big assembling market for Large Cardamom as the product also comes from Nepal & Bhutan. Quality of Large Cardamom produced in Sikkim is better than that of produce in Nepal & Bhutan due larger size and color of the produce. In Sikkim, NERAMAC registered under Spice Board also facilitate auction and free of cost temporary storage facility for Large Cardamom. Only

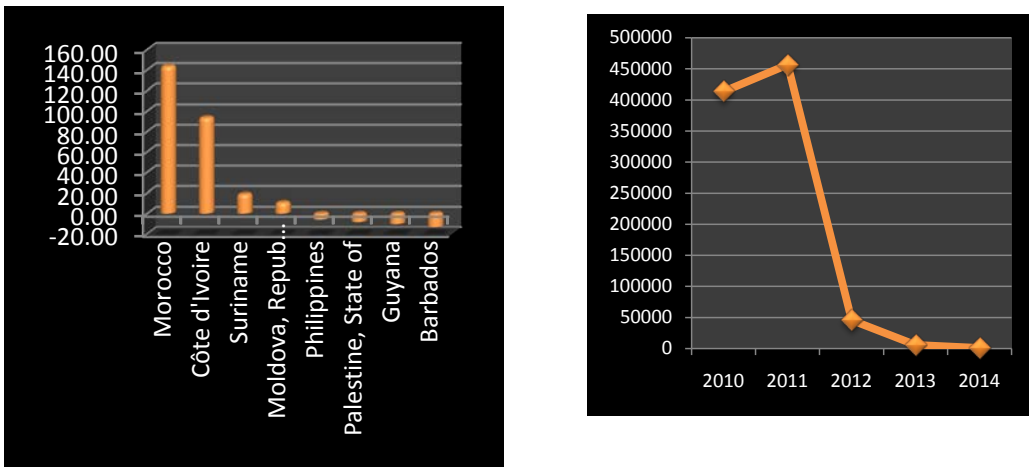
registered traders under Spice Board of Sikkim, Siliguri, Kolkata and Delhi participate in auctioning of Large Cardamom.

The major markets of Large Cardamom in India are Delhi, Kolkata, Hyderabad and Bangalore and Mumbai. The major commercial grades of Large Cardamom are Badadana, Chottadana, Kanchichut and non Kanchicut. Sikkim's Large Cardamom is a preferred product due to its distinctive colour and aroma.

Large cardamom based agroforestry system generate 40-50 crores revenue to the state. A farmer can earn revenue of Rs. 25000 to 30,000 from one hectare plantation.

9.3 Rising consumption pattern in global market: good news for Sikkim Cardamom producers

The Middle East, South Asia, South East Asia and Europe are the main markets for cardamom consumption. From 2010 to 2014, global demand for cardamom rose steadily from twice. Import demands during the year 2010-2015 have risen in countries including Morocco, Cote d'ivoire, Moldova.



Source: International Trade Centre data base, 2015

Fig. 16: Trends in major importing countries

Trends in World imports

Once the large cardamom capsules are cleaned, cured, and graded there are several avenues that farmers can pursue for marketing. Large Cardamom there are three main marketing channels are followed in Sikkim are as follows;

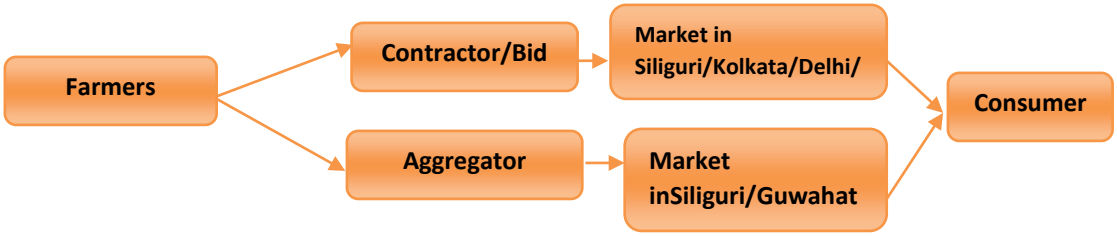


Fig. 17: Marketing Channels of Large Cardamom

Spice Board has taken several steps towards marketing of Large Cardamom and ensures better price realization by the growers. Spices Board under the Cardamom (Licensing & Marketing) Rules 1987 of Spices Board Act 1986 regulates the cardamom market. According to the rule, any trader wants to deal in Large Cardamom need to obtain Cardamom Dealers License from the Spices Board. Board also issue Auctioneers License to conduct auction of cardamom. All the licensed dealers have to submit monthly returns to the Board in prescribed format stating the source of purchase and sale with price and quantity details.

In order to create organized marketing system, Spices Board opened auction centre at Singtam to ensure the cardamom growers with competitive price. All the licensed cardamom dealers are eligible and can bid during auction. Auction is conducted by the Board's licensed auctioneer only. Spices Board facilitates to provide auction centre where auctioneer can conduct the auction. The Large Cardamom auction is conducted in the presence of growers whose cardamom is placed for auctioning in the auction and growers are empowered to withdraw any of their lot if they feel the highest bid is not satisfactory.

The Spices Board is also Regulatory Authority for export of spices. If any dealer/exporter wants to export Large Cardamom or any other spices from India, he needs to obtain Certificate of Registration as Exporter of Spices from the Spices Board.

9.4 Seasonal Price Behaviour of Large Cardamom

A drop in production coinciding with increased demand has pushed up price of Large Cardamom. The spice is one of the high value cash crops and export commodities. It is grown only in Sikkim and Darjeeling in India, Bhutan and Nepal. Bangladesh, Pakistan, the Gulf countries are the main exporters of Large Cardamom from India. Large Cardamom produce in Nepal & Bhutan also exported through India. Quality of

Large Cardamom produce in India is better than that produced in Bhutan & Nepal. In India, from the last few years, production of Large Cardamom has decreased due to drought and fungal attack that increased the price of Large Cardamom.

Cardamom price normally rises during the main harvesting season (June-August) and the slack season (December-April). The harvest season starts in July and continues until September. During this period, transactions reach a peak, creating immense competition among buyers which pushes up prices. In 2011, Large cardamom prices was Rs 880 and 800 per kg in Siliguri and Gangtok market. Since then prices have been rising gradually, reaching Rs 1600 to 1700 per kg in 2015 which is shown in figure below.

Wholesale price of large Cardamom varies from 1300 Rs/kg to 1800 Rs/kg. Average wholesale price of Large Cardamom varies from Rs. 1562 in Gangtok to Rs. 1602 per Kg in Siliguri. Retail price of Large Cardamom varies from Rs. 2000 per Kg to Rs 2500 per Kg.

There is a variation of wholesale price available at Gangtok and Siliguri. **Siliguri is more competitive than Gangtok**. Month and market wise details price of Large Cardamom is given in table below:

Table 9.1 Average Wholesaler Price of L.Cardamom (Year - 2015)

Markets	Year	Month Wise Average Price (Rs/kg)												
		January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**	**Average Price**
Siliguri	2014	1656	1673	1624	1288	1375	1359	1390	1413	1313	1354	1398	1559	1450
	2015				1643	1690	1794	1704	1469	1316				1602
Gangtok	2014	1643	1638	1608	1213	1340	1290	1318	1363	1277	1322	1392	1509	1409
	2015				1625	1678	1706	1618	1431	1316				1562

Source: Spice Board

9.5 Movement of Large Cardamom outside Sikkim

Movement of Large Cardamom from Sikkim has increased from year on year. In 2011-12, 181.75 MT of Large Cardamom moved outside the state whereas in 2014-15, 205.18 MT moved out of Sikkim. Approximately 55% of the produce is sold outside Sikkim and rest of the value is retained by State.

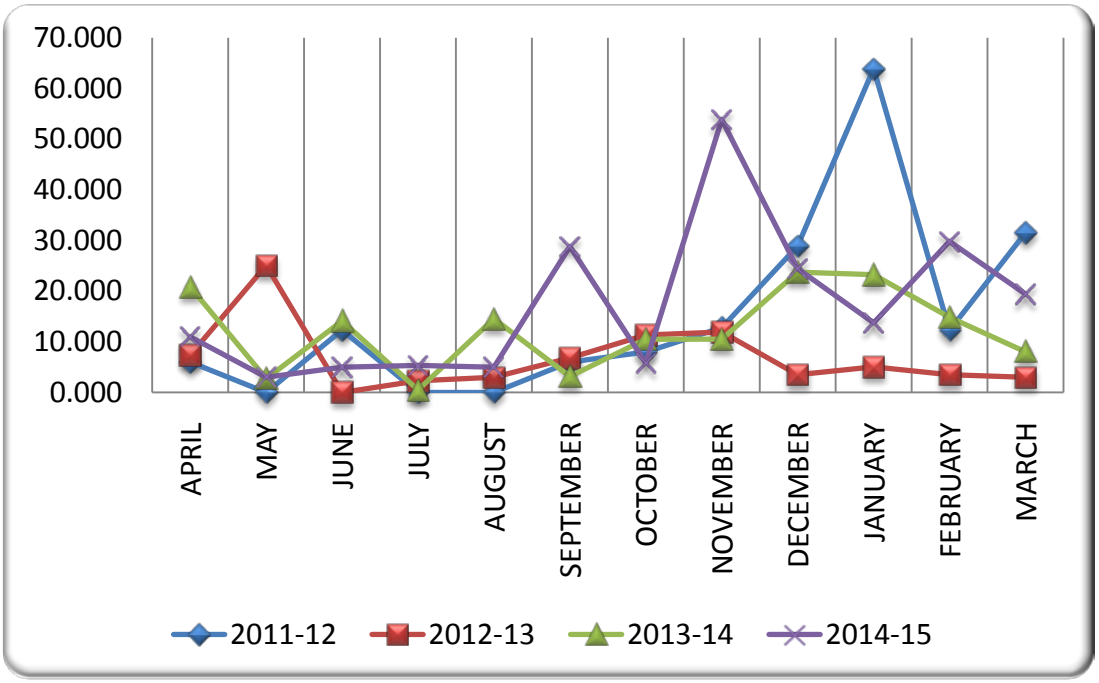


Fig. 18: Month wise movement of Large Cardamom from Sikkim

Within the State, the produce is procured by NERAMAC through auction. The price realized through auction is competitive and higher than what is realized at Siliguri Wholesale market.

9.6 Price Spread in Large Cardamom

In Sikkim, Singtam and Jorthang are main market for large cardamom. These markets are dominated with large and small traders. Large traders in these markets purchase large cardamom from local traders and also directly from farmers and sell to wholesalers in Siliguri, Delhi, Kolkata, Mumbai and Punjab. Local traders purchase it directly from farmers and sell to large traders and wholesalers in Sikkim and Siliguri market. Price of large cardamom which is paid to farmers varies from Rs. 1400 to 1600 per kg. Price of Large Cardamom depends on moisture content, colour and size of produce. Local trader sell the produce with margin of 9 to 10 % .The wholesaler price of large cardamom is 1600 to 1900 Rs/kg and retail price is 2000 to 2100 Rs/kg

Table 9.2- Price Spread of L. Cardamom

S.No.	Particulars	Rs/ Kg
Farmers' sale price		**1426**
1	Handling charges, transportation, etc	10
	*Losses 0%	
Local Traders' purchase price		**1450**
2	Local Traders' margin/ fee,	150
****Wholesaler's purchase price**		**1600**
4	Charges on commission, handling, transportation, storage etc @6.5%	104
	losses@ 1%	16
5	Wholesaler's Margin	80
Retailer's Purchase Price		**1800**
6	Handling charges@ 2%	36
	losses @0.5 %	9
	Retailers margin 14%	252
Consumers purchase price or Retailer's sale price		**2100**

The value realization by producers is low as there is low marketable surplus the farmers. In order to increase the price realization by producers, there is a need to clean and dry produce. If Storage is available Large Cardamom can be sold in a staggered way by taking advantage of window of opportunity in November and December.

9.7 **Existing Market Infrastructure**: NERMAC has a set up an auction centre for Large Cardamom and storage facility at Rangpo. Storage facility is free of cost for the Large Cardamom Producers. Open auction system has been introduced since two years with the joint efforts of Spices Board and NERAMAC. This auction system has become a great boon for the Large Cardamom growers of Sikkim, as it provides better remunerative price to the farmers.

9.8 Post Harvest Management

Large cardamom is a low volume, high value crop. In India most of the crop is consumed domestically and the rest is exported.

1. **Harvesting**- It is done during Sept-Nov maturity of the capsule is assessed by the opening of the topmost capsule of a spike. Full matured capsule has brown colour seeds. Spikes are kept for 2-3 days after harvesting to separate the capsule more easily.

2. **Curing**- The moisture content of fresh capsule is approximately 70-80%. By curing, moisture content is reduced up to 10-12% for storage. Curing is the most crucial step in the processing of the large cardamom.

Curing is done by-

a**)** **Traditional bhatti**-The traditional bhatti (Figure 3A) is a drying kiln developed by farmers and used for curing fresh large cardamom capsules (Sharma et al 2000); it is based on a direct heating system, and drying time is 25–40 hours (Mande et al 1999). The fuel efficiency of this system is very poor (Rao et al 2001); it requires 2.5 kg of fuelwood to produce 1 kg of dried capsules (Sharma et al 2009).They are dark brown and have a smoky flavor; the quantity of charred and cracked capsules is high, due to the loss of volatile oil.

b**)** **Improved bhatti**-The Indian Cardamom Research Institute developed an improved bhatti, an indirect heating system that uses heated air and a flue gas pipe arrangement to dry the capsules. The capacity of this bhatti varies from 200 kg to 400 kg of fresh capsules. Drying time is reported as 17–24 hours, and it gives excellent product quality with maroon color and volatile oil content of 2– 2.4%. One such unit costs about Rs 6120/- They were also introduced in the state of Sikkim by the Spices Board of India.

c) **Gasifier based system**-Gasification is a thermochemical conversion process that converts organic matter into high-value fuel gas. The Tata Energy Research Institute developed and introduced a gasifier-based curing system consisting of an updraft-type biomass gasifier connected to a traditional bhatti. Instead of direct burning of fuelwood, it burns producer gas from the gasifier, functioning as a kind of smoke-free kiln. The institute found the quality of these dried capsules to be better than that of capsules dried in traditional bhatti (TERI 2012). The gasifier system has several advantages over traditional bhatti, including better conversion efficiency (above 70%), controlled combustion, production of clean flue gases, a better controlled flame, and fuelwood savings of up to 65% (Rao et al 2001). It also produces dried capsules that have a more attractive color and greater volatile oil content. Nevertheless, presently no such curing system is being used by farmers in Sikkim. The cost of this curing system is about Rs 15000/-

d) **Mechanical trolley system**-The Indian Council of Agricultural Research has developed another indirect-heating curing system, which can be operated by diesel or electricity. This curing system consists of a blower, a heating unit, and a multitray curing chamber similar to a mechanical cabinet tray dryer. This system works effectively and produces high quality capsules. Its capacity is 600 kg, and curing time is 12 hour. The cost of a diesel-fired system is about US$ 1317

The cost of a diesel-fired system is about US$ 1317, and that of the electric system varies from about 121,000 to Rs 182,000/- However, because of the difficulty of transporting it in the hilly terrain and its high initial cost, farmers of Sikkim are not using this.

3. **Calyx cutting**- Large cardamom is rubbed against a wire mesh just after curing for partially detaching of the capsules. It is done manually, no machines for removing capsule tails has been devised.
4. **Packaging and storage**- Polythene lined Jute bags are used for a packaging purpose. There is a considerable reduce in moisture and volatile oil exchange under normal storage conditions.
5. **Grading and quality standards**- Grading is generally done on the basis of capsule size and the difference in capsule size and the difference in capsule size may be due to cultivar difference or pre-harvest conditions. Quality grading is only done by local dealers and wholesalers.

Table 9.3: Quality Standards for Cardamom

Quality Parameters	**Requirements**
Odor and taste	Free from foreign odor and taste, including rancidity
Insects, molds and other infestations	Not more than 10% on visual observation
Extraneous matter	Not more than 5% (by weight)
Empty and malformed capsules	Not more than 5% (by count)
Immature and shrivelled capsules	Not more than7% (by weight)
Light seeds	Not more than 5% (by weight)
Moisture	Not more than 12% (by weight)
Volatile oil	Not less than 1% (ml/100g) on dry basis.

The next section discusses how Organic produce of Sikkim can have market access to international markets.

9.9 How competent is Sikkim's Cardamom in International Market?

Appreciating the fact that Sikkim is one of the leading players in Cardamom production and due to rising demands in the African countries, there is a need to evaluate the status of its exports in the total imports of the major importing countries and India accounts for 45 percent and 21 percent of total production, respectively.

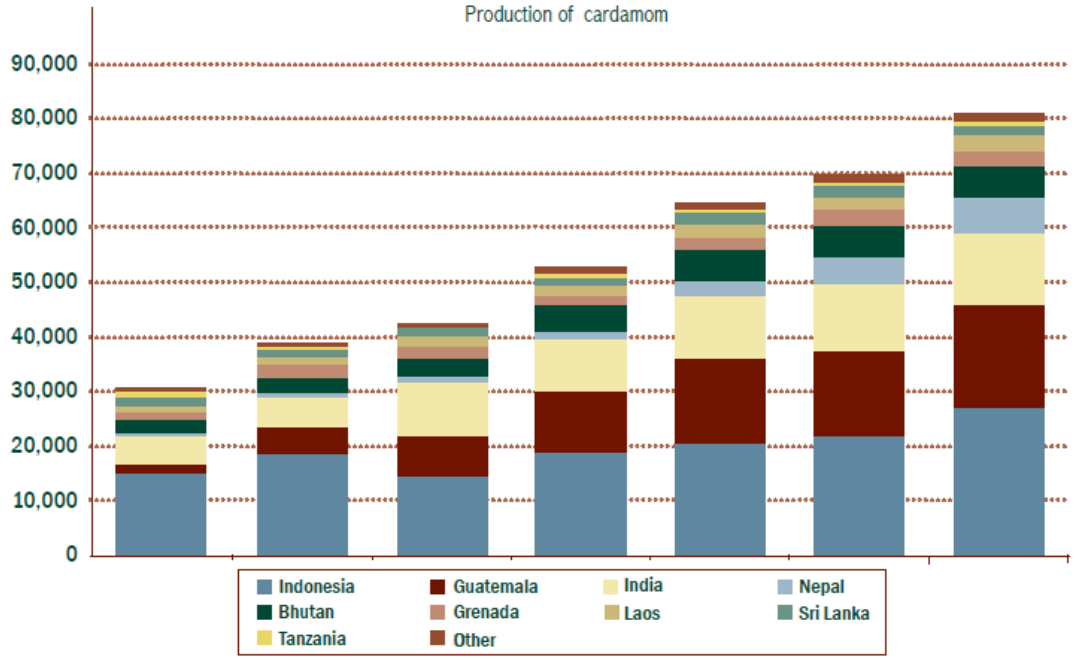
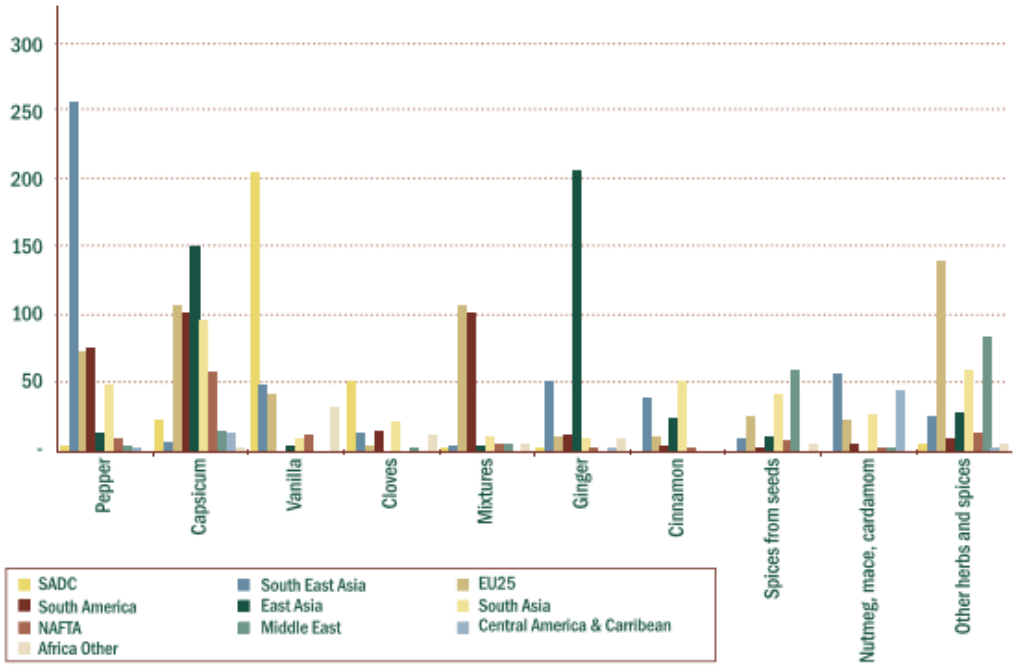


Fig. 19: Global Production of L Cardamom

Guatemala is giving Sikkim's Cardamom a big threat!!

Main importers	Strict competition to Sikkim in these growing markets
Saudi Arabia	Guatemala (62.7%), Singapore (0.3%), India (36.5%)
UAE	Guatemala (83.3%), Singapore (1%), India (15.2%)
Bangladesh	Guatemala (71%), Singapore (26%), India (3%)
Kuwait	Guatemala (71.1%), USA (10.1%), India (17.5%)

Fig. 20 Competitors in International Market for Sikkim Cardamom (Major Exporters)



Guatemala only produces small cardamom, while India produces both types. Guatemala and India have dominated cardamom production, but since 2003, Indonesia has emerged as an additional key producer emerging as number three producer accounting for 18 percent of total production. With respect to large cardamom production, Indonesia was the top producer accounting for 45 percent of production, with Nepal (23 percent), India (15 percent) and China (14 percent) accounting for most of the remainder in 2015. Guatemala, India, Tanzania, SriLanka, El Salvador, Vietnam, Laos,Cambodia and Papua New Guineaare the major cardamom growingcountries.

Box- 5

Cardamom Production and Exports: Success story of Guatemala

Guatemala is the world's largest producer and exporter of cardamom. It is estimated that this country produced 25,000 million tonnes of cardamom in 2007, which resulted in sales of $140 million. It exports around 80 per cent of its production. Saudi Arabia buys around 90 per cent of the quantity exported and it is the largest consumer, followed by Kuwait. Guatemala's production was around 800 tonnes in the early 1970sand the country's share in global exports was less than 30 per cent. However, by early 1980s the country was able to increase its production by around five times to 4300 tonnes and its share in global exports rose to 60 per cent. Guatemalan cardamom competes with Indian cardamom on price front. Guatemala was able to achieve this through area expansion, yield improvement and reduction in cost of production. The Guatemala cardamom is also more similar to the alleppey-green variety of India. Such advantages have helped Guatemalan exporters to penetrate into the prime markets of Indian cardamom. Now, India has lost its once dominant position in the world market. Recently, Nepal has been the world's largest producer of large cardamom and Guatemala has become the world's largest producer and exporter of cardamom.

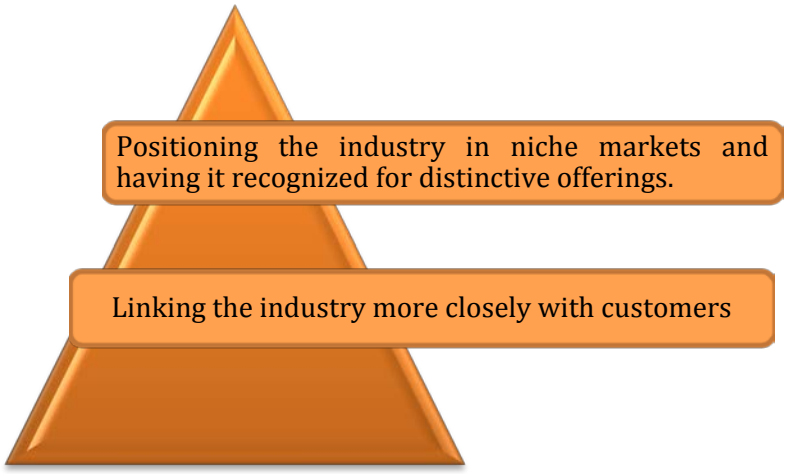
Problem Statement: The competitiveness of Cardamom industry is hindered by marketing and procurement problems. Despite producing 54% of the world's production and Sikkim contributing to 90% of total India's production, Sikkim faces huge competition from Guatemala in most of the major importing countries.

9.10 Challenges in achieving competitiveness: The competitiveness of Sikkim cardamom industry is hindered by marketing and procurement problems where in cardamom were sold to importers and brokers rather than to their true customers—food manufacturers, food service providers, blenders of dry seasoning mixes, and pharmaceutical or cosmetics manufacturers.

In addition, the industry's quality-neutral "commodity trading" approach, which aims to find a market or a source for the greatest possible volume of cardamom, has led to a number of procurement and production problems. **To orient Sikkim's cardamom industry to its customers, all members of the trade—growers, handlers, brokers, processors, and exporters need to understand how customers judge quality and how processing technology can affect purchasing decisions.** To become more competitive, the industry needs timely information about customer requirements and a coordinated approach to selling spices and derivatives that meet those requirements.

Three fold strategy to promote Sikkim Cardamom in global market:

The goal of the strategy described in this report is to create value for local and global customers of Sikkim cardamom and prosperity for industry participants by:



Linking the industry more closely with customers, such as blenders of dry seasoning mixes and food manufacturers, based on an understanding of how the attributes of Sri Lankan spices can fit the taste preferences of the ultimate consumers of spiced foods.

The strategy will be focused through three initiatives:

Market distinctive, natural

This initiative aims to help Sikkim marketers of whole cardamom compete in attractive markets, serving customers that cater to consumers who appreciate the distinctive taste, aroma, or colour of cardamom.

Market Cardamom

This initiative aims to help Sikkim marketers of essential oils, oleoresins, isolates, and nutraceuticals compete in attractive markets serving customers that cater to consumers who appreciate the distinctive taste, aroma, color, or other more flexible uses and product application possibilities of Sikkim cardamom derivatives.

Improve the quality, quantity, and consistency of the

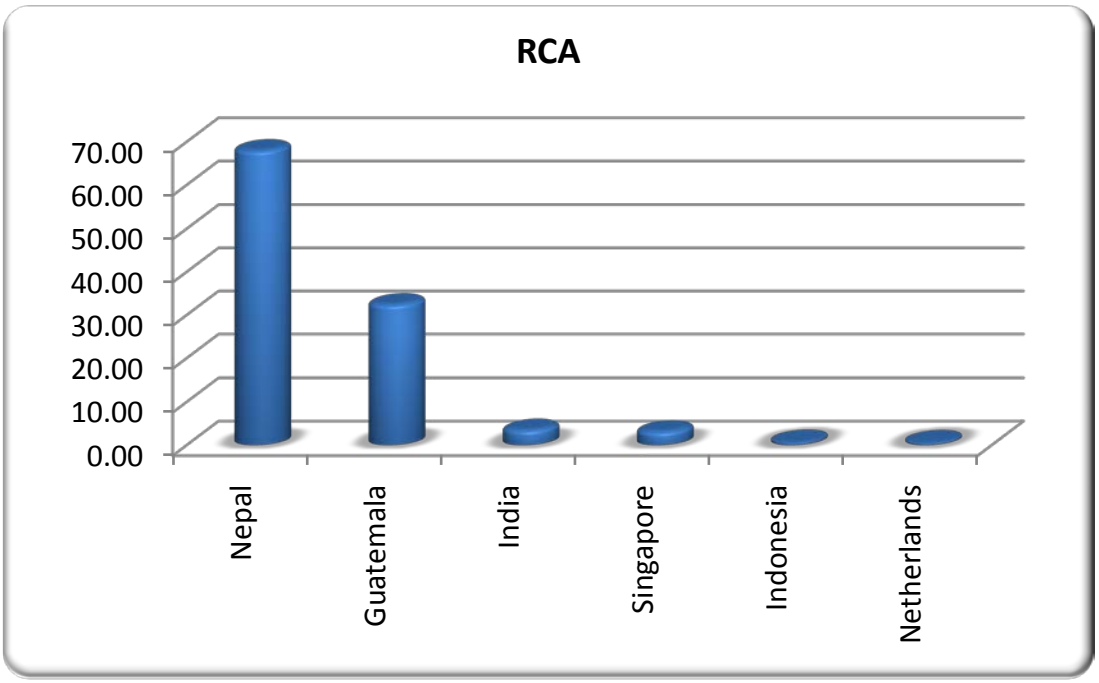
This initiative will seek to strengthen linkages between exporters and processors and organized smallholders, stimulate plantation interest in cardamom, and improve agronomic services to growers: derivatives.

By laying the groundwork for mastering specific market needs, the first two initiatives will make the components of the spice value chain more cohesive. The resulting competitiveness should lead to a larger share of the market and greater profitability.

Recognizing that international markets are currently using whole spices and derivatives, the strategy gives equal weight to both segments in two separate initiatives. Whichever of the two market opportunities should prove more appealing, processors and exporters will need a regular supply of raw materials—in the case of whole cardamom, of ever-higher quality and cleanliness—to expand business. At present, the quality and quantity of cardamom available to exporters and processors is inadequate. Therefore the third strategic initiative seeks to improve cardamom quality and increase volume.

9.11 Strategizing exports of Natural Cardamom

As it is quite visible from the chart below, the comparative advantage of Indian Cardamom is relatively much lesser than the other competing suppliers of cardamom in the world including Nepal and Guatemala. This certainly needs an analysis towards finding out ways and means to survive in the segment of natural cardamom.



Source: Author's calculations based on International Trade data base, 2015

Problems of l2 players: opportunity for Sikkim

Although the RCA values of Indian/Sikkim cardamom is lesser as compared to Nepal and Guatemala; however; there are issues pertaining to production of cardamom in each of these countries; giving opportunity to Sikkim players.

- No chemicals or irrigation are used in cardamom cultivation, and improved planting material does not exist in Tanzania.
- There are no producer associations and no quality control mechanisms .Though cardamom has been a forest crop in SriLanka, as it affected the forest structure and soil properties, its cultivation is either banned or restricted in high conservation value forests such as Knuckles Forest. Kandy district of SriLanka is the major cardamom tract in Sri Lanka.
- Another worrying concern common to all of the major cardamom cultivating countries is the degradation of the conserved forest lands and cardamom ecosystems. Of late, large cardamom productivity in Nepal is reportedly decreasing rapidly due to the various climate induced factors.

9.12 Inefficient Supply Chain management

The existing SCM of cardamom in Sikkim is facing following issues:

Level	Main issues affecting this level
Farmer	After harvest, drying down to 30%. Volumes are grouped by farmers, sold alongside the road
Buyers at the farm gate	Buys in the village/collects alongside the road. Stores in low conditions, sells when price is to his liking. Quality loss during transport and storage.
Buyer/seller in the mandi	Buys per bag, material is unloaded and uploaded. Quality loss during transport to the city.
Processing	Rejection, material loss, grading and sorting by dedicated grinders who know clients requirements
Buyer/seller of the ground blend	This person buys the blend, packs it and sells
Exporters	Finally it reaches exporters

9.13 Price Fluctuation

Though cardamom is a major Forex earner for India, it is not a free traded commodity in the country. As per the cardamom (Licensing & Marketing) Rules, 1987, all the producers of cardamom should sell their produce only through a licensed auctioneer/dealer and the auction system came into existence since then. Spices Board, a major commodity board under the Ministry of Commerce of the country controls and regulates cardamom auction in India. During the last few years,

Indian cardamom price fluctuated between Rs.700-1500 in the domestic market. The average price for Tanzanian cardamom was US$2.9 (US$ 1=TZS 876.4, November 2001) per kg, varying from US$ 2.3/kg (with poor access to markets)

1. **Poor Product Quality**: Poor product quality at farm level is another problem hindering reasonable price realization by the producer. Insufficient infra-structure facilities for cleaning, scientific methods of processing, storage and packing.
2. Insufficiency of Legal Provisions Our present legal provisions relating to many elements that constitute SPS measures are insufficient. India does not have a National Standard covering all the requirements of the agreement under SPS measures.
3. The regulations under AGMARK are only optional and not mandatory and are not even comprehensive. Similarly, the provisions existing under the PFA are also not comprehensive and provide loopholes for import of cheap spices from other countries of origin. Under both the legislations, there is absolutely no reference to pesticide residues. Out of the 164 molecules registered in the country, 26 are produced under 'deemed registration regime' and the situation has continued over years. This system of registration would certainly have an adverse impact on the spices export from the country in the long run. The major non-tariff trade barrier that seriously affects Indian export of spices is the presence of pesticide residues, expressed as Maximum Residue Limits (MRLs). USFDA has prescribed MRLs for several spices.

9.14 Rejection of Export Materials

Farmers of cardamom are heavily dependent on chemicals for pest and disease control and fertilizers. Indiscriminate use of chemicals results in pesticide residues beyond tolerable limits, leading to rejection of many consignments of cardamom from India. Trade restrictions on contaminated food or feeds have the greatest effect on countries like India, which currently have limited, or no available means of monitoring aflatoxin levels. The toxins are particularly carcinogenic in humans and eating contaminated food often results in liver cancer, amongst other diseases. Aflatoxins also act an immune-suppressant so that affected individuals become susceptible to a wide range of diseases. Besides endangering human health, aflatoxin contamination seriously affects the export potential of high-value commodity crops, which could provide an important source of income for farmers.

7. Agricultural Extension is not Market-oriented: Extension is not focused on the needs of the market, especially the export market. The available market information service is limited to a few areas and to a few sections and often fails to recognize indigenous methods and factors to get a competitive edge in export of cardamom.

9.15 Action points for Sikkim:

Enhancing Value Chain efficiency for Cardamom in Sikkim: case of Guatemala

Figure below show the value chain for spice production and distribution in Guatemala

The process starts with the growers, who are divided into three groups:

i. Small growers
ii. Larger growers (commercial farms and plantations)
iii. Wild collectors (only applicable to cardamom still found in the wild or in common lands in certain countries and regions)

Small growers or wild collectors sell directly to the local traders or cooperatives, which distribute to processing organisations. Local traders as middlemen sell the product to the processors.

Production begins with washing, threshing and sifting of plants, followed by drying process, then cleaning/storing and grading. The next very important step in the process includes quality assurance testing. This process is critical because of the market access barriers that developed nations impose based on those countries phytosanitary and sanitary requirements, including restrictions on the levels of certain chemicals or their residues (such as aflatoxin) and or other substance. In addition, the methods used for cutting or grinding of the product, including formulating mixtures and combinations, as well as sterilisation and packaging, have a major impact on the exporting process. Export potential is undermined if these steps are not performed in compliance with international standards.

Further, it is important to evaluate how production fits into the distribution process. Often cardamom imported by developed nations from developing nations is re-exported after significant value has been added in the form of packaging and blending.

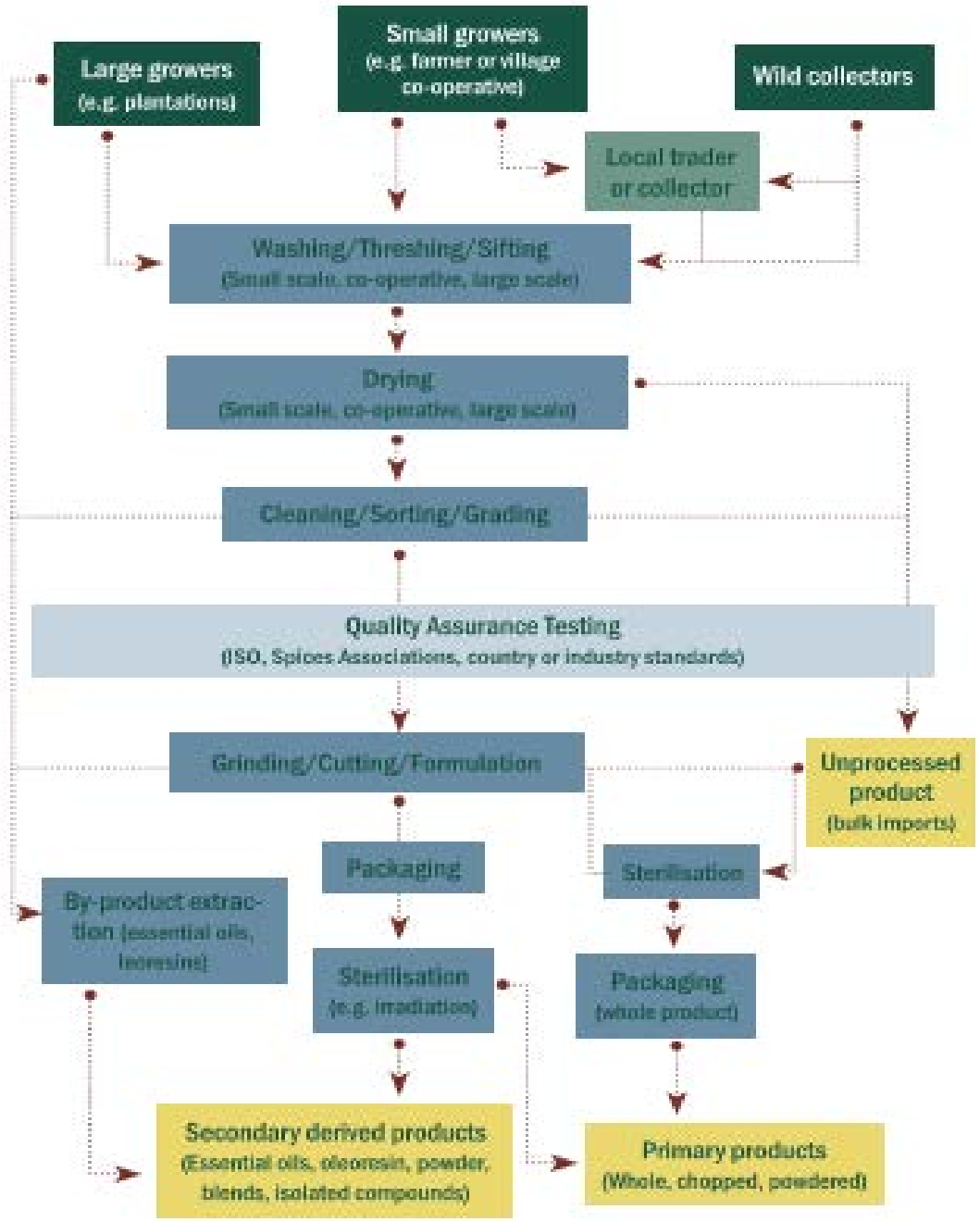


Fig. 21: Value Chain for Cardamom Production

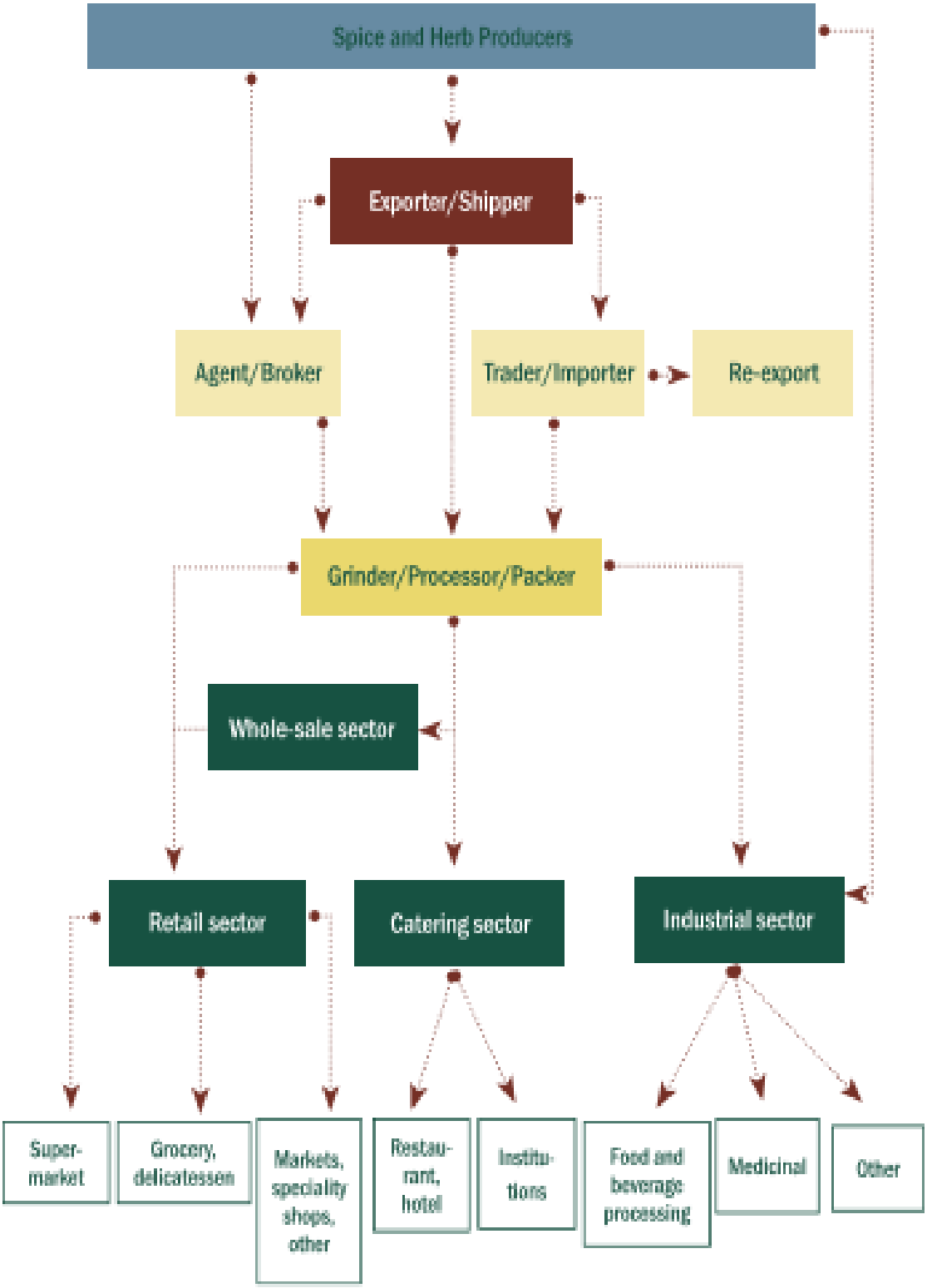


Fig. 22: Value chain for Cardamom distribution

Box - 6

Efficient Management of Cardamom Supply Chain: case of Srilanka

In Sri Lanka, cardamom is produced in the Kandy, Matale, Kegalla, Nuwara Eliya, and Ratnapura. Yields can vary greatly, from between 45 and 250 kilograms per hectare depending on soil, cultural practices, and the age of the plants. Where rainfall is well distributed, the plant can be harvested year round every four to six weeks. Where rainfall is bimodal (the big rains, maha, and the small rains, yala) the harvest season is from September to March.

After harvesting, on-farm processing is performed. This consists of the labor-intensive removal of both stems and any remaining flower parts, plus the removal of any insect damaged fruits, as well as any extraneous debris, although this tends to be done more on the larger plantations rather than on smallholder farms. (This can be done before or after drying.) The crop is then dried, sometimes in the sun, which produces an inferior "bleached" product, but mostly in hot air chambers of various levels of sophistication.

The degree of heat applied, usually through the use of firewood, and the duration of the drying period can vary from 18 to 40 hours. Larger farmers with their own drying facilities often dry the harvests of smaller growers for a fee or a portion of the crop. By law, cardamom may be transported only by those who own registered cardamom land so there are no itinerant petty traders, as with other spice crops. Much of the yearly cardamom crop enters the market chain through in-town traders who then resell to larger traders and exporters. A portion of the crops is sold at auction. Auction sales, however, are taxed, so this mechanism is often avoided, especially by the smaller growers.

9.16 Opportunities within the value chain for high- value products

It is clear from the value chain diagram, that a processor has three broad options for selling the final product: retail, catering and the industrial sector. Catering and industrial sector involve products sold at higher wholesale volumes and corresponding lower values, with lower mark ups but also lower expenditure and a reduced emphasis on marketing, packaging, advertising and branding. The retail sector spends more on marketing and packaging. These products are likely to continue earning high revenues, as their consumption shows no sign of declining and they are less associated with lower income groups consumption patterns than the traditional agricultural crops. On the other hand, many of the constraints that plague the small farmers and the processors of traditional agricultural commodities in many developing countries also concern farmers of cardamom, such as difficulty in accessing finance, frequently due to lack of collateral/assets or poorly functioning financial markets. They also experience inadequate infrastructure, poor or nonexistent roads/rails to transport the product to ports and inadequate port facilities for timeous export of their product.

Despite these challenges, there are number of reasons why cardamoms are well suited to international trade by developing countries. Cardamom are less sensitive to

storage conditions that most other agricultural commodities, have lower weight to value ratios (with reduced water levels) and can be stored for relatively long periods without a loss in freshness, quality or value. In addition, growing and drying cardamom can be carried out profitably by relatively small farms without capital intensive and high technology equipment. However, whether small farmers can compete in the global value chain depends on whether they can meet international quality standards consistently. Below are the comparisons of quality standards of cardamom found in India versus other competing countries.

Profile of Volatile oil of Cardamoms

Constituent (Area %)	Indian Cardamom	Guatemalan Cardamom	Srilankan Cardamom
Pinene	1.95	1.43	1.93
Sabinene + myrcene	7.11	5.62	7.00
Limonene	3.60	3.67	3.63
,8 cineole	32.55	27.89	31.39
α-terpinene	2.31	2.32	1.90
Linalyl acetate	0.79	1.81	3.31
Geraniol	2.00	2.94	2.10
α-terpinyl acetate	41.20	37.93	34.92

Market Cardamom derivatives

This initiative will help Sikkim marketers of essential oils, oleoresins, isolates, and nutraceuticals compete in attractive markets serving customers that cater to consumers who appreciate the distinctive taste, aroma, colour, or other more flexible uses and product application possibilities of Sikkim cardamom derivatives.

9.17 Value Added products of Large Cardamom:

- This exotic spice contains many plants derived chemical compounds that are known to have been anti-oxidant, disease preventing and health promoting properties.
- The spicy pods contain many essential volatile oils that include pinene, sabinene, myrcene, phellandrene, limonene, 1, 8-cineole, terpinene, p-cymene, terpinolene, linalool, linalyl acetate, terpinen-4-oil, a-terpineol, a-terpineol acetate, citronellol, nerol, geraniol, methyl eugenol, and trans-nerolidol.
- The therapeutic properties of cardamom-oil have been found to have application in many traditional medicines as antiseptic, antispasmodic, carminative, digestive, diuretic, expectorant, stimulant, stomachic and tonic.
- Cardamom is a good source of minerals like potassium, calcium, and

magnesium. 100 g pods conatin 1119 mg of this electrolyte. Potassium is an important component of cell and body fluids that helps control heart rate and blood pressure. Copper is required in the production of red blood cells.

- Additionally, it is also an excellent source of iron and manganese. 100 g pods contain 13.97 mg or 175% of daily-required levels of iron. Iron is required for red blood cell formation and cellular metabolism. Manganese is a co-factor for the enzyme, superoxide dismutase, a very powerful free-radical scavenger.
- Further, these aromatic pods are rich in many vital vitamins, including riboflavin, niacin, vitamin-C that is essential for optimum health.
- The list of value added products of large cardamom are given in annexure 2.

Improve the quality, quantity, and consistency of the cardamom supply

This initiative will seek to strengthen linkages between exporters and processors and organized smallholders, stimulate plantation interest in cardamom, and improve agronomic services to growers; derivatives.

Problem Statement: To increase the quality, quantity, and consistency of Sri Lanka's spice supply, numerous obstacles must be addressed, including obstacles related to:

- **Cash liquidity at the farmer level,**
- **Quality-based price differentials and incentives,**
- **Capital and economies of scale,**
- **Emphasis on distinctiveness of products in procurement,**
- **Farmer organization,**
- **Government resources and coordination,**
- **Rural credit and technical assistance for production,**
- **Quality-based pricing,**
- **Plantation usage**

Cash Liquidity at the Farmer Level

Small farmers sell their spice crops to petty, itinerant traders because the traders give farmers in-kind or cash advances. The farmers often need cash immediately for farming and other purposes. This arrangement obliges small farmers to sell low and be left out of price differentials based on quality. In addition, the fear of on- farm theft of the crop, and consequent loss of income, causes farmers to harvest early when 12 the crop is not fully ripened and maximum yields and quality are not achieved.

Quality-based Price Differentials and Incentives

Quality-based price incentives are too small to change farmers' production or post-harvest practices. The overpopulation and cash motivations in the value chain feed this problem. The chain is so long and isolating those exporters are painfully aware that their price differentials do not reach the farmer because each intermediary takes a piece. And the small farmer is almost always obligated to sell to itinerant traders who rarely pass on quality- based price incentives.

Capital or Economies of Scale

Domestic profit in the spice trade depends on a trader's or buyer's ability to buy when prices are low, process and grade the commodity according to price differentials, store it until prices rise, and then sell it, thereby taking advantage of price differentials and price volatility and maximizing income. Very few small farmers have the financial ability or expertise to engage in this type of activity. Furthermore, when prices fall growers do not have the financing or market information to engage in trading activities that generate a risk premium for competent intermediaries.

9.18 Solution suggested for Sikkim Cardamom Exporters: Strategic Alliances between Producers and Large-scale Buyers and Exporters

One pioneering company's strategic alliance approach which is adopted by a processing company of Sri lanka, which it uses for organic spices. By using specific criteria, the company selects farmers and organizes them into informal groups of approximately ten, each coordinated by a lead farmer. Members agree to produce their spices without chemicals, to follow the technical recommendations of the company's extension agents, and to sell their crop to the company. The role of these extension agents is critical and intense. On average, each farmer is visited twice per month during which time technical questions are answered and the progress of the crop is monitored. In stark contrast to the DEA with ratios of extension agents to farmers of 1:1,000-2,000, the company's ratio is approximately 1:40. This ratio provides farmers with rapid solutions and quality control oversight, while building mutual trust and confidence.

Members may deliver spices to the lead farmer, who either pays immediately or shortly afterwards, using an advance provided by the company. The lead farmer then dries and roughly grades the crop under relatively sanitary conditions based on economies of scale resulting from volumes that a group of farmers provides. The lead farmer also has rudimentary but adequate short-term storage capacity for keeping spices until they are picked up by company trucks. The price paid varies according to the spice and averages between 10 and 20 percent above the prevailing local market price. The price is also established in advance so that the farmer need not be concerned with violent price swings. This price differential, however, is only

one economic benefit. The company also provides organically produced compost (based on chicken manure) and transportation of the crop from the lead farmer's storage facility to the company's central facility, both of which reduce the members' costs of production. The company provides an additional incentive by holding annual competitions between members based on productivity and quality. It also uses a "farm diary" system to improve the dissemination of technical information and monitor farmer practices. The farmer keeps a daily record of his cultural practices, related costs, the amounts delivered to the lead farmer, and the price paid. Over time, the diary gives the farmer precise, transparent knowledge of his operations and the income from the various spices produced.

9.19 Solution suggested for Sikkim Cardamom Exporters: Rural Credit and Technical Assistance for Production

Sikkim government can take the initiative to create number of organizations to provide financial and business services to farmers which can focus on the growing of Cardamom by smallholders and also some of their organizational practices and techniques could be applied to coordinating the efforts of many small groups.

Reference Points: Success stories from Srilanka

Two such organizations are rural credit unions—the Federation of Thrift and Credit Co-operative Societies Limited (SANASA), and Sarvodaya, especially its affiliate Sarvodaya Economic Enterprise Development Services (Guarantee) Ltd (SEEDS).

Box -9

How will following model of SANASA's coordination of smallholders as in Srilanka contribute to competitiveness of Sikkim's Cardamom Exports?

SANASA represents the credit union movement in Sri Lanka. Founded in 1906, it now has about 8,400 primary societies and 39 secondary unions, covering more than 16 percent of the country's population, and with a loan portfolio of $35 million, mostly financed by member savings. Furthermore, loans for agricultural purposes in 2000 amounted to 12 percent of all loans, down from 23 percent in 1999. Through its Enterprise Development Division, SANASA operates a network of consumer shops that sells items produced by the members of other primary societies in other parts of the island. This initiative was conceived of as a kind of barter trade, putting SANASA in direct contact with farmer members of all types, including spice farmers. Rather than depending on itinerant traders for credit and advance payments, members are encouraged to borrow from their primary societies. In late 2001, while long-term loans up to US$300 attracted an 18 percent yearly interest rate (compared to an average of 22 percent for bank loans), the interest rate for small short-term loans was 1.5 percent per month (compared to the 10 to 20 percent per month charged by traders). Furthermore, each loan requires two co-signers, a practice that has resulted in a delinquency rate of less than 5 percent. This is even more significant when one considers that no loans are ever written off. SANASA does not have its own agricultural extension agents but coordinates and promotes training programs for farmers using experts from the DEA and other government ministries.

It is also interested in assisting its farmer members in marketing products by setting up parallel trading operations. The honorary president of SANASA has said that "member savings could not be used for this since it would put their savings at risk," but the 14 organization is seeking a source of venture capital for this type of activity. Given the organization's island-wide coverage and its interest in assisting the small farmer, the strategic alliance model could be expanded to include SANASA as a source of farmer credit and in the identification of creditworthy farmers. Purchase agreements on the part of processors and exporters might eventually replace the need for co-signers, thereby directly linking the farmer through credit to the formal marketing chain. Furthermore, payments by the processors and exporters could be made directly to each farmer's primary society where loans could be paid off. The farmer would have the option of receiving the excess as a cash payment, or leaving it in the primary society and increasing the savings balance.

Box -10

Sikkim exporters should enter into Quality-based Pricing

Integrating smallholders through a rural credit union and the "nucleus estate" both go a long way to resolving obstacles such as value chain overpopulation and lack of liquidity and, more important, link the farm-gate price to spice quality. When farmers receive quality-based price differentials, price becomes predictable. This, however, will require specific and testable quality measurements based on market demand. With more predictable prices, farmers are more inclined to invest in better techniques and practices and the industry is more capable of offering differentiated products.

The organic market may be a special case based on a market niche, but it still presents a model for high-end differentiated markets and other high-quality markets. Instead of basing the price premium on organically produced spices, larger buyers and exporters could devise creative ways to reward selected farmers for producing the highest quality grades by entering into strategic alliances based on pre-established prices.

9.20 Export Market Identification for Sikkim Cardamom

After having strengthened the supply side of the cardamom production, what comes next in the strategic plan is analysing the best export market for the natural cardamom along with the value added products. Major importers both by value and quantity are Saudi Arabia accounting for more than half of India's exports. UAE is the next biggest importer followed by Pakistan. Other has a smaller share of the exports majorly United Kingdom and Kuwait.

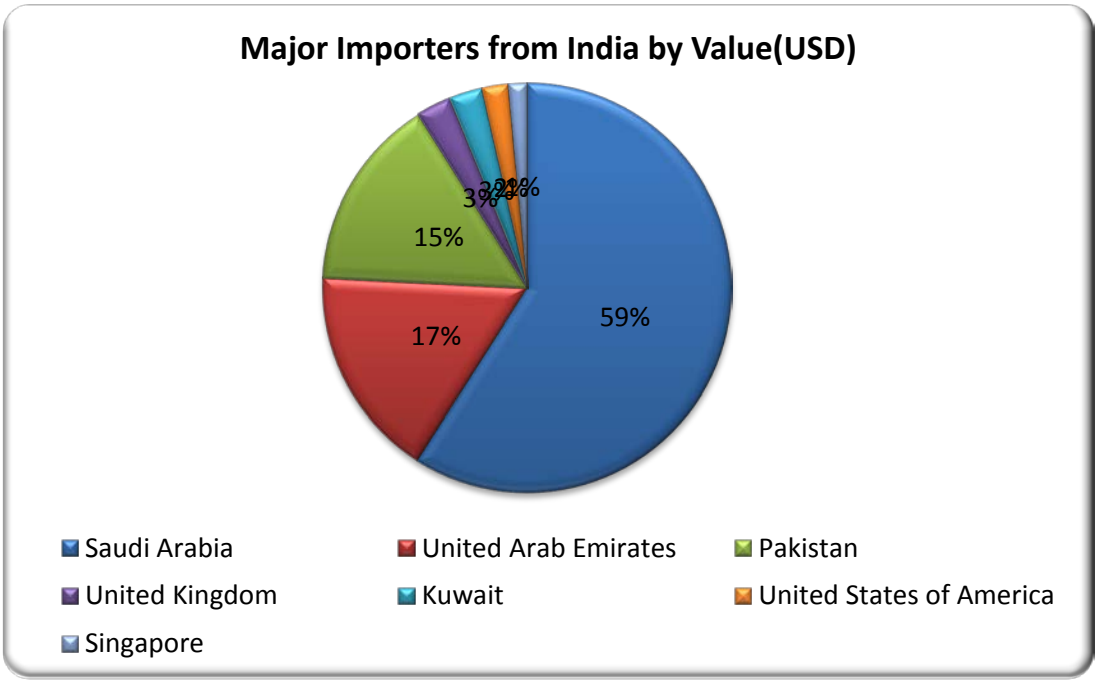
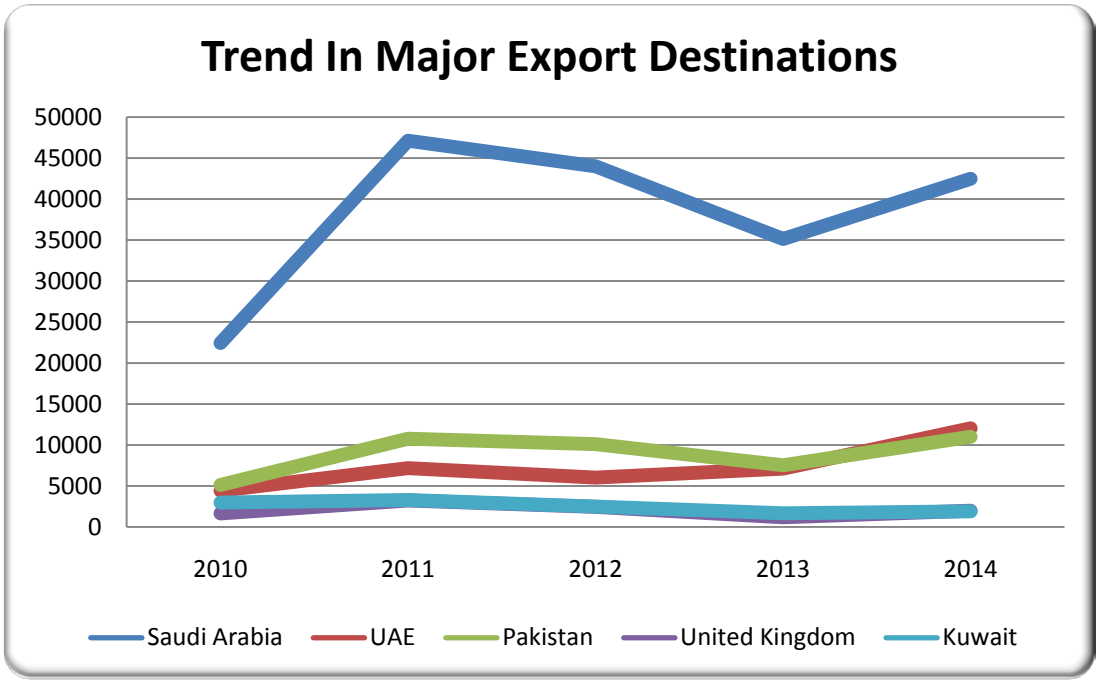


Fig. 23: Major Importers of L Cardamom from India

Saudi Arabia remains as the top exporter for India. Even though there was drop in the imports from 2012 to 2013, the trend has again become positive with the increase in imports from India. The UAE have constantly increased their import from India over the past few years. Pakistan is a good market to increase supply due to logistics ease because of geographical proximity to India. Kuwait has been a constant importer worth not much difference in the importing value.



Source: International Trade database, 2015

Fig. 24: Trends in Major export destination

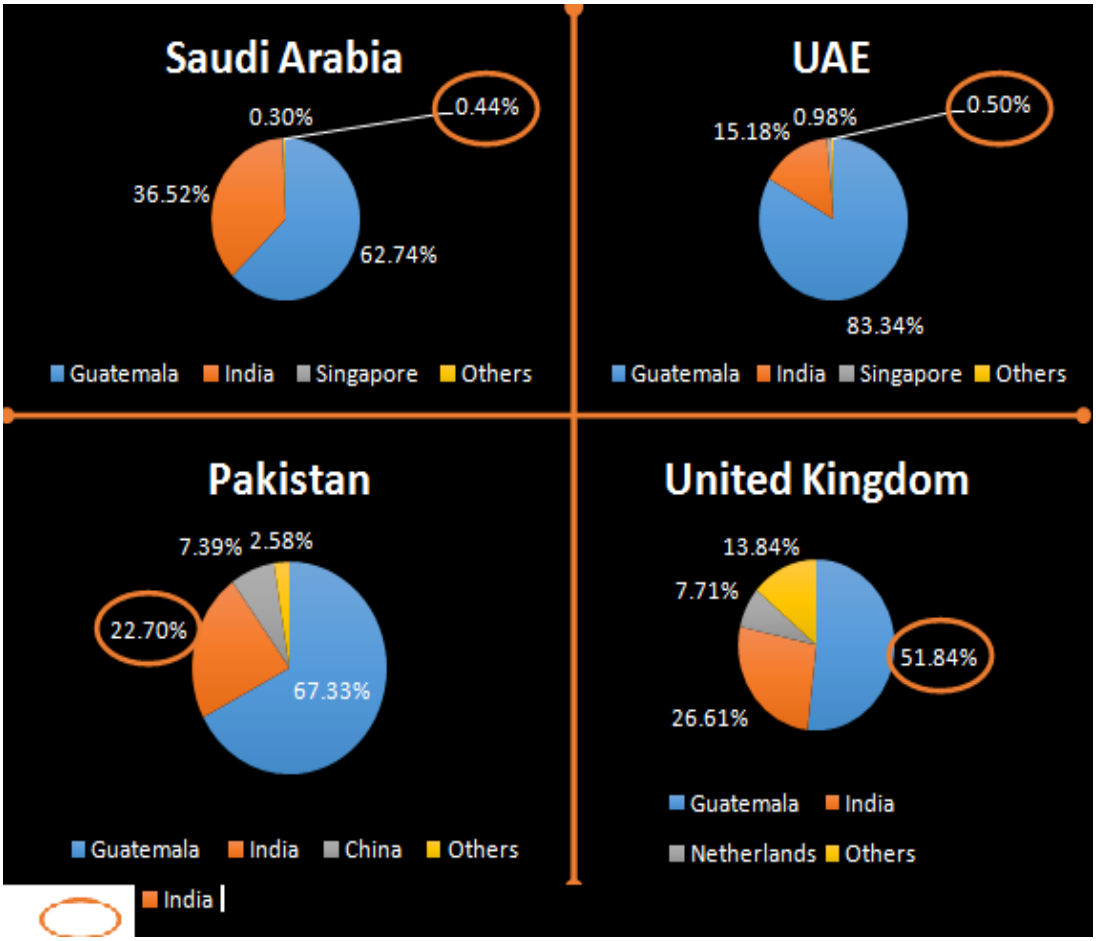
Sikkim Cardamom exporters should choose export market with minimum fluctuation

Ranking	2010	2011	2012	2014
1	Saudi Arabia	Saudi Arabia	Saudi Arabia	Saudi Arabia
2	Pakistan	Pakistan	Pakistan	UAE
3	UAE	UAE	UAE	Pakistan
4	Kuwait	Kuwait	UK	UK
5	USA	UK	Kuwait	Kuwait

This shows that UAE which was the 3rd largest importer has risen above Pakistan to become the 2nd largest importer. USA has been in the top 5 markets in 2010 and 2012. However major of their imports is from Guatemala due to proximity. United Kingdom has also increased the level of imports from India.

As per the above details, the best market for Sikkim Cardamom appears to be Middle Eastern market including Saudi Arabia, UAE and Kuwait. However, in most of the Middle Eastern markets, Sikkim cardamom will face stiff competition from Guatemala and Singapore.

Pakistan and United Kingdom seems to be major markets for Sikkim Cardamom



Source: Author's calculation based on ITC trade database, 2015

9.21 Possibility of acceptance of Sikkim's Cardamom in importing countries Sikkim Cardamom exporters should look forward to buyers in developing markets more than developed

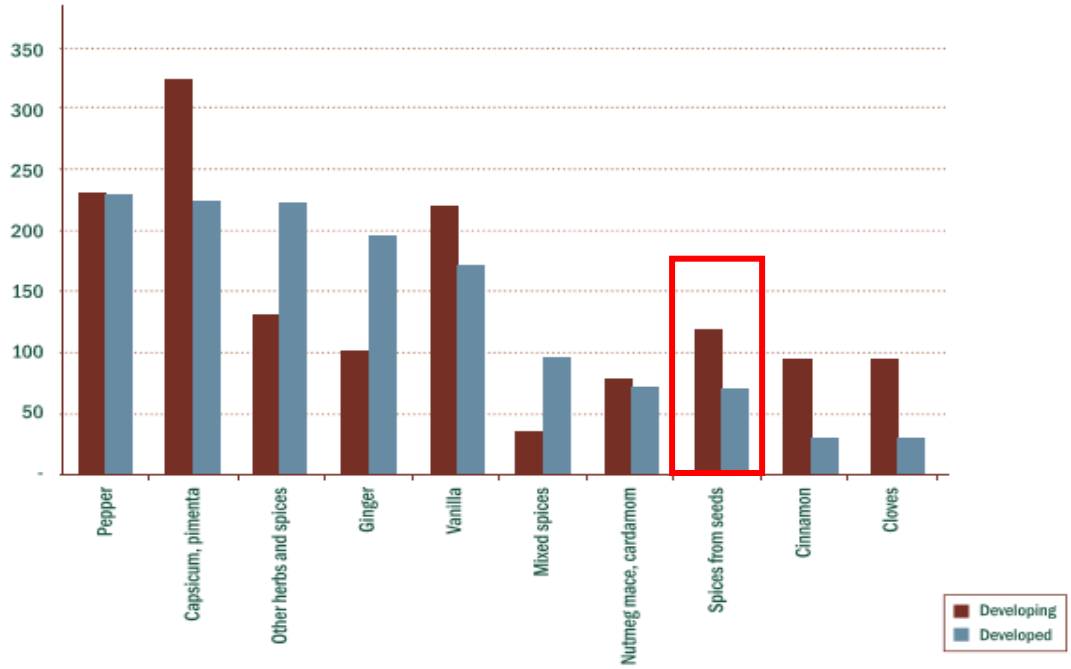
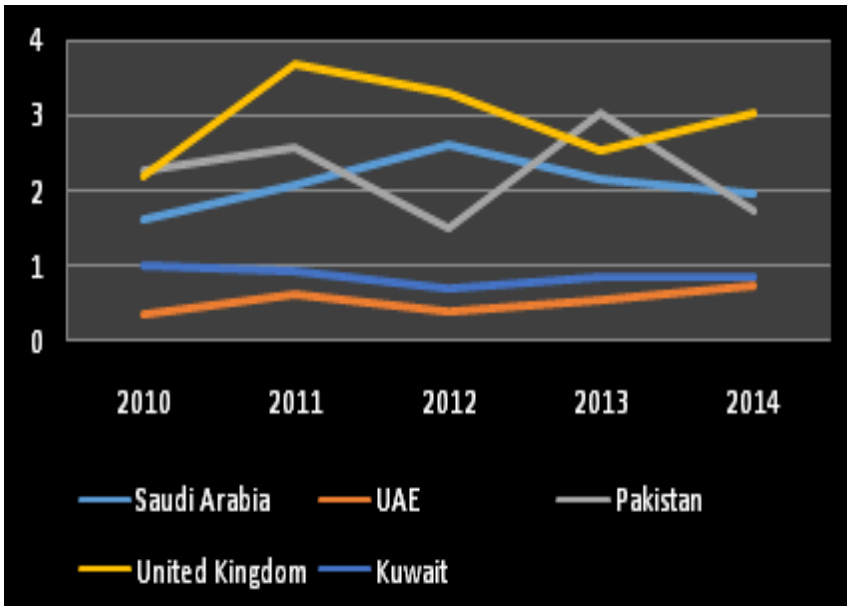


Fig. 25: Developing markets for Cardamom

In order to work out the level of acceptability of Sikkim's Cardamom in the major importing markets, the Trade Intensity Indexes between India and these importing countries versus these competing suppliers has been calculated. The TII gives the strength of India's large cardamom exports to the major markets vis-à-vis the world imports to the major import destinations. It is seen that Guatemala has a higher TII than India in all the markets showing the strength of the exports of Guatemala. Also it is seen that India has a TII less than 1 in UAE and Kuwait markets. This means that the strength of the competitors more than that of India. India has a strong TII in United Kingdom which again is dominated by the Guatemala cardamoms.

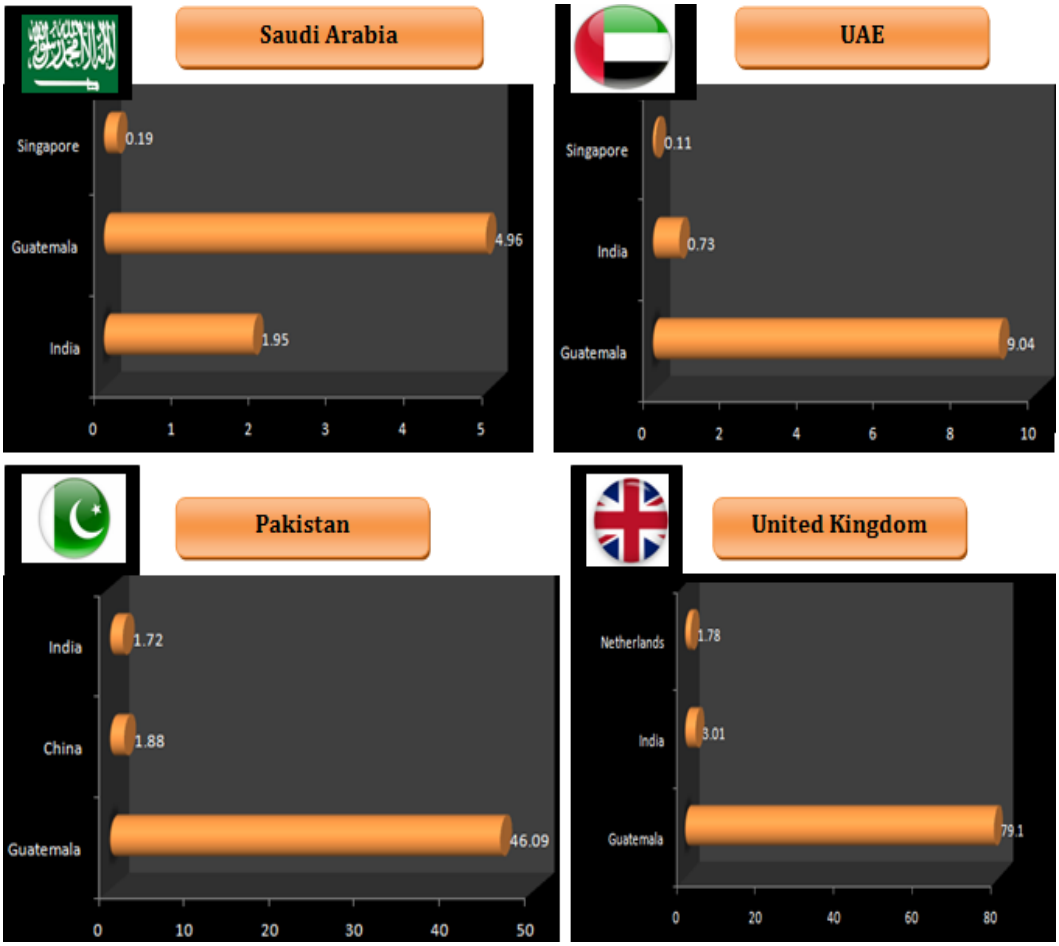
Fig. 26: Trade intensity Index



Trend in TII values for India in major export markets

Acceptance of Sikkim's Cardamom is more possible in UAE, UK and Kuwait markets.

An analysis of the TII of India in the export markets in the previous 5 years.



The above values of Trade Intensity Index indicates that although India does not fare well against Guatemala in any of the importing markets, however relatively Sikkim exporters can target UK and Saudi Arabian market.

In such a scenario, Sikkim exporters can compete at National Tariff line level

While the competing players from India and others present internationally; would supply cardamom at the 6 digit level of HS code; however; if the exporters from Sikkim target the exports at NTL of each of the importing countries. NTL is the exact form in which the commodity is likely to be accepted in the foreign market. **Below are the descriptions of how Sikkim exporters should customise their cardamom exports.** Sikkim exporters advised to customise their Cardamom in respective importing countries

Acceptance of Cardamom in United Kingdom

Code	Label
09083000	CARDAMOMS
09083100	Cardamoms, neither crushed nor ground
09083200	Cardamoms, crushed or ground
09109991	SPICES, NEITHER CRUSHED NOR GROUND (EXCL. PEPPER OF THE GENUS PIPER, FRUIT OF THE GENUS CAPSICUM OR OF THE GENUS PIMENTA, VANILLA, CINNAMON, CINNAMONTREE FLOWERS, CLOVES "WHOLEFRUIT", CLOVE STEMS, NUTMEG, MACE, CARDAMOMS, SEEDS OF ANISE,
09109999	SPICES, CRUSHED OR GROUND (EXCL. PEPPER OF THE GENUS PIPER, FRUIT OF THE GENUS CAPSICUM OR OF THE GENUS PIMENTA, VANILLA, CINNAMON, CINNAMONTREE FLOWERS, CLOVE "WHOLEFRUIT", CLOVE STEMS, NUTMEG, MACE, CARDAMOMS, SEEDS OF ANISE, BADIAN, F

Saudi Arabia

Code	Label
09083000	Nutmeg, mace and cardamoms.: Cardamoms
09081000	Nutmeg, mace and cardamoms.: Nutmeg
09083100	Cardamoms
09083200	Cardamoms

Pakistan

Code	Label
09083200	Nutmeg, mace and cardamoms. cardamoms : crushed or ground
09083110	Nutmeg, mace and cardamoms. cardamoms : neither crushed nor ground: large
09083120	Nutmeg, mace and cardamoms. cardamoms : neither crushed nor ground: small
09081000	Nutmeg, mace and cardamoms: Nutmeg
09081200	Nutmeg, mace and cardamoms. nutmeg : crushed or ground

Code	Label
09082000	Nutmeg, mace and cardamoms: Mace
09082200	Nutmeg, mace and cardamoms. mace : crushed or ground
09083010	Large cardamoms
09081100	Nutmeg, mace and cardamoms. nutmeg : neither crushed nor ground
09082100	Nutmeg, mace and cardamoms. mace : neither crushed nor ground
09109900	Spices (excl. pepper of the genus Piper, fruit of the genus Capsicum or of the genus Pimenta, vanilla, cinnamon, cinnamontree flowers, clove "wholefruit", clove stems, nutmeg, mace, cardamoms, seeds of anise, badian, fennel, coriander, cumin and caraway, and juniper berries, ginger, saffron, turmeric "curcuma", thyme, bay leaves, curry and mixtures of various types of spices)

9.22 Targeting on Health and wellness benefits

Sikkim exporters should exploit medicinal properties of Cardamom to look out for right export market.

Cardamom has huge health benefits which if mapped with the diseases prevalent in the countries can help these exporters find a new import destination beyond Saudi Arabia, Pakistan and Middle East.

Cardamom has been used in Ayurveda since time immemorial because of its medicinal properties. It acts as carminative, stomachic, diuretic, an effective cardiac stimulant and is a remedy for throat and respiratory troubles. Below are the target markets as per the medicinal properties of the cardamom.

Table 9.4- Medicinal Property and L Cardamom market

Medicinal Property	Health	Target countries
Stimulates intestinal and gastric glands	Gastrointestinal Health	South Korea, Mongolia, Japan, China, Tajikistan
Maintain Cardiac rhythm	Cardiovascular Health	Russia Romania, Bulgaria, Hungary, Argentina
Warm respiratory track	Respiratory health	North Korea, Nepal, Bhutan, Bangladesh
Gum and teeth protection	Dental Health	Tanzania, Denmark, African countries
Positive effect on urinary system	Urinary Health	China, Mexico, New Zealand, United Kingdom

9.23 Sikkim exporters can encash import duty relaxations in importing markets

The above mentioned newer markets identified having health issues are all the more approachable by the use of Regional Trade Agreements and Foreign Trade Policy 2015-2020. Out of the markets identified where Sikkim Cardamom may be exported as in the table above, exporters may take the advantage of duty reduction in many countries where RTAs have been signed

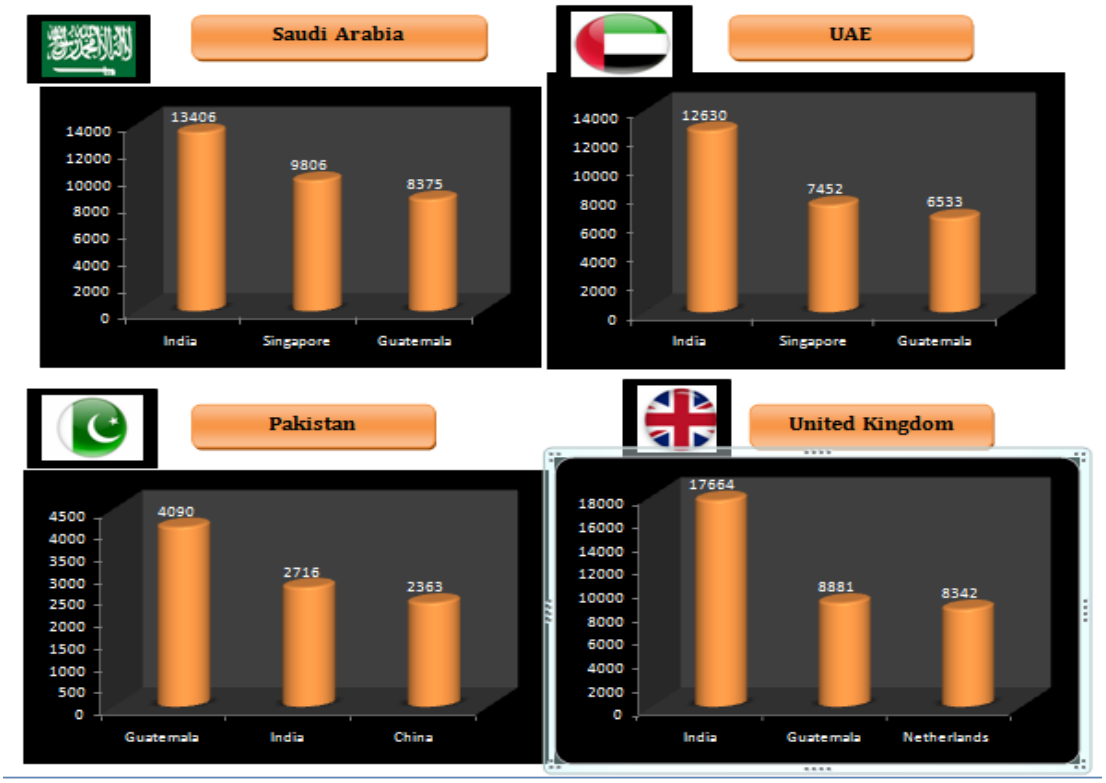
Table 9.5- FTA and RTA benefit

Target market for Sikkim	Benefit for Sikkim exporters of Cardamom	
	FTP benefit	RTA benefit
South Korea	•	•
Mongolia	•	
Japan	•	•
China	•	•
Tajikistan	•	
Russia	•	
Romania	•	
Bulgaria		
Hungary		
Argentina	•	
Nepal	•	•
Bhutan	•	•
Bangladesh	•	•
Denmark	•	
African countries	•	•
Mexico	•	
New Zealand	•	
United Kingdom	•	

Source: Author's calculations based on FTP 2015-20, Ministry of Commerce, Government of India

9.27 At what price should Sikkim export its Cardamom?

Fig. 27: CIF Price



As can be seen in the comparison of CIF prices for Cardamom, in most of the markets where import demands are high the final landing prices for Indian Cardamom is higher than the other competing suppliers except for Pakistan where India also have added advantage as compared to other players against the SAPTA agreement. Sikkim exporters should plan to fix up the price lower than the prices of the listed competing countries in order to succeed and gain better market share in these importing countries.

9.24 Finally giving Sikkim exporters a platform to market their products

Trade fairs helps in deciding expanding exporters matters like, market potential, the type of value added product required, entry barriers, alternative entry methods and trading partners. For a continuing exporter these fairs become a way to interact with his existing customer, deepen relationships and broaching ways to improvise his current strategy.

Sikkim government should encourage its exporters to attend these trade fairs and should provide required assistance to participate in them. Hence, presence in trade fairs becomes important.

List of International Trade Fairs		
S. No	**Name of the Fair**	**Venue**
1	Hannover Messe	Germany
2	Africa's Big Seven	Johannesburg
3	Agro Industrial Exhibition	Bogota, Columbia
4	Expoalimentaria	Lima, Peru
5	Textil Hogar Feria Valencia	Feria Valencia, Venezuela (Spain)
6	Anuga	Cologne, Germany
7	Cosmex Nigeria	Nigeria, Lagos
8	Gulfood Manufacturing	Dubai, UAE
9	Tunis International Trade Fair	Tunisia
10	World Travel Market	London, UK
11	Winter Fancy Food Sanfrancisco	Sanfrancisco,USA
12	Biofach	Nuremburg, Germany
13	Foodex	Tokyo, Japan

The competitiveness of large cardamom is hindered by marketing and procurement problems. Despite producing 54% of the world's production and Sikkim contributing to 90% of India's production. Sikkim has been unable to export large cardamom to international market. The threefold strategies to promote Sikkim cardamom in global market rest on to focus on high value added products like essential oil, oleoresins and nutraceuticals. The regional competitiveness analysis and trade intensity index reveals that there is market in middle east countries but Sikkim cardamom will face stiff competition from Guatemala and Singapore. In order to gain competitiveness the focus should be on targeting health and wellness benefits and then make appropriate strategies target niche markets.

CHAPTER 10

IDENTIFICATION OF SUITABLE MARKET STRATEGIES FOR TURMERIC (091030)

Sikkim is known for improved turmeric varieties like Lakadong and Megha turmeric – 1 but a number of local cultivars exist in North Eastern region. Sikkim produces around 0.5% of the total produce of India but Sikkim turmeric is in demand because it contains high oleoresin and cur cumin content. The product is mostly marketed in the fresh form and the local demand is very limited which means, roughly 70-80 % of the total production is reportedly available as marketable surplus from the region. Turmeric with high content of cur cumin is very much suitable for colour extraction and in nutraceutical products due to scientifically proved health benefits of cur cumin. The chapter discusses identification of markets and suitable market strategies for turmeric.

10.1 Rising demand for Turmeric in global market: can USP of Sikkim Turmeric help?

There is a strong demand of turmeric in the global market wherein the import demands are rising in countries including Middle East, USA, Malaysia, Iran, Japan and Sri Lanka which constitutes about 50% of the trade and are mostly supplied by Asian producing countries, within which India's share is a minimum of 75% in each of these markets. The USP of Sikkim is that its an Organic Turmeric and there is a good demand in the international market.

Area under turmeric cultivation in Sikkim is 1.3 thousand hectare with production of 4.68 thousand tonnes. From the graph it can be observed that there has been an increase in area and production under turmeric from 2007-08 onwards. Average increase in production from 2007-08 to 2013-14 is 10%.

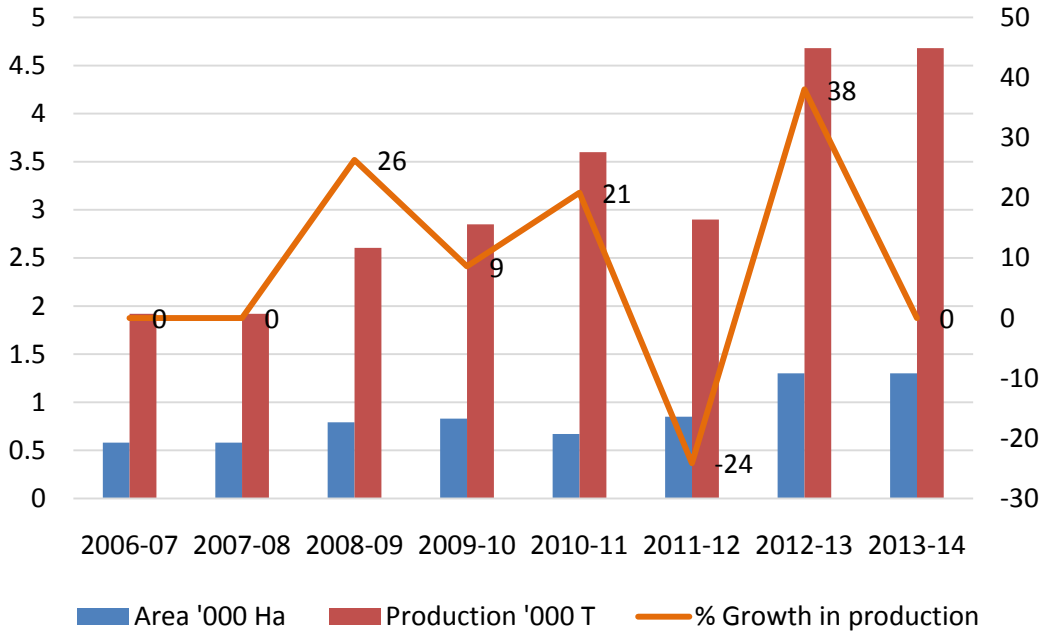


Fig. 28: Year wise Area and Production of Turmeric in Sikkim

Turmeric is grown in all districts of Sikkim, South Sikkim has highest area (0.63 thousand Ha) under turmeric with a production of 1.824 thousand tons. There are several cultivated types of turmeric available in the region, which are generally named after the localities they are being grown. Certain indigenous types namely Manipur Local, Nagaland Local, Sikkim Local and Jorhat Local of Assam have been reported to be equally good in rhizome yield. Dry matter recovery of these varieties has been found to be even equal or better than certain improved types.

10.2 Competition from other States of India:

Turmeric is produced in various states of India with Andhra Pradesh being the market leader producing 40% of the total produce followed by Tamil Nadu and Karnataka. **Sikkim produces a mere 0.5% of the total produce.** In terms of yield, Haryana (18.31) leads in productivity followed by Gujrat (16.83) and Odisha (12.00) while Sikkim has a yield of 3.62.In terms of pricing, turmeric across major mandis of India suggests that price ranges from Rs 65/ kg to Rs 102/kg. In contrast, on an average Sikkim turmeric costs Rs 122/kg.

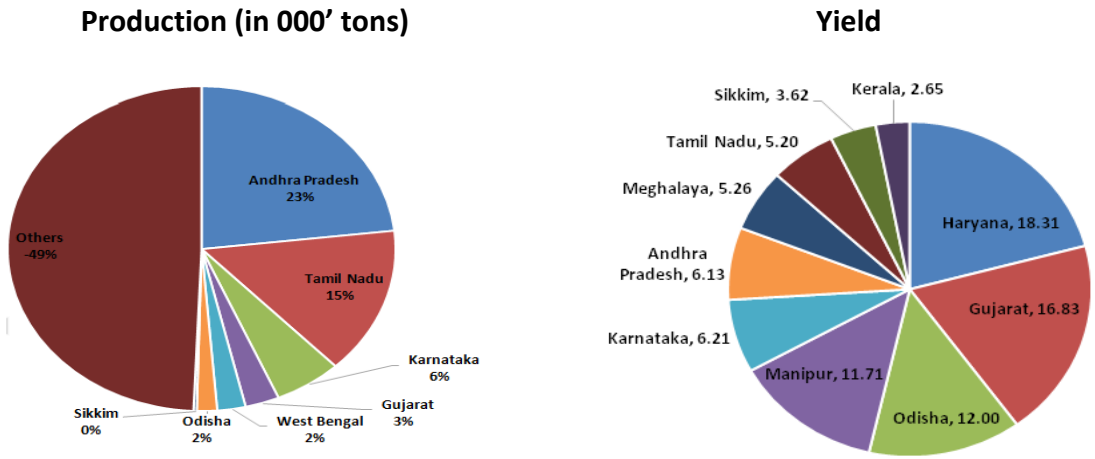


Fig. 29: Comparison of Sikkim Turmeric vis-a-vis other producing states in India: production & yield (2014-15)

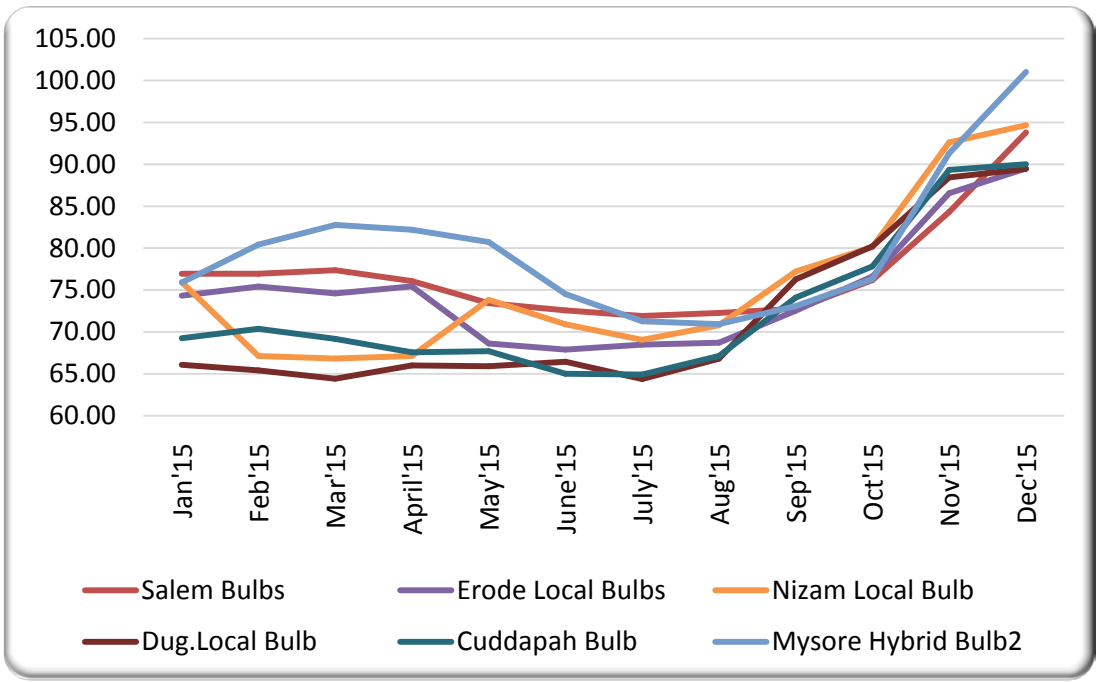


Fig. 30: Price trend of Turmeric bulbs across various mandis of India

From the above three graphs we can conclude that Sikkim turmeric is produced much lesser, has lower yield and is priced very high. This causes its non - competitiveness against L1 competitors.

10.3 Post Harvest Management:

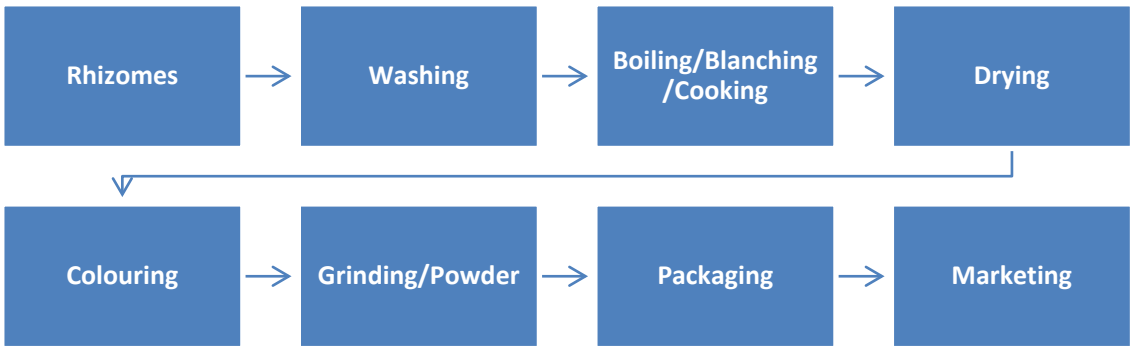


Fig. 31: Postharvest practices of Turmeric

- **Curing**

The fingers are to be separated from mother rhizomes. Generally mother rhizomes are kept as seed material for next plantation. However, if it is to be cured, mother rhizomes and fingers are to be boiled separately. The stage at which boiling is stopped largely influences the colour and aroma of the final product. Over cooking spoils the colour of the final product while under-cooking renders the dried product brittle. Turmeric rhizomes are cured before drying. Curing involves boiling the rhizomes until soft. In traditional method, the cleaned rhizomes are boiled in copper or galvanized iron or earthen vessels with water just enough to soak them. It is performed to gelatinize the starch for a more uniform drying, and to remove the fresh earthy odour. During this process, the colouring material is diffused uniformly through the rhizome. The Indian Institute of Spice Research, Calicut, Kerala, recommend boiling in water for 45 min to one hour or until froth appears at the surface with white fumes and the typical turmeric aroma is released.

In the improved scientific method of curing, the cleaned fingers (approx. 50 kgs) are taken in a perforated trough made of GI or MS sheet fabricated with extended parallel handle. The perforated trough containing the fingers is then immersed in the pan and water is poured into the trough so as to immerse the turmeric fingers. In this rhizomes are boiled in lime-water or 1% sodium carbonate to give them the desired yellow tint. The whole mass is boiled till the fingers become soft. The cooked fingers are taken out of the pan by lifting the trough and draining the water into the pan. The water used for boiling turmeric rhizomes can be re-used for curing fresh samples. The processing of turmeric is to be done 2 or 3 days after harvesting. If there is delay in processing, the rhizomes should be stored under shade or covered with sawdust to retain its quality.

- **Drying**

The cooked fingers are dried in the sun by spreading them in 5-7 cm thick layers on bamboo mats or drying floor. A thinner layer is not desirable, as the colour of the dried product may be adversely affected. During night time, the rhizomes should be heaped or covered with material which provides aeration. It may take 10-15 days for the rhizomes to become completely dry. Cooked fingers or bulbs are dried to a moisture level of 5% to 10%. Artificial drying, using cross-flow hot air at a maximum temperature of 60oC also gives a satisfactory product. This can be done by creating special infrastructure for the purpose. Artificial drying has clear advantages in giving a brighter coloured product than sun drying which tends to undergo surface bleaching. The yield of the dry product varies from 10-20% depending upon the moisture content of the variety and the location where the crop is grown.

- **Polishing**

Dried turmeric has a poor appearance and a rough dull outer surface with scales and root bits. The appearance is improved by smoothening and polishing the outer surface by manual or mechanical rubbing. Manual polishing consists of rubbing the dried turmeric fingers on a hard surface after loosely filled or wrapped in gunny bags. The improved mechanical method is by using a hand operated barrel or drum mounted on a central axis, the sides of which are made of expanded metal mesh. When the drum filled with turmeric is rotated, polishing is effected by abrasion of the surface against the mesh as well as by mutual rubbing against each other as they roll inside the drum. Similarly, Power operated drums can also be used for polishing the dried materials. The yield of polished turmeric from the raw material varies from 15-25%. d. Colouring:

Boiled, dried and half polished turmeric fingers (half polished turmeric is more suitable since colour does not stick to the rhizomes that have been polished fully to smooth finish) are taken in bamboo basket and shaken with turmeric powder. For coating 100 kg of half polished turmeric 200 g of turmeric powder is required. The colour of the processed turmeric influences the price of the produce. For an attractive product, turmeric powder (mixed with little water) may be sprinkled during the last phase of polishing. When fingers are uniformly coated with turmeric powder, they are dried in the sun.

- **Packaging**

The traditional method is to use gunny/jute bags for packaging of whole spices, with capacities ranging from 10kg to 70kg. The jute bags may be provided with a loose liner bag of polyethylene or may be without a liner. There is no standardisation on the type and quality of the fabric used. A variety of jute fabrics such as hessian, light weight DW, A-twill, heavy Cee etc. are used.

Recently, some of the spice traders/packers have used alternate bulk packaging media such as woven plastic bags which may be laminated or provided with a loose liner bag and multiwall paper sacks with a plastic liner bag. The plastic based alternate packaging materials are used to overcome the contamination problems associated with jute. Moreover, the plastic bags / liners also help in retaining the quality of the spices packed inside for a longer time.

10.4 Major Assembling Market and Price Trend

Major assembling markets of turmeric in India are AP, Gujarat, Kerala, Odisha, Manipur, Meghalaya, Telangana and Tripura. The arrival and price trend in the market centres in the peak month of May to August shows that in terms of arrival of Turmeric Salem Market is the biggest market whose average arrival is between 50-80 tonnes per day in peak season followed by Jangirpur in West Bengal.

In 2011-12 in Kerla area under turmeric had suddenly decreased and subsequently production of turmeric also decreased due to drought condition in major producing states that led to increase in price of turmeric. This year, price of turmeric reached up to Rs. 151 per kg but next year area under turmeric and production both recovered. In 2012-13, area under turmeric had increased that lead to increase in production by 38%. Due to over production, price of turmeric decreased. Maximum price in 2013 was Rs. 99 per Kg in March.

Wholesale price of raw turmeric is lower than dry turmeric due to high moisture content. Its price varies from Rs 6 to Rs 35 per Kg. Only in few market, its price is highest like Kerala, Gujarat, Orrissa AP which is given in table below

Table 10.1: Wholesale Price of Turmeric (Raw) (2015)

States	Month Wise Average Price (Rs/Qtl)											
	January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Andhra Pradesh	0	0	7100	0	0	0	6300		0	0	0	0
Gujarat	2126	2048	1959	0	1500	0	0	0	3552	2459	2105	1912
Kerala	3713	6000	8000	9200	0	0	0	0	0	0	0	0
Manipur	2000	2000	1500	1500	0	0	0	0	0	0	0	0
Meghalaya	622	700	700	867	0	0	0	0	0	0	0	0
Nagaland	0	0	0	0	0	0	0	0	0	0	0	0
Orissa	2561	7400	0	2521	2297	2475	0	0	2400	2200	0	0
Rajasthan	1514	2775	3000	0	0	0	0	0	0	2331	1312	1818
Telangana	0	0	0	6800	0	0	0	0	0	0	8306	0
Tripura	0	0	0	0	0	0	0	0	0	3033	0	

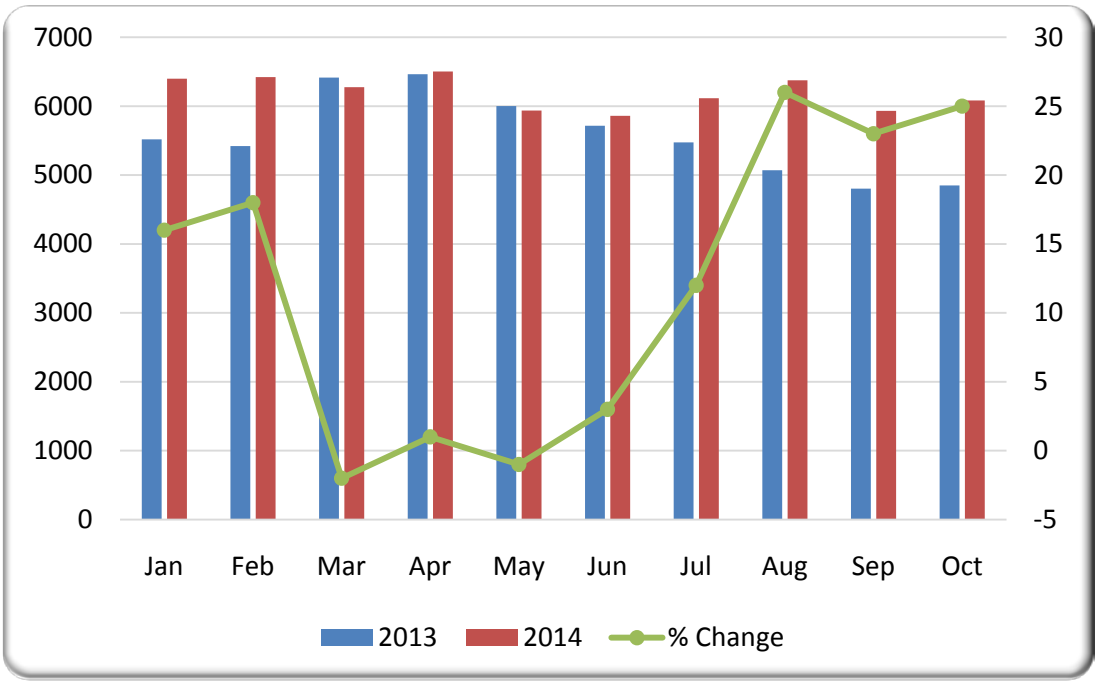


Fig. 32: Average monthly price of turmeric in Rs./Kg*Source: Agmarknet*

10.5 Marketing channels

Turmeric is mostly marketed as a whole rhizome, which is then processed into powder by flavour houses and the industrial sector. Rhizomes come as fingers, bulbs and splits. Ground turmeric is mostly used on the retail market and by the food processors. Rhizomes are ground to approximately 60-80 mesh particle size.

The farmers generally sell the rhizomes to the aggregator at the village level. The aggregators supply to processors or may supply to wholesaler. Processor with value added products like turmeric powder and flakes supplies to domestic retail chains

The domestic retailers take the produce to overseas market

- Since the quantity available is low the viable channel is for traders and processors of Sikkim to be suppliers to domestic value chain. A list of domestic retailers and exporters is given in annexure.

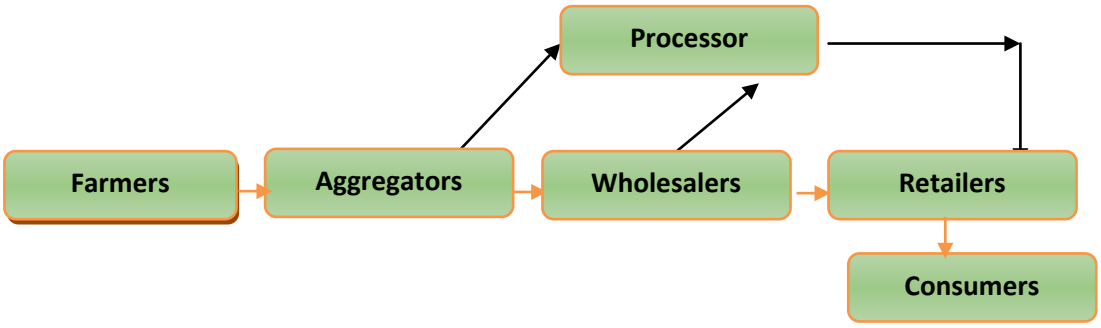


Fig. 33: Marketing Channel of Turmeric in Sikkim

10.6 Marketing practices and Price Spread in Turmeric:

Turmeric in the Sikkim is not grown by farmers in large scale. Most of the farmers only grow L. Cardamom and Ginger. Besides L. Cardamom & ginger, Singtam and Jordhang are also main market for turmeric. SIMFED also purchase turmeric directly from farmers. SIMFED have processing unit of spices in Birdang. Farmers of Sikkim do not approach directly to large traders at APMC regulated market in Siliguri.

There is no regulated market in Sikkim for spices Farmers sell raw turmeric to local trader, money lender and also some time to large traders at a price of 20 to 30 Rs/kg. SIMFED purchase raw turmeric to the farmers at a price of 25 Rs/kg. Large traders and wholesalers of Siliguri (most of the traders) and Sikkim collect it from local traders at a price of 45 to 48 Rs/kg and after drying sale it to processing unit and also to retailers at a price of around 122 Rs/kg. Consumer price of turmeric is 200 to 230 Rs/kg in Sikkim and Siliguri. Detail price spread of turmeric is given in figure below;

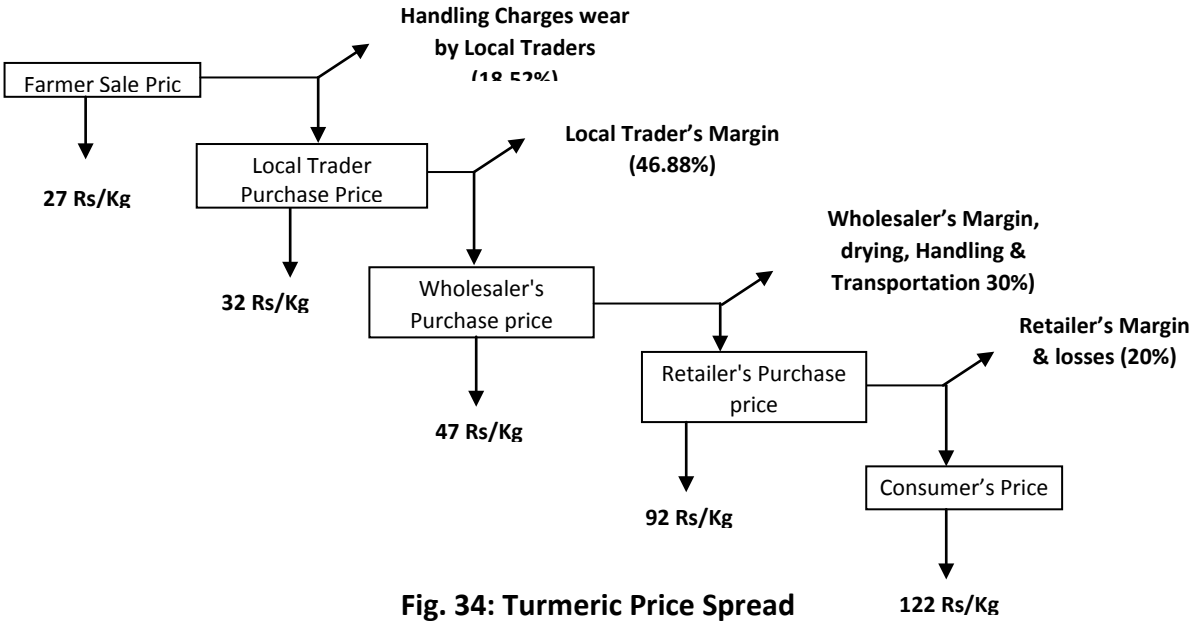
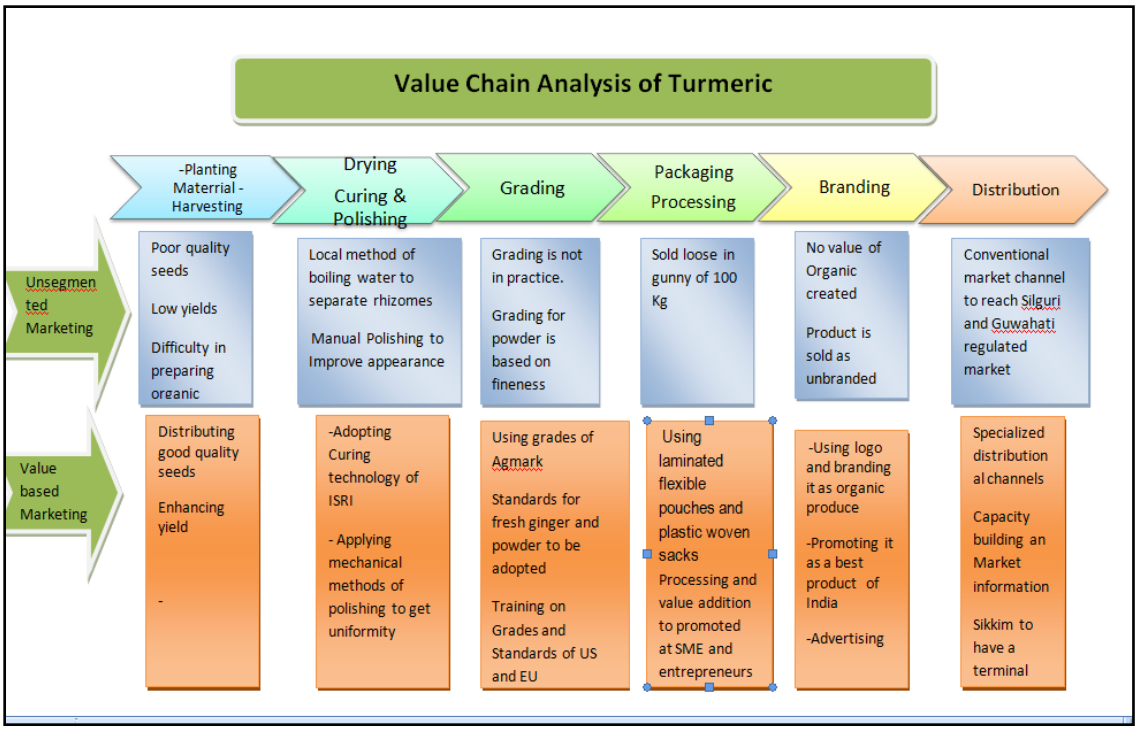


Fig. 34: Turmeric Price Spread

10.7 Value chain analysis and enhancement:



Turmeric being the growing trend for different sectors its production is highly important. Sikkim being the 9th position in production, focus should not only be on the International market.

Fig. 35: Value chain analysis of Turmeric

Firstly domestic markets should be established in Sikkim which would encourage farmers to increase their production and productivity. Production can be increased by use of proper technology, guide lines through extension activity, Government regulations.

Through this, Marketed surplus can be easily increased which were further help in focusing on export business.

There are enough opportunities for value addition, commercialization in cultivation through the use of modern technology, product diversification and marketing.

For export purpose quality packaging is one of the way which can fetch very good price as the characteristics of the turmeric could be stored for much longer time. Quad seal bags is one of the most reliable and stable flexible pouches. These bags are securely sealed from all the four sides of the pouch.

10.8 Value Chain Intervention

The value chain interventions are exhibited in Figure 34.

Ground turmeric should be packaged in moisture proof, air-tight polyethylene packages. The packages should be sealed and labeled with attractive labels. The label needs to contain all relevant product and legal information – the name of the product, brand name (if appropriate), details of the manufacturer (name and address), date of manufacture, expiry date, weight of the contents, added ingredients (if relevant) plus any other information that the country of origin and of import may require (a barcode, producer code and packer code are all extra information that is required in some countries to help trace the product back to its origin).

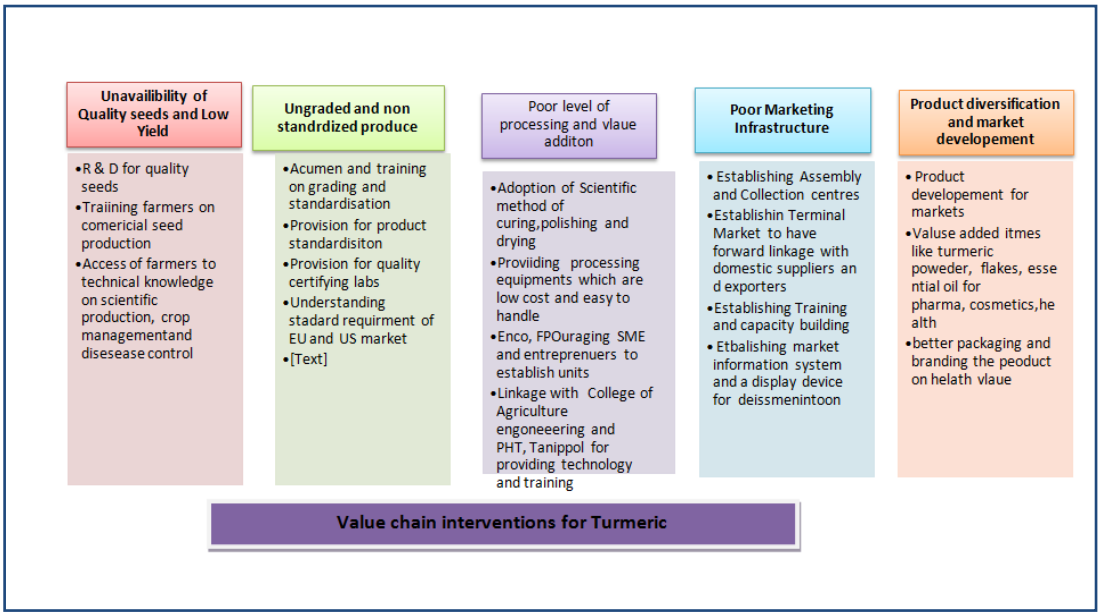


Fig. 36: Value chain analysis of Turmeric

10.9 Product Diversification

Diverse usage of turmeric like condiment, as flavoring and colouring agent, brine pickles (Oleores in extracted from turmeric), to some extent in mayonnaise, relish formulations, in non-alcoholic beverages, gelatins, butter and cheese etc. The colour curcumin extracted from turmeric is used asa colorant. Turmeric is also used as a dye in textile industry, in cosmetics, preparation of medicinaloils, ointments and poultice. It is stomachic, carminative, tonic, blood purifier and an antiseptic. The aqueous extracts have bio-pesticidal property. Hence product diversification and usage diversification are two possible ways of enhancing export of turmeric from the state.

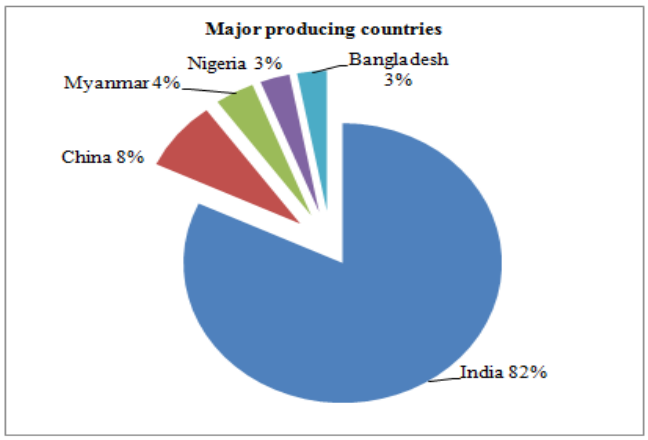
10.10 Niche Market and Target Market

There is excellent potential for exporting organic turmeric. The countries like Germany, France, Netherlands, UK etc. in Europe, USA in North America and Japan in the Far East region import sizeable quantity (approx. 11682 tons) of turmeric from India.

There is a good potential for exporting 500 to 1000 tons of organic turmeric to all the above mentioned countries in future. However, for promoting further exports, quality standards of powdered turmeric of European Spice Association need to be adopted and maintained.

North America was the largest market for curcumin in 2015 and is expected to witness significant growth on account of growing demand for curcumin-based dietary supplements. Increasing demand for curcumin for applications in cosmetic formulations is expected to further expand the North American market. Europe was the second largest market and is expected to witness the highest market growth over the forecast period on account of increasing demand for curcumin in pharmaceutical and food applications

The competition from international players comes at two levels (i) producing countries of turmeric apart from India and (ii) exporters/traders of ginger globally



Source: APEDA

It is seen from above analysis that India is the largest producer of turmeric and apparently accounts for more than 80% of the world's production. Apart from India, China contributes for about 8% of world's turmeric production followed by Myanmar with 4%, Nigeria and Bangladesh with 3% each share in total turmeric production in the world.

Fig. 37: Major producing countries of Turmeric

As far as presence of Indian turmeric in the export market is concerned, it is analysed that in most of the countries where import demand are on the rise, our turmeric is facing stiff competition against suppliers like China in Japan, Lithuania again is giving stiff competition to turmeric in prime importing countries of France and Italy.

Turmeric

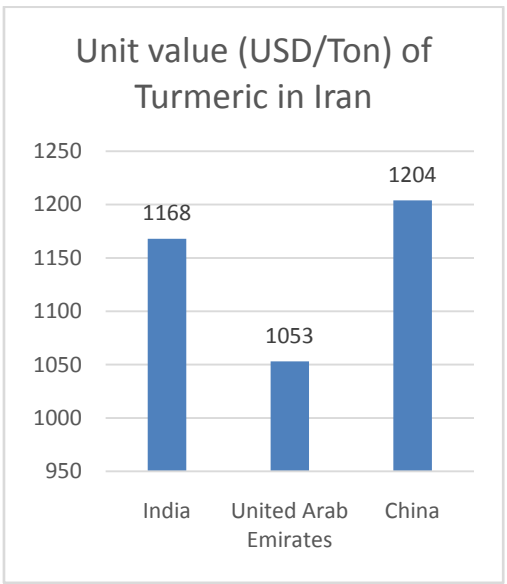
Main importers	Strict competition to Sikkim in these growing markets
Japan	China (64%), USA (23.8%), Russian Fed (9.8%), India (0%)
France	China (33.5%), Lithuania (32.8%), Poland (10.7%), India (0%)
Italy	Poland (56.7%), Lithuania (13%), Neth (12.4%), India (0.1%)
USA	Canada (37.6%), China (35.9%), Russian Fed (23.2%), India (0.2%)

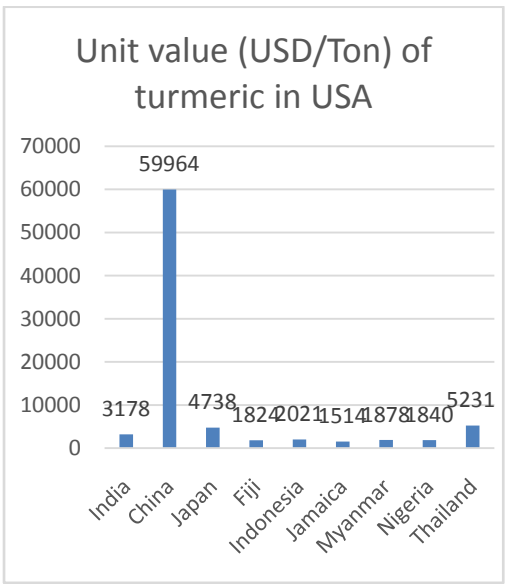
Source: International Trade Centre, 2015

Japan is the 4th largest import market of the world. India has a market share of 65% while China has a market share of 28%. Further, it has to be analysed as to why Japan prefers Chinese turmeric (cost, quality, and logistics) in order to further capture the market share.

From the above chart, we can deduce that the major exporters to France (world market share of 3%) like Germany, Spain, and Netherlands are mainly trading markets. These markets could be focused on and captured by India. But before that cost of acquisition, ROI and logistic costs have to be calculated and the reason as to why France is dependent on other European countries have to be understood. Prime reasons towards this poor presence of the turmeric in the international market is high prices of Turmeric exports from Sikkim vis a vis other competing suppliers in the global market.

Turmeric is costlier than other supplying countries in major import markets





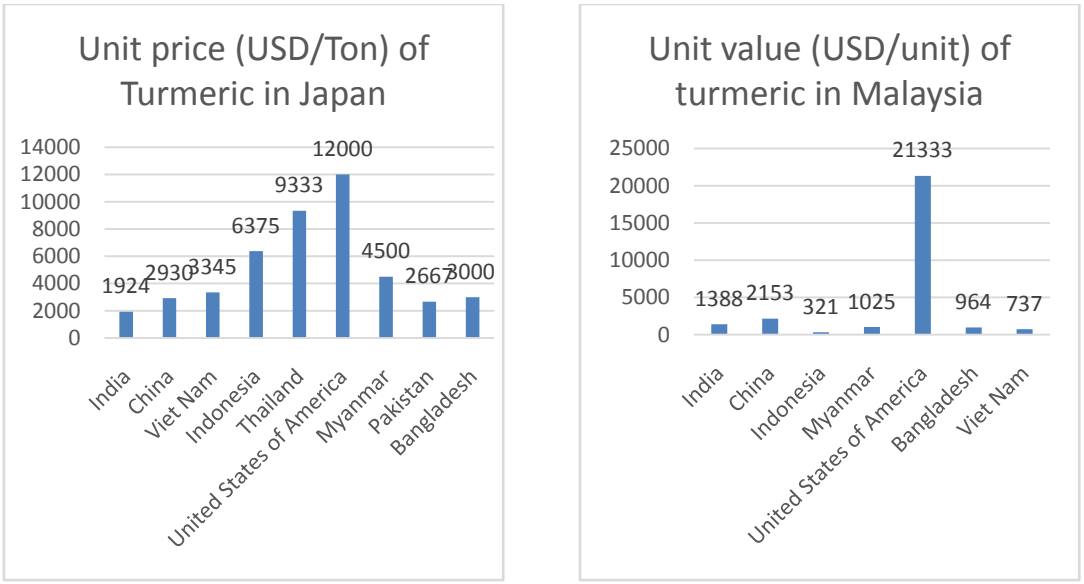


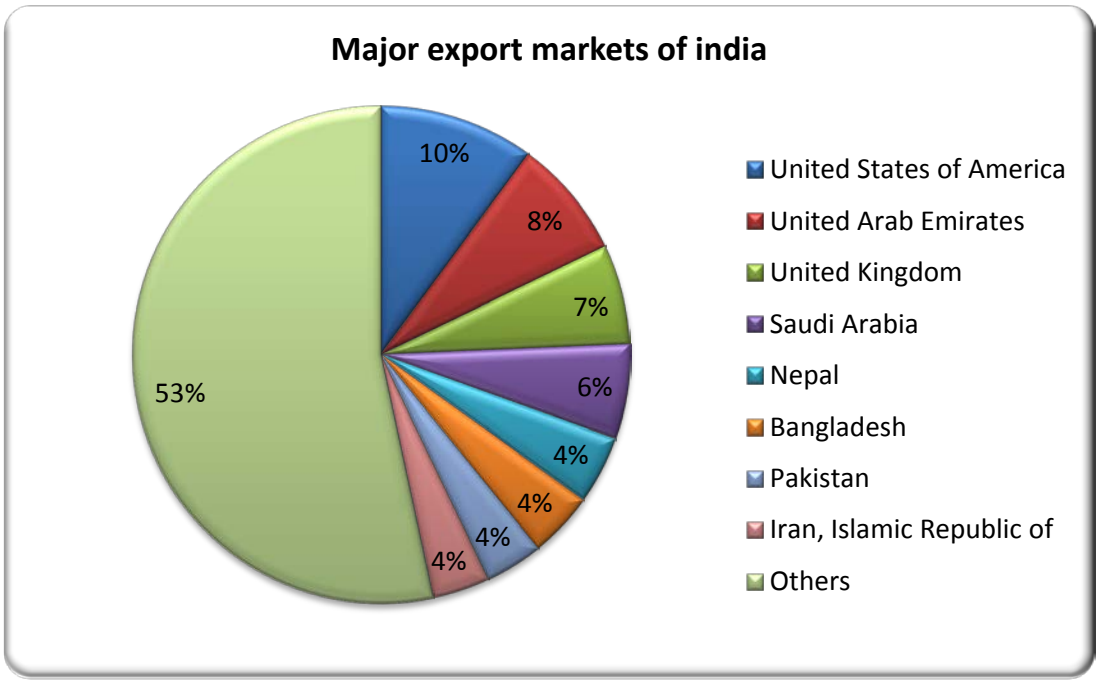
Fig. 38: Value and Price of Turmeric in Importing Countries

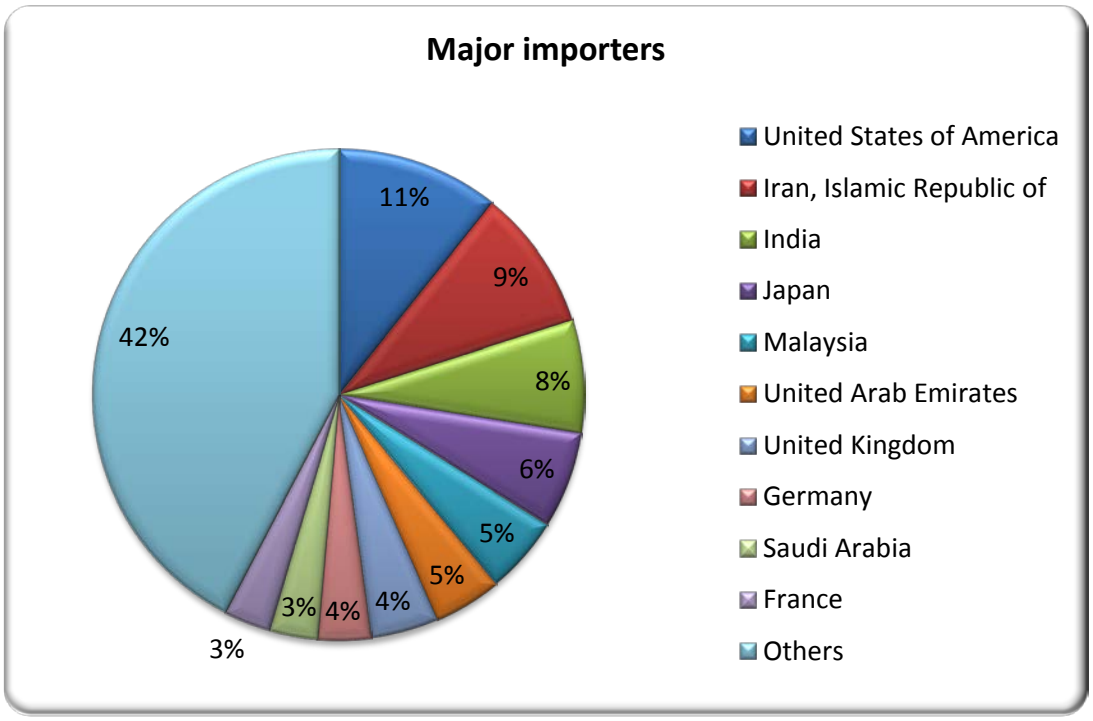
Indian turmeric is cheapest in the Japan market, while it is mid ranged in Malaysia and Iran, and second most expensive in the USA market and second most cheaply in the UAE market. Stiff competition from other global players is quite eminent by the comparative values of Revealed Comparative Advantages for Indian Ginger versus other competing suppliers.

Table – 10.2 India versus Competitors RCA for last 5 years

	2010	**2011**	**2012**	**2013**	**2014**
India	4.72	4.37	4.07	4.09	4.28
China	0.24	0.19	0.19	0.15	0.21
Vietnam	0.27	0.07	0.11	0.16	0.17
Myanmar	**21.08**	**19.76**	**17.36**	**21.98**	**27.02**
Indonesia	0.52	0.3	0.16	0.18	0.4

It is for this reason; prime export markets for Sikkim turmeric are not directed to the countries where import demands are increasing.





Source: International Trade Centre, 2015

Fig. 39: Major Exporter and Importers of Turmeric

Though, India has 73% share in this market, 23% of the suppliers are trading markets. In order to decide if the remaining 23% has to be focused on, cost of acquisition and ROI has to be calculated. Similarly for Germany, India has captured 70% of the market while 10% is trading markets and the rest 20% are turmeric producing countries. Like UK, cost of acquisition, ROI, logistics cost have to be calculated. Since India is already a major exporter of turmeric, India should focus on value added products for exports like powdered turmeric, oleoresin, essential oil and so should the state of Sikkim.

10.11 Action Plan for the Sikkim Turmeric: shift from exporting raw turmeric to value added innovative products of turmeric

Fig. 40: Turmeric products

Though Turmeric is showing a downward trend in RCA value, it is still sufficiently higher compared to all the other spices. For a small firm, the value is adequate to do business in and hence Turmeric is a good commodity to export from the state. This is also reflected as per the status of turmeric in the New Foreign Trade Policy MEIS of 2015-2020 with the status as “Open General License” or “Free”

Exim Code	Chapter Notes/ Conditions	Item Description	Policy
0910 30	[Chapter Notes / Policy Conditions]	Turmeric (Curcuma):	
0910 30 10	[Chapter Notes / Policy Conditions]	Fresh	Free
0910 30 20	[Chapter Notes / Policy Conditions]	Dried	Free
0910 30 30	[Chapter Notes / Policy Conditions]	Powder	Free
0910 30 90	[Chapter Notes / Policy Conditions]	Other	Free

Source: DGFT, Ministry of Commerce

Fig. 41: Exim Code of Turmeric for Export

10.12 Export market Identification for Turmeric

In order to identify best market for turmeric exports from the state; following steps have been followed:

Step 1: Identifying the import markets where imports of Turmeric have been increasing: These markets are UAE, USA, Japan, Bangladesh, Iran, UK, Malaysia, Egypt, Saudi Arabia, Germany, Netherlands and South Africa.

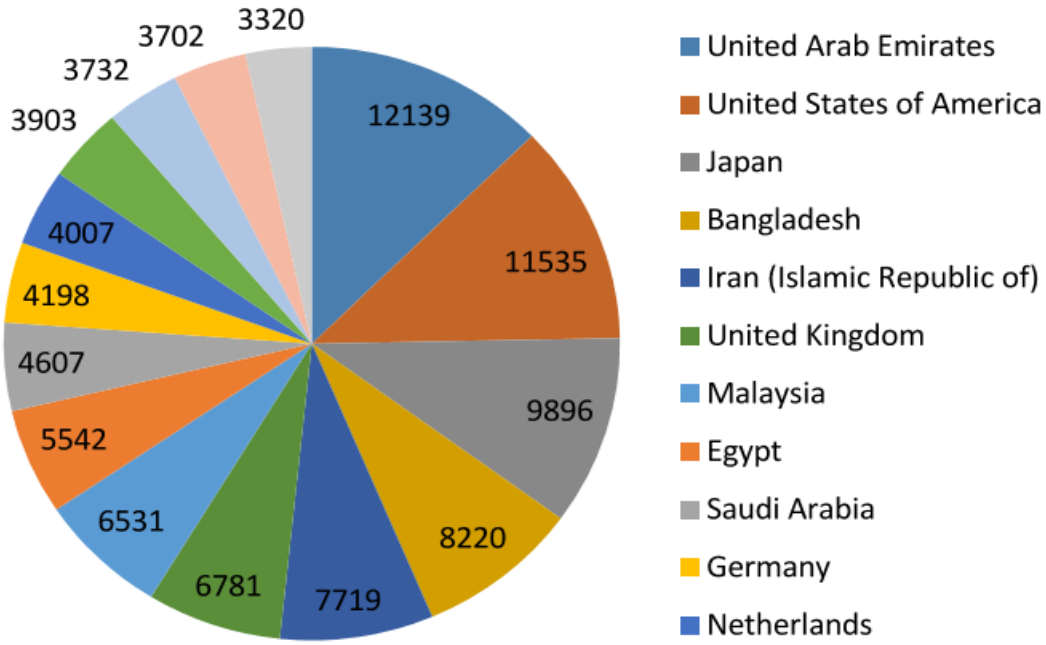


Fig. 42: Major importers of Turmeric in the World: prospective markets for Sikkim exports

Note that India's Balance of Trade in 2015 for HS 091030 is USD 105,249,000. This indicates that most of India's turmeric is imported, rebranded and exported to other nations. This follows from the fact that India also ranks high in the list of world's largest Turmeric importers. For small firms in the state, they would be looking to export home-grown turmeric.

List of countries India exports 091030 to

Major export markets for turmeric are UAE, USA, Bangladesh, Iran, Malaysia, Japan, UK, Saudi Arabia, South Africa, Sri Lanka, Egypt, Tunisia, Germany, Spain and Netherlands.

From the above list, we can shortlist those nations which are the world's largest net importers of Turmeric and also not ranking high in India's current export list. This is one way of ensuring a good market for the product and eliminating L1 competition simultaneously. India accounts for 74.76% of world's export of Turmeric and is the number 1 exporter**. Based on this, we have shortlisted Japan, UK, Saudi Arabia, South Africa and Sri Lanka.**

Table 10.3: Top exporting nations to the countries that have been shortlisted

Top exporting nations to the countries that have been shortlisted:

Importing Nations	Top Exporters to importing nation
1. Japan	1.India
	2.China
	3.Viet Nam
2. UK	1.India
	2.France
	3.Spain
3. Saudi Arabia	1.India
	2.Pakistan
	3.Ethiopia
4. South Africa	1.India
	2.Singapore

As can be seen from the above table, India is the major supplier of turmeric to all the nations selected, hence L2 competition is minimal. In order to determine; which country to export to, we will rely on certain trade indices. Next step is to choose a country to export to, based on the values of:

(i) **Import Penetration Index:** This index helps us analyse to which extent the domestic demand is satisfied by imports. Hence the importing countries with high IPI would mean a greater export prospect for Sikkim turmeric exports.

(ii) **Trade Intensity Index Analysis**: This index basically explains the extent of bilateral strength between two countries. Hence a high index values between India and the importing countries with high IPI values would mean that

acceptance of Indian turmeric in those import markets is high and hence a better prospect again for exports from Sikkim.

(iii) Trade Dependence Index This index indicates to what extent a country depends on import and exports for its GDP. It is calculated as the sum of imports and exports of Turmeric divided by the total contribution.

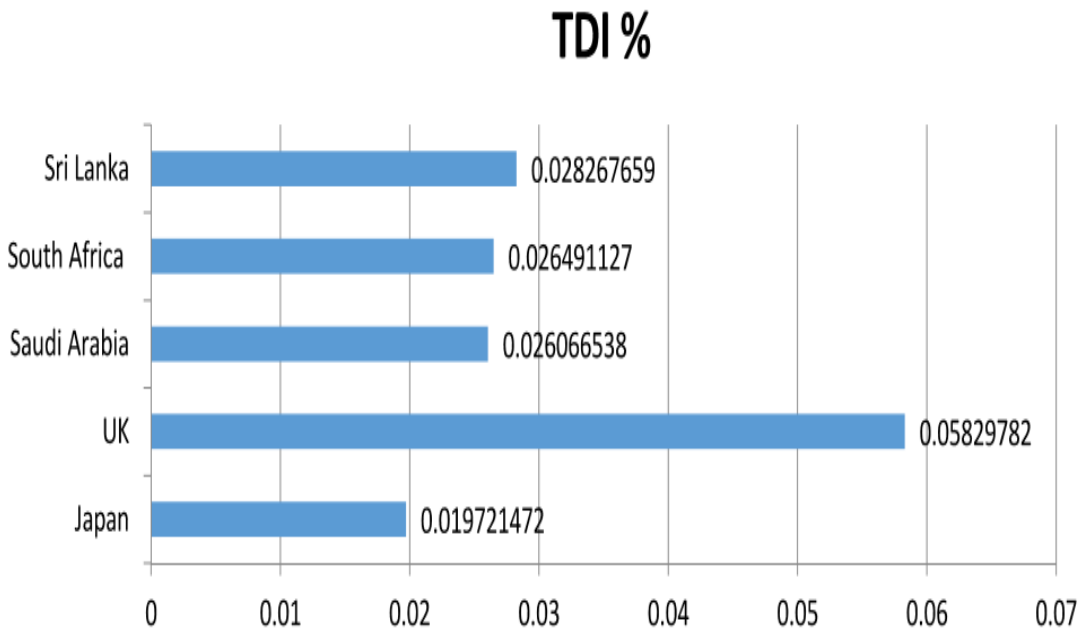


Fig. 43: Trade Dependence Index

The values are very small for all countries shortlisted and almost comparable, except for UK which has a marginally more dependence on Turmeric import export. A higher TDI value indicates that the government may have more beneficial schemes for trade in this commodity.

Import Penetration Index: This index indicates the level to which a country's domestic demand for a commodity is satisfied from its imports and is calculated as the country's import of turmeric divided by the total domestic demand for turmeric.

Country	GDP contributed by agriculture	Export of 091030	Import of 091030	Domestic Demand	IPI (value)	IPI (%)
Japan	50336000000	31000	9896000	50345865000	0.0001966	0.019656
UK	16191000000	2658000	6781000	16195123000	0.0004187	0.041871
Saudi Arabia	17674000000	0	4607000	17678607000	0.0002606	0.02606
South Africa	14978600000	65000	3903000	14982438000	0.0002605	0.02605
Sri Lanka	13863900000	187000	3732000	13867445000	0.0002691	0.026912

IPI = (Import of 091030)/(GDP contributed by agriculture-Export of 091030+Import of 091030)
Denominator gives Domestic Demand

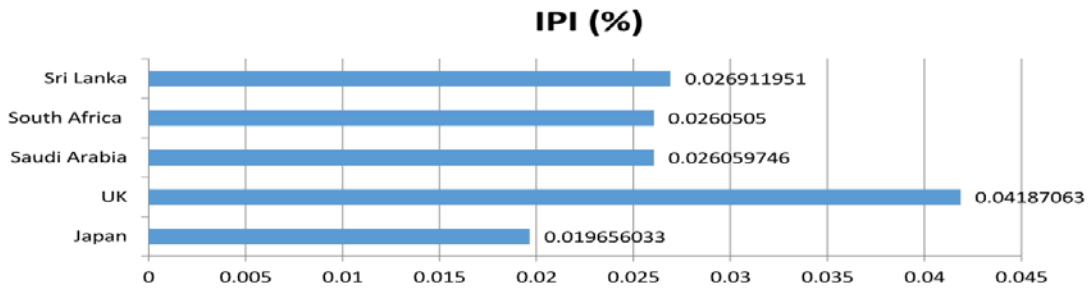
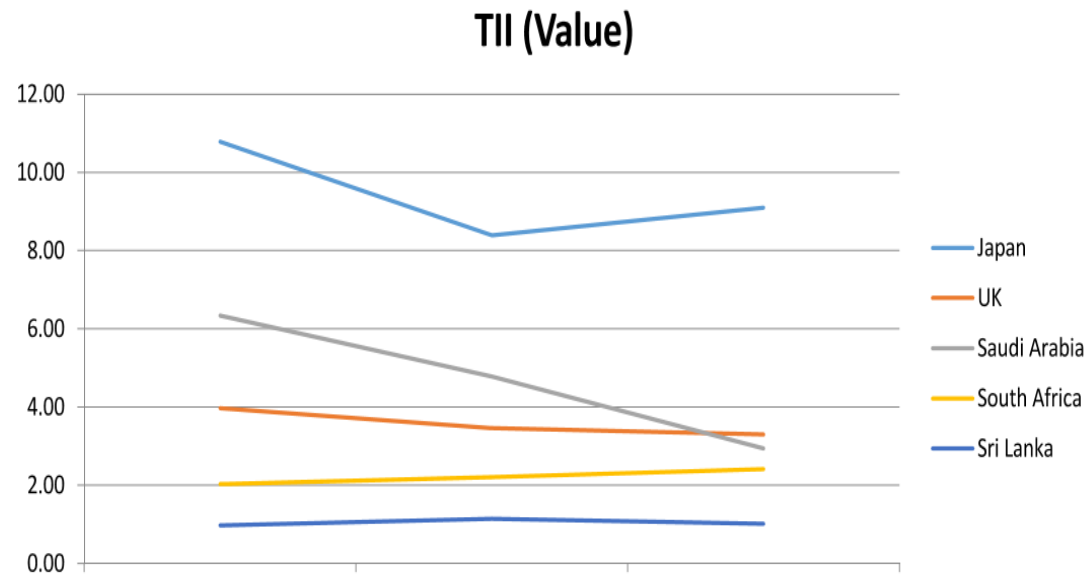


Fig. 44: Import Penetration Index

1. **Trade Intensity Index:** This index measures the extent to which L1 competition supplies the domestic demand of a country. A high TII would indicate that the country is open and acceptable to imports of that commodity from India.



Source: Author's calculation based on ITC, Trade database 2015

Fig. 45: Trade Intensity Index

Inference for Sikkim exports of Turmeric based on the above calculations.

Saudi Arabia has a declining TII value indicating that favour of Indian turmeric is falling. Sri Lanka and South Africa have very low TII values. UK has a moderate value which is slowing slight increase. Japan has the highest value and is showing a rise. **Based on the above index values, Japan, UK and South Africa can be shortlisted for export.**

Custom tariff for Turmeric across importing countries: selection criteria for Sikkim exporters

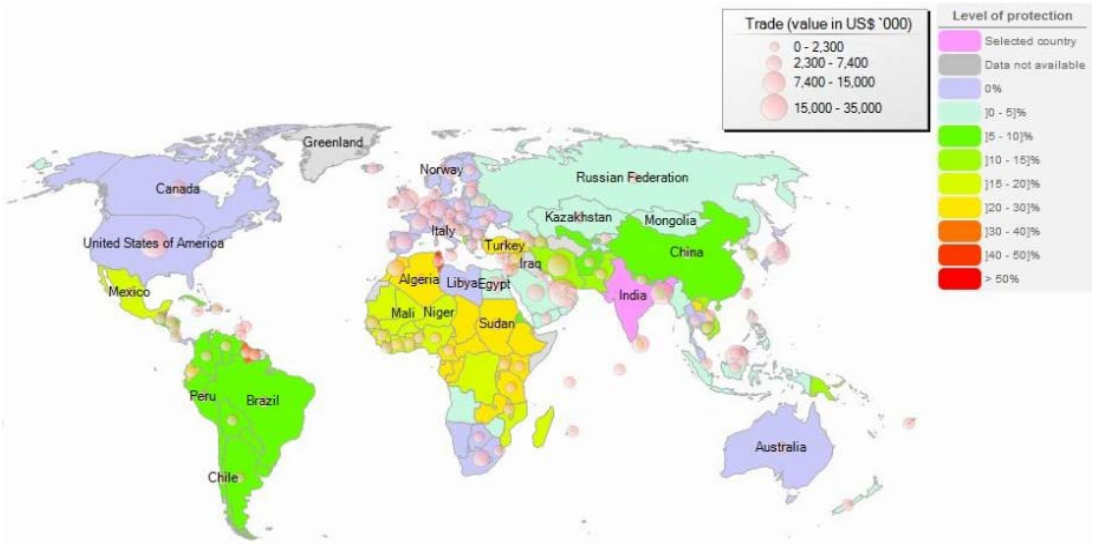


Fig. 46: Possible Export destinations for Sikkim Turmeric

0% MFN

A total of around 60 countries have 0% MFN rate of duty on Turmeric imports from India. These include countries like USA, Canada, France, Germany, Italy, Japan, Australia etc. Out of these countries, USA, Japan, Malaysia and UK are big markets for India as the annual turmeric exports in 2013 to these countries exceeded 10,000 tons. The next biggest markets for Indian turmeric are South Africa, Germany, Netherlands and Spain.

More than 30%

A total of 26 countries have their tariff rates for Indian turmeric at 30% or higher. These countries have an extraordinarily high rate of tariff protection in case of turmeric. Most of these countries are African countries. As a result, India barely exports any turmeric to these countries. Export Duty on Turmeric in India As per schedule second of cst 2012-13, turmeric in powdered or any other form is exempt from any export duty.

2. Possibilities of Customisation of these products by Sikkim exports: an analysis of National Tariff lines of the importing countries Sikkim should exports its ginger in the following forms in the following countries:

Table 10.4: Description of Forms of Turmeric for Export

Country	HS code	Description
Japan	‘091030100	In containers for retail sale
	‘091030210	Neither crushed nor ground
	‘091030220	Crushed or ground
Iran	‘09103010	In retail packings
	‘09103020	In ground form and non retailpackings
	‘09103090	Others
Bangladesh	‘09103010	Not wrapped/canned
	‘09103020	Wrapped/ Canned

Further based on Health Segmentation Sikkim should target countries which are susceptible to diseases which can be cured by turmeric products.

Table 10.5: Health Segment for Turmeric market

Medicinal Property	Disease	Target countries
Anti oxidant	Aging	South Korea, Greece, Italy, Brazil and Colombia
Anti inflammatory	Joint health	United States, UK, Sweden, Finland, China
Anti Diabetes	Diabetes	North America, Carribean, Middle East
Enhancing the immune system	Respiratory Disorders	India, Russia, Brazil, Africa
Anti obesity	Obesity	Australia, Chile, New Zealand, USA, Mexico
Positive influence on Cardio vascular system	Cardiac diseases	Russia Romania, Bulgaria, Hungary, Argentina

10.13 Export Market Selection: Japan

Japan has been selected as the most apt market for Turmeric export for our firm. There are a number of reasons for this which has been explained below. The economy of Japan is the third largest in the world by nominal GDP, the fourth largest by Purchasing Power Parity and is the world's second largest developed economy. According to the International Monetary Fund, the country's per capita GDP (PPP) was at $35,855 or the 22nd highest in 2012.

Japan is amongst the top 5 leading importers in the world. The leading importers were the United States (US$ 2.27 trillion, 12.3 percent of world imports), China (US$ 1.74 trillion, 9.5 percent), Germany (US$ 1.25 trillion, 6.8 percent), Japan (US$854 billion, 4.6 percent) and France (US$ 715 billion, 4 percent). Japan imports about

50% of its agricultural requirements. Land available for agricultural production is about 12%. Japan is a larger import destination than it exports. This makes Japan an extremely feasible country to trade with.

India Japan Comprehensive Economic Partnership Agreement (CEPA)

India and Japan Comprehensive Economic Partnership Agreement (CEPA) is a major step in the direction of larger vision of an East Asia partnership. The Agreement is most comprehensive of all the agreements concluded by India so far as it covers more than 90% of trade, a vast gamut of services, investment, IPR, customs and other trade-related issues. Under the India- Japan CEPA only 17.4% of the tariff-lines have been offered for immediate reduction of tariff to zero % by India. Tariffs will be brought to zero in 10 years on 66.32% of tariff lines to give sufficient time to industry to adjust to the trade liberalization. The Japanese side has put 87% of its tariff lines under immediate reduction of tariff to zero. A large number of these items are of India's export interest e.g. seafood, agricultural products.

CEPA Turmeric Rates

Column 1	Column 2	Column 3	Column 4
Tariff item number	Description of goods	Base Rate	Category
	Other		A
0910.20	- Saffron		A
0910.30	- Turmeric (curcuma)		A
	- Other spices:		
0910.91	-- Mixtures referred to in Note 1 (b) to this Chapter		A
0910.99	-- Other:		
	Curry	3.6%	B10
	Other		A

Source: jetro.go.jp

Customs duties on originating goods classified under the tariff lines indicated with "A" shall be eliminated, as from the date of entry into force of this Agreement. This indicates that turmeric is exempted from duty under CEPA

Column 1	Column 2	Column 3	Column 4
Tariff item number	Description of goods	Base Rate	Category
33012945	Cumin oil	20	B10
33012946	Celery seed oil	20	B10
33012947	Garlic oil	20	B10
33012948	Paprika oil	20	B10
33012949	Turmeric oil	20	B10
33012950	Spices' oils not elsewhere specified or included	20	B10
33012990	Other	20	B10
330130	**Resinoids**		
33013010	Agar oil	20	B10

Source: jetro.go.jp

Customs duties on originating goods classified under the tariff lines indicated with "B10" shall be eliminated in 11 equal annual instalments from the Base Rate to free. Under CEPA, turmeric oil falls in B10 category showing gradually declining tariff rates to free. Turmeric oleoresins & turmeric preparations also fall in "B10" category. India is the largest exporter of turmeric to Japan. Japan also falls under the Focus Market

SPS Measures for Turmeric in Japan

In Japan, dried turmeric is subject to plant quarantine but not required to be accompanied by a phytosanitary certificate issued in the country of origin.

Unconventional Uses of Turmeric in Japan

1. **Spice:** Japanese curry tends to be yellow in colour. This colour comes from turmeric. Since turmeric is an essential spice when preparing curry, there is a significant and relatively stable demand. Around 70% is imported from India, followed by countries such as Indonesia, Myanmar, and Malaysia etc.
2. **Turmeric Syrup**: In Japan, turmeric is used as a health and beauty product. A good number of Japanese women take daily doses of turmeric extract to stay fit and beautiful.

In Tokyo, you can buy a 100 ml bottle containing 30mg of dissolved turmeric. The suspension solutionalso contains several vitamins and minerals and a pinch of sugar to make the solution go down. This type of syrup is easily obtained from nearby convenience stores.

3. Turmeric Tea: Known as the Longevity Island, Okinawa is home to the world's highest known concentration of centenarians. After many years of well documented research, the longevity factor seems to boil down to one thing — the Okinawan lifestyle.

Turmeric (curcuma longa), an herb of the ginger family and native to tropical South Asia, is attracting the attention of the scientific and medical communities for its powerful anti-inflammatory and antioxidantproperties. Okinawans drink copious amounts of turmeric tea daily. Turmeric tea is known as "Ukoncha"

4. Turmeric Capsules- In Japan, turmeric capsules are taken to enhance longevity. These capsules are patented by company UKONE which grows turmeric and produces them. There lies an opportunity for targeting its competitors to import Indian turmeric for producing similar capsules. Turmeric has infinite benefits and is extensively used in Japan. In order to have a competitive advantage with respect to other turmeric exporters to Japan, the strategy should be to target companies that use turmeric to produce certain differentiated products. Examples like turmeric tea, turmeric extract and capsules provide a good option to do so.

10.14 Technological interventions required: investment requirement by Sikkim exporters of Turmeric

In order to reduce prices, be technologically at par with competition, Indian government and various State governments have incentive and subsidy schemes to support such industries. Sikkim government should also begin with such schemes in order to support the industry and create systems for easy flow of information.

- **Turmeric boilers** - Fresh turmeric is cured for obtaining dry turmeric. Curing involves boiling of fresh rhizomes in water and drying in the sun. Over cooking spoils the colour of the final product while undercooking renders the dried product brittle. In conventional curing where the rhizomes are boiled in copper or galvanized iron or earthen vessels there are chances for overcooking or undercooking.

Improved scientific cooking involves using boilers and perforated trough made of GI of MS sheet extended with parallel handle. This ensures optimum cooking of turmeric, which provides better colour and quality to the final produce. Hence it is proposed to popularize the use of turmeric boilers among turmeric growers for production of quality turmeric suitable for exports. The cost of one such boiler is estimated at Rs.3,00,000/- for community use. Individual growers or groups are eligible to benefit under the scheme. 50% of the cost turmeric boiling unit subject to a maximum of Rs.1,50,000/- is offered as subsidy.

- **Turmeric Polisher - Dried turmeric has a poor appearance and rough dull colour outside the surface with** scales and root bits. The appearance is improved by smoothening and polishing the outer surface by manual or mechanical rubbing. Manual polishing is done by rubbing the dried turmeric fingers on a hard surface or trampling them under feet by wrapping in gunny bags. Manual polishing is an unhygienic practice, which affects quality of the product.

The improved method of polishing turmeric is by using hand operated / power operated polishers. This ensures hygienic and effective polishing which gives better appearance to the product. Hence it is proposed to popularize the practice of using improved polishers for polishing turmeric. The average cost of a turmeric polishing machine ranges from Rs.1.50 lakhs to Rs.2.50 lakh for a capacity of one ton to two ton per hour. It is proposed to provide 40% of the cost of the equipment subject to a maximum of Rs. 1.00 lakh as subsidy. It is proposed to distribute about 65 polishers to the farmers I Farmers' group I NGOslSHGsl Women Groups etc. during 2015-16 season. The financial assistance for supplying 65 turmeric polishers will be Rs. 65 lakhs.

- **Spice Washing Equipments** - The objective of the scheme is to motivate the growers to adopt washing of spices after harvest by using washing equipments to improve quality of the produce for export. 50% cost of the equipment subject to a maximum of Rs.1.10 lakhs per unit is offered as subsidy
- **Seed spice cleaning & Storage unit** - The objective of the scheme is to set up primary processing facilities viz. threshing, cleaning, grading and storage of seed spices for export. Board will provide 50% of the cost of equipments required for setting up of primary processing facilities and accessories for storage subject to a maximum of Rs. 5 lakhs per unit as subsidy. No assistance will be given for construction of building purpose.
- **Cultivation of Lakadong Turmeric** - Lakadong / Megha Turmeric is having high curcumin content and hence suitable for extraction of colour. This variety is highly location specific and is very much preferred by the exporters for extraction of the colour. Availability of quality planting materials is a major limiting factor in its production. Hence a subsidy of Rs.18750/- per ha. towards 50% of the cost of planting material is offered under the programme.

- **Supply of Polythene sheets for drying chilli, pepper. seed spices and turmeric**

Freshly harvested spices viz. Chilli, pepper, seed spices and turmeric contain about 80% moisture and its shelf life is estimated to be two to three days, it is essential to dry the produce to about 10 % moisture level to prevent the development of microorganisms and subsequent loss of quality or total spoilage. Generally chillies, pepper, seed spices and turmeric are sun dried on earthen surfaces resulting in contamination of the produce. These spices have to be dried under hygienic conditions to improve the quality. Keeping this in view, it is proposed to supply 250 GSM HOPE sheets to chilli, pepper seed spices and turmeric farmers to dry the produce under hygienic condition.

The unit cost of HOPE sheet (250 GSM) of size 8 m x 6 m is approx. Rs. 3500/- and it is proposed to provide financial assistance for farmers @ Rs. 1750/- per sheet towards 50% subsidy. It is proposed to distribute 2857 HOPE sheets during 2015-16 season at a total cost of Rs.50.00 lakhs.

10.15 Scheme for Technology Upgradation/ Establishment/ Modernization for Food Processing Industries

This Scheme covers the following activities: Setting up / expansion / modernization of food processing industries covering all segments viz fruits & vegetable, milk product, meat, poultry, fishery, oil seeds and such other agri-horticultural sectors

leading to value addition and shelf life enhancement including food flavours and colours, oleoresins, spices, coconut, mushroom, hops. The assistance is in the form of grant subject to 25% of the plant & machinery and technical civil work subject to a maximum of Rs. 50 lakh in General Areas and 33.33% upto Rs.75 lakh in Difficult Areas (Jammu & Kashmir, Himachal Paradesh, Uttarakhand, Sikkim, North Estern, Andaman & Nicobar Islands, Lakshadweep and integrated Tribal Development Project (ITDP) areas)

- **Kerala Government - Technology Development Fund Scheme**
  Objectives of the scheme is to encourage Small Scale Units to upgrade the level of technology or to use modern technology to increase productivity/increase quality of product by providing credit capital subsidy. The scheme covers products like Ayurvedic products, cash crops – Oleoresin

- **New Scheme for Entrepreneurs –**
  Fixed capital investment upto 30 lakhs can be provided under this scheme and this shall be enhanced by 5% per annum during the period of operation of the scheme to address the escalation of costs. Industries like Agro based and food processing industry coming under the priority industries and all units, micro, small, medium enterprises included under priority sector shall be eligible for an additional assistance of 10% of the fixed capital investment subject to a ceiling of Rs. 10.00 (Ten) lakhs

- **Karnataka Govt – CSIR Schemes**
  CSIR has launched "CSIR-800" programme for the benefit of 800 million people of the country at the base of economic pyramid. Many CSIR laboratories are working in high science and are also generating meaningful S&T interventions for the common man. This will make science relevant to the farmers/ common man and improve the quality of product and efficiency of their process.

- **Andhra Pradesh Government –Commodity-based cluster development**
  GoAP will focus on commodity based cluster development to enable a focused and planned approach to developing the food processing industry based on the food production strengths of respective geographies. This will also help address critical issues such as human capital, workforce development, logistics, infrastructure planning and community development. For eg - Oleoresin cluster in Chittoor

- Food Parks developed, based on commodity produced in the identified cluster will be prioritized.
- Farmer's Producers Organizations (FPOs) will be encouraged in the identified clusters with support from NABARD etc.
- Facilities set up in identified clusters for processing of waste produced in food processing units will be provided grant of 50% of project cost up to a maximum of 2crore. This would be extended for facilities for vermicompost and other similar techniques.

10.16 Facilities provided by other countries – learning for Sikkim

Indonesia, Vietnam or Myanmar offer EPZ space and 5-10 year tax holiday to attract companies. Arjuna Natural Extracts, a leading manufacturer of turmeric based products, said that the company is seriously planning to set up a turmeric-based extraction plant either in Indonesia or in Vietnam or in Myanmar, where turmeric is cheap and abundantly available. These countries offer EPZ space and 5-10 year tax holiday to attract companies.

Conclusion:

To gain a competitive edge, the Sikkim needs to come up with innovative technical assistance, incentive/ subsidy policies as mentioned above in order to promote the industry. Based on health segmentation, Sikkim should target countries based on anti-oxidant, anti-inflammatory, anti-obesity is profiling. Suitable export strategies should be value addition and targeting niche markets like Japan with innovative product line.

CHAPTER 11

IDENTIFICATION OF SUITABLE MARKET STRATEGIES FOR GINGER

Although Sikkim produces good quality of organic ginger, the volume produced is very low. There is a tremendous scope for the farmers of Sikkim for fulfilling the rising demand for organic ginger in European countries. However, constraints relating to low yields, poor post harvest management, low returns to farmers, in efficiencies in supply chain, unavailability of appropriate technology for value addition as limited the market access of ginger. The chapter discusses the initiatives of marketing in China, Vietnam and Ethiopia. Trends in major exporting countries, trade intensity index with respect to major export markets have been analyzed to suggest suitable marketing strategies for ginger.

Ginger is an important commercial crop grown for its aromatic rhizomes which are used both as spice as well as medicine. It is used in many forms such as Raw ginger, Ginger powder, Ginger flakes and Ginger paste etc for preparation of many food products like ginger bread, confectionary items, curry powder, pickles, certain soft drinks such as ginger cocktail, carbonated drinks etc. Ginger is also used for manufacturing ginger oil, ginger beer, perfumes etc.

Ginger is cultivated in almost all the tropical and subtropical parts of India, especially in Kerala, Karnataka, Tamil Nadu, West Bengal, Bihar, Himachal Pradesh, Uttar Pradesh, Sikkim, and Maharashtra. Kerala contributing one third of ginger produced in India is the leading state.

11.1 Major Assembling Market in India

Sikkim is famous for organic ginger and it also produces good quality of ginger but volume produce in Sikkim is very less. As per National Horticulture Board, annual arrival of ginger in Gangatok market is only 530 MT in 2015-16. On the basis of annual arrival, main ginger markets in India are Delhi, Kolkata, Banglore, Mumbai, Jaipur, Ahamedabad, Pune, Nagpur, Hyderabad, Bhubaneshwar and Guwahati but production is highest in Assam followed by Gujarat. Arrival in Delhi is highest because it a big terminal market India.

Table 11.1: Major markets of Ginger in India

Major Markets	Annual Arrival (MT)
Delhi	83013
Kolkata	44190
Bangalore	36678
Mumbai	33922
Jaipur	33827
Ahmedabad	32827
Pune	17232
Nagpur	10979
Hyderabad	8385
Bhubaneshwar	8229
Guwahati	7924
Bhopal	7035
Chandigarh	6384
Chennai	6227
Ranchi	5078
Amritsar	4304
Lucknow	4245
Patna	3498
Shimla	2754
Jammu	2648
Raipur	742
Dehradun	735
Trivendrum	714
Gangatok	530
Nasik	316
Srinagar	281

Source: National Horticulture Boar

11.2 Area, Production & Productivity

Total production of ginger in the world is **2565.45 thousand tons with the total acreage of** 374.64 thousand hectares. India, Indonesia, Nigeria, China, Nepal, Thailand, Bangladesh are the leading ginger producers across the world. India is the largest grower of Ginger and also producer of dry ginger in the world. India accounts for 26.62 per cent of world's total ginger production.

In India, Ginger cultivation is mainly concentrated in Assam, Gujarat, Meghalaya, Arunachal Pradesh Sikkim, Karnataka and Orisha. Northeastern States has production of 322801 MT in 2013-14 accounting for more than 47 per cent share among Ginger producing states in India. Climatic condition of North eastern states is most suitable for ginger cultivation which entails maximum productivity among all ginger growing states of India except Gujarat. The ginger produced in NER also has higher oil and oleoresin content, making it one of the best in quality.

In all NER, area under ginger and production has increased from 2010-11 to 2013-14. Among all NE states, Assam (37.89%) is leading in area and production followed by Meghalaya (19.51%), Arunachal Pradesh (17.66%), Sikkim (16.14%) and Mizoram (8.79%).

Ginger produced in India is used mainly for domestic consumption. At present Ginger produced in the state is marketed in Delhi, Amritsar, and Hyderabad. The transit time from production belt to domestic market varies from 3-10 days and 20-30 days in case of export market

Ginger is cultivated in Sikkim is grown as one of the important cash crops of Sikkim. It is being grown below 1500 m above mean sea level occupying a considerable area and production.

11.3 Varieties of Ginger

In ginger, the region can be considered as treasure house of germplasm. There are several cultivated types of ginger available in the region which are generally named after the localities they are being grown. Certain indigenous types namely Bhainse and Gorubathan are grown commercially due to their high yield potential and big size rhizomes. Beside this, important local varieties grown in the states are Majhaule, Reshi, Tange, Patle and Jorethange.

Commercial qualities Ginger is generally sold as raw ginger in local markets but there are several other products of ginger like dry ginger, ginger powder, ginger oil, and oleoresin. The oleoresin and oil are known as high value and low volume products, which have great demand in western countries. The varieties with less fiber, high dry matter recovery, and high oil and oleoresin contents are having great export potential in international markets. Therefore, more emphasis to be given for those varieties, which are having the above qualities.

Varieties Of Ginger In Sikkim: Gurubathan, Nadia, Riode janaeiro, Sikkim selection 1, Thengpuri The local varieties of ginger contain higher quality of gingerol compare to the varieties like Nadia & Varada. Some of the recent improved varieties are Suprabha, Suruchi, Himigiry, IISR-Rejatha, IISR-Mahima, IISR-Varada and Manantoddy.

Total production of ginger in Sikkim is 52.11 thousand tons which is 7.63 % of total production in India and 16.10 % of total production in NER in 2013-14. Area covered under ginger in Sikkim is 9.30 thousand hectares in 2013-14. In Sikkim, ginger is cultivated in all four districts and among them, South Sikkim has highest area (3145 Ha) under ginger cultivation with a production of 18474 Tons followed by East Sikkim having area (3105 Ha) and production (16374 Tons), West Sikkim having area (2862

Ha) and Production (15600 Tons) and North Sikkim has lowest area (0.47 Ha) under ginger producing 2.084 tons in the year 2014-15.

In Sikkim, area and production both have increased from 2010-11 to 2014-15. Area under ginger was 8.51 thousand hectares in 2010 which became 9.58 thousand hectares in 2014-15. In case of production, it increased from 45.89 thousand tons in 2010-11 to 52.53 thousand tons in 2014-15. This indicate that Sikkim farmers started taking more interest in ginger cultivation. The Important Marketing centers for ginger are Melli, Gyalshing, Rangpo, Singtam, Nayabazar and Reshi.

Table 11.2: Production Cluster of Ginger

S. No	District	Cluster	Number
1.	East Sikkim	Rhenock, Rongli, Pakyong, Rorathang, Khamdong, Pandam, Shirwani & Rangpo	8
2.	West Sikkim	Reshi, Mangalbaria, Chakung, Timburbong, Tharpu, Gyalshing, Gelling, Samsing & Zoom	9
3.	South Sikkim	Turuk, Sumbuk, Bikmat, Rateypani, Namthang, Mellidara, Maniram, Namchi & Temi-Tarka	9
4.	North Sikkim	Dzongu, Lower Tumlong, Tingvong, Kabi, Singhik, Ringhim, Phensong, Toong, Naga & Lum	10

At present, in some areas of West Sikkim, certified organic ginger cultivation is going on over 400 acres of land. The places in particular are Meyong, Megyong, Berfok and Chingthang. Farmers are expected to fetch premium prices for their produce. The average production of organic ginger is 24 quintal per acre. This will encourage other farmers for horizontal expansion of ginger cultivating. The organically produced ginger from Sikkim is being exported to Netherland and being increasingly accepted there. It is expected to make entry into the European market in the years to come thereby throughing more opportunities as well as challenges before the farmers and entrepreneur in Sikkim. Hence, it is needless to exaggerate that there is a tremendous scope for the farmers of Sikkim for organic ginger cultivation. In Sikkim, ginger is among the major cash crops. Though the yield of ginger is not very good, still farmers used to get good return from the crop. The cost of cultivation for Ginger is Rs. 1,79,000/ per hectare.

11.4 Seasonality

Sowing is done from last week of February to March and it continues till April. Sikkim farmers use very high seed rate, depending upon the varieties 30 to 60 qtl/ha or even more seed is sown. Many farmers sow full rhizomes without breaking and the mother rhizomes are taken out and sold in the market later on. By the end of May to

end of June, farmers take out the mother rhizomes "Mau" leaving the sprouted bit of rhizomes in the soil. Accordingly, to them, it gives proper space to the developing rhizomes and extra income during off season.

Harvesting is done mostly from November to January after 8 to 9 months of sowing as per market demand. This crop is ready to harvesting when the green leafy pseudostem turns yellow and wither. It is dug carefully with a spade taking care not to bruise or break the fingers. The rhizomes can be stored at 13 degree temperature and 67 % RH for ten months.

The soil of most of the ginger growing area in Sikkim offer the required temperature and relative humidity to the ginger crops and thus most of the farmers leave a portion of crops un-harvested for seed purpose and harvest it at the time of sowing in February or March. Farmers normally get an yield of 3 to 6 times of the seed rate which comes approximately 160 to 240 qtl/ha. The yield up to 10 to 12 times has also been obtained by some progressive farmers under better management practices, especially by proper manuring and plant protection measures.

11.5 Harvest and Post Harvest Practices

Good post harvest management of raw ginger is essential to achieve efficiency and profitability in ginger. The PHM is seen as major value enhancing activity. The value enhancement at each step of PHM is required by following the established practices and operations and using low cost technologies. The discussion of the project team with the Professor and visit to CEPHT, has provided insights into focus of NAIP and technology transfer to farmers, FPOS and Entrepreneurs.

The value chain analysis of ginger is based on analysis of PHM activities in terms of requirement, practices available and technology/ processes required.

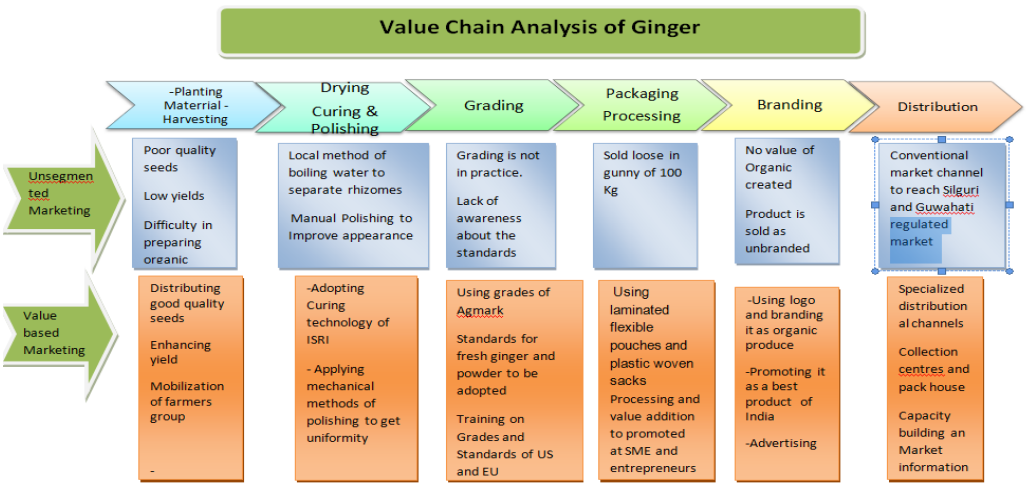


Fig. 47: Value Chain Analysis of Ginger

The unit operation in PHM as shown in the value chain of ginger are described below:

Harvesting

In Sikkim, Ginger rhizomes are harvested from October to January. The yield per ha area is 5-6 MT of ginger rhizomes. Cleaning and washing of the ginger rhizomes are performed at farm level. In general Gunny bag of 25 Kg capacity are used by farmers for packing the produce for further transportation.

Post harvest Practices

After harvesting, rhizomes are washed thoroughly in water 2 or 3 times to remove the soil and dirt and sun dried for a day. For dry ginger, the outer skin is removed with split bamboos having pointed ends. Only the outer skin is to be peeled since the essential oil of ginger remains near the skin, and dried in the sun for a week. The yield of dry ginger is 16-25% of the green ginger.

Big plumpy rhizomes free from diseases are selected immediately after harvesting. They are treated with a solution containing 0.05% of Malathion and 0.3% Dithane M-45 for 30 minutes. Drain the solution and dry the rhizomes under shade. Dried rhizomes are put in a pit of convenient size (2m X 1m) and covered with a prank fitted with 2-3 holes for aeration. In some area, the rhizomes are loosely heaped over a layer of sand or paddy husk and covered with dry leaves in a thatched shed.

For processing into products, ginger rhizomes are harvested 5 months after planting. The rhizomes are immature, tender and succulent. They are washed in water to remove soil and processed into salted ginger, preserved ginger in sugar syrup or brine and dry and crystallized ginger.

Maintenance of optimum moisture content is a big problem in Ginger. Good quality of Ginger is available in Sikkim but due to high moisture and lack of storage facility, quality is deteriorated due mold formation. As per different stakeholders temperature of Sikkim has increased in recent years therefore need of cold storage. Only two cold storage is available here in Mali and Rangpo.

Government has plant for drying of Ginger but they are only for demonstration and training. Drying, processing and packaging technology has been developed by college but its implementation on large scale is not done.

11.6 Price Spread in Ginger:

Ginger which is grown in Sikkim is of two types Mota ginger and Patala ginger. Price of Mota Ginger is higher than Patala Ginger. In Sikkim, Singtam and Jorthang are the main markets for ginger. Farmers of Sikkim do not approach directly to large traders

at APMC regulated market in Siliguri. There is no regulated market in Sikkim. Local traders /money lender directly purchase from farmers at price of 20 to 30 Rs/kg and sale it to large trader in Siliguri at price of 35 to 40 Rs/kg. Wholesalers/large traders sale the produce to retails after sorting grading and packaging which increase the cost of ginger by 40 to 45 %. Present consumer price in of ginger in Sikkim & Siliguri varies from 70 to 80 Rs/kg depending upon skin of ginger. Detail price spread of ginger is given in figure below :-

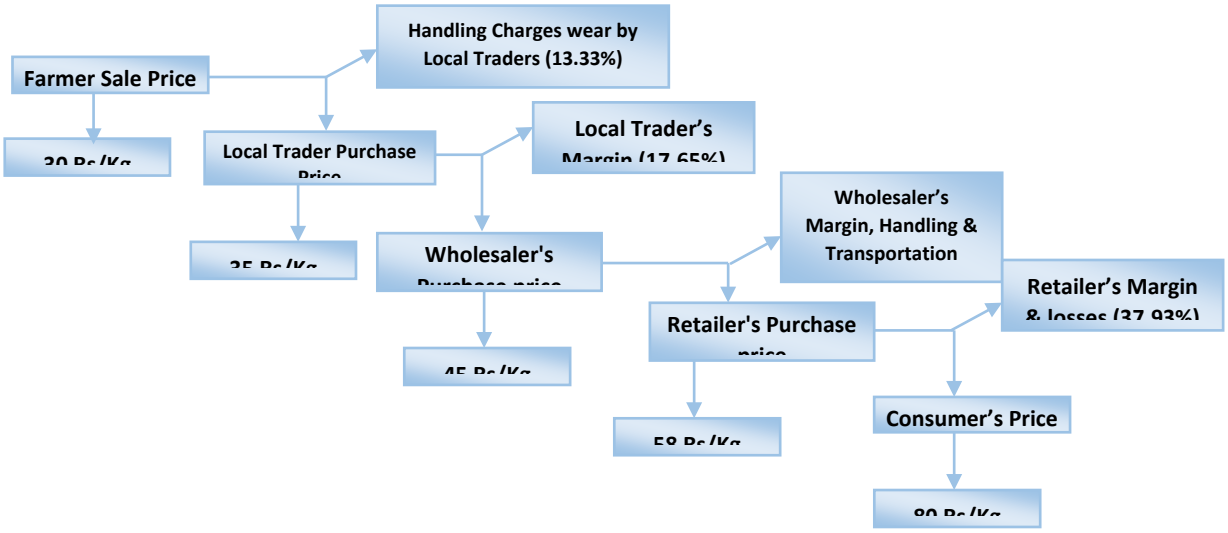


Fig. 48: Price Spread of Ginger

11.7 Seasonal Price Behavior of Ginger

Agricultural price analysis is one of the most important and well-developed parts of price analysis. It is well-known that agricultural prices have a tendency to display wider inter and intra year fluctuations. The three main factors responsible for such wide fluctuations are relatively low price elasticity of demand for agricultural commodities biological nature of agricultural production and seasonal nature of agricultural industry, i.e., the output becomes available at particular time or times in a year. The year to year fluctuations in production give rise to large fluctuations in farm prices because of the low elasticity of demand for most farm produce.

Farmers do not have a full control over the output and yield of the crop. The volume of production in the agricultural sector varies unpredictably from year to year, depending upon the weather conditions. It has been a well known dictum in the text on Indian economic problems that vagaries of monsoon and other factors cause great fluctuations in the production and prices of agricultural commodities.

Supply of ginger is mostly limited to only a few months immediately after harvest whereas the demand for it is throughout the year. A basic element in the formation of ginger price is the moderate storability of the product. Even dry ginger deteriorates after 6 to 8 months. This necessitates market clearance within the crop year, thereby ruling out speculation.

The monthly prices of ginger in different years given in figure below shows the seasonal movements. From the figure, it is clear that there was a substantial increase in the price of ginger during 2011-12 to 2015-16. Generally, the ginger prices are lower in January and the decline in prices continues up to June. Gradually it increases and reaches peak level in August-October. However, the pattern of seasonal fluctuations differs from year to year.

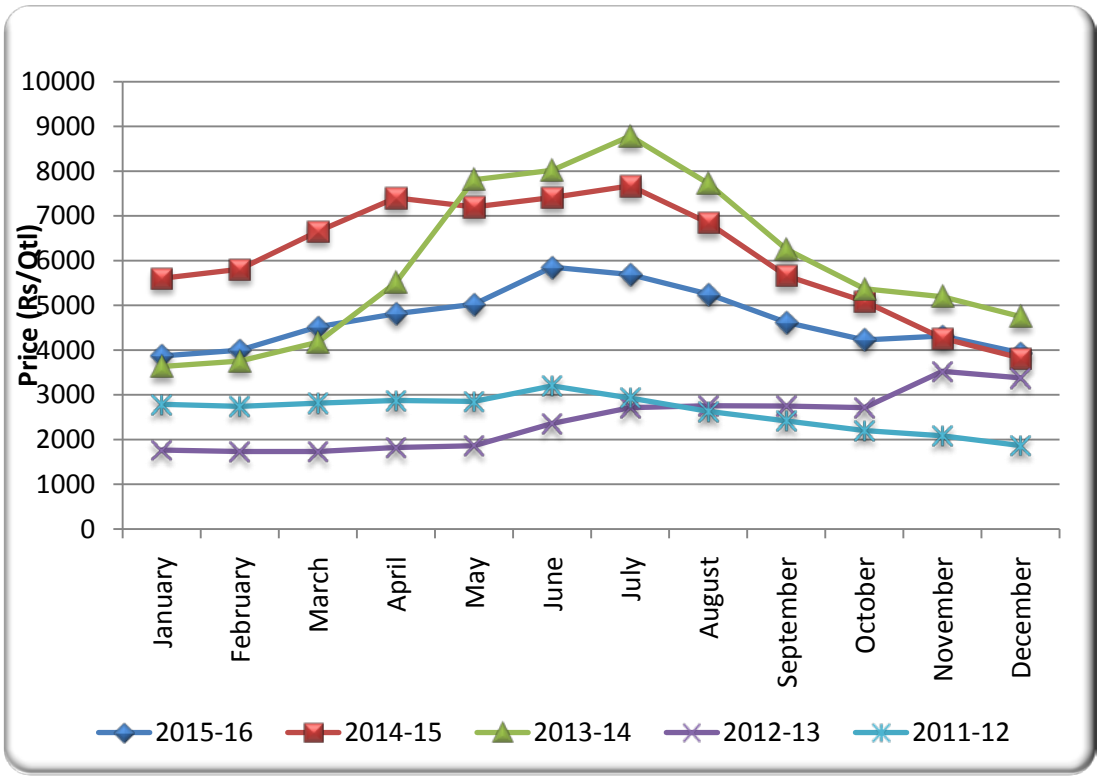


Fig. 49: Year and Month wise Price Variation of Ginger

Average wholesale price of ginger varies from 32 Rs/kg to 79 Rs/kg. In peak season (harvesting time of ginger-November to January) it is varies from 31 Rs/kg to 72 Rs./kg and in lean season it is varies from 33 Rs/kg to 101 Rs/kg. Average ginger price is always highest in Gangtok market.

Most of the farmers and the initial aggregator sale their produce without any sorting- grading and cleaning activity. This activity is done in the market by the wholesaler.

** Price is for peak season.

Transportation cost:

Silliguri to Rangpo transportation cost Rs 12000/ 8 ton truck = Rs 1.2

Silliguri to Kolkata transportation cost Rs 22000/ 15ton

silliguri to Delhi transportation cost Rs 36,000/ 15 ton

Silliguri to Bangalore transportation cost Rs 75,000/ 15 ton

In Sikkim, Singtam and Jordhang are main markets for ginger. Farmers of Sikkim do not approach directly to large traders at APMC regulated market in Siliguri. There is no regulated market in Sikkim. Local traders / directly purchase from farmers at price of 25 to 30 Rs/kg and sale it to large traders/ wholesalers in Siliguri at price of 35 to 40 Rs/kg. Wholesalers/large traders in Silliguri sale the produce to either retailers or traders from other states, after sorting- grading and packaging which increases the

cost of ginger by 40 to 45 %. Present consumer price in of ginger in Sikkim & Siliguri varies from 70 to 80 Rs/kg depending upon skin of ginger.

11.8 Movement outside Sikkim

Fresh ginger moves out from Sikkim through Rangpo and Melli check post. Movement of ginger outside Sikkim has decreased from 2011-12 to 2014-15 year on year. Quantity of ginger moved out in 2011-12 was 4194 MT and 2014-15 was 2399.48 MT.

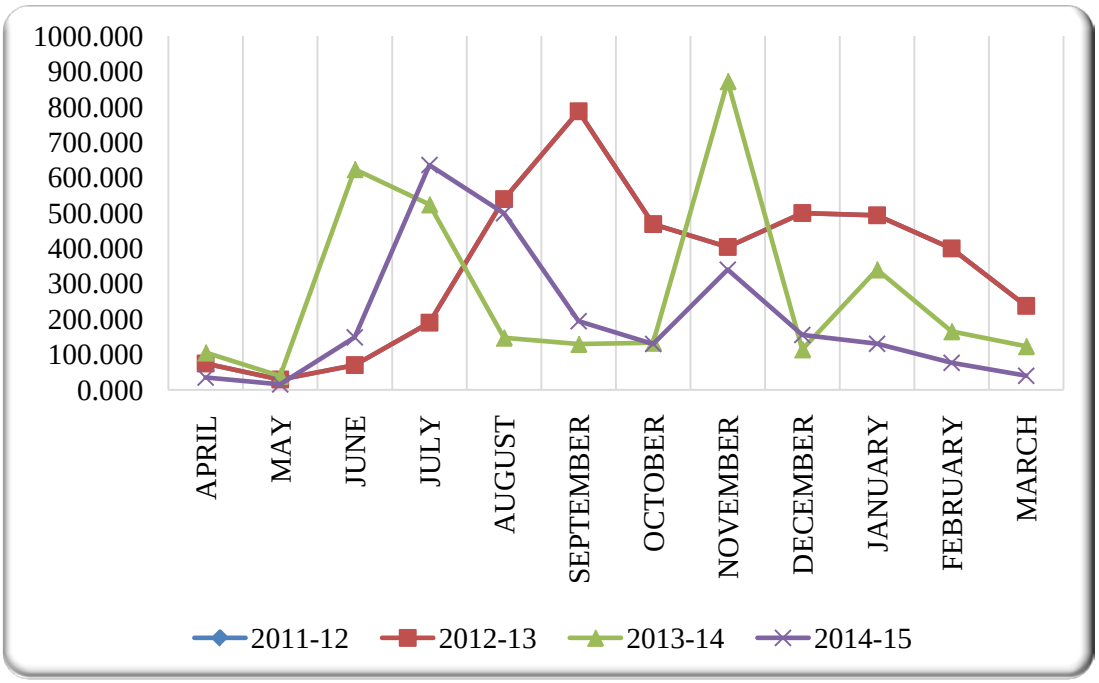


Fig. 50: Month wise movement of Fresh ginger from Sikkim

11.9 Marketing Channels

The general trend in selling of the produce, practiced by the farmers is either selling their produce to the aggregator at the village level or to the wholesaler or trader from Siliguri or Kolkata. Government agencies such as SIMFED & NERAMAC are procuring ginger and transporting it to Gangtok and Siliguri market.

Farmers only sell their produce to local trader. There is no organized market in Sikkim where commodities can be traded. Due to the lack of regulated market in Sikkim, prices of commodities is finalized by traders of Siliguri market.

In Sikkim, main market for farmers is Singtham & Jorthang where they sale their produce and from these market their produce move to Siliguri, Punjab, Delhi and Kolkata. It is not possible for farmers to reach Siliguri market because they have to pay toll tax of 50 Rs/bags.

Marketing Channel of Ginger:

Channel I Producer Retailer (Local market) Consumer

Channel II Producer Local TraderWholesaler/ Traders (Cachar/ Silliguri) Exporter in Terminal market (Bangladesh & Calcutta& Azhadpur (Delhi)) Consumer

Channel III Producer Local (Commission) agent Itinerants dealers (Local & Outside) Wholesaler / Traders (Cachar/ Silliguri) Exporter in Terminal market (Bangladesh & Calcutta& Azhadpur- Delhi) Consumer.

11.10 Marketing Infrastructure

An orderly marketing System by having a collection centre, pack house and terminal market is proposed.

The pack house infrastructure would be used to prepare export consignments for shipment by sea route. The operations like sorting grading, washing etc. will not only improve the appearance of the produce but will also enhance the shelf life. It gives an opportunity to penetrate other markets apart from the traditional local markets.

Pack house would take advantage of the modern technology for enhancing shelf- life of ginger, fresh fruits and vegetables by procuring produce during the peak season, when prices are at their lowest and to store and export/sell during off-season for higher price realization. Creation fully integrated infrastructure consisting of collection centres and pack house to meet all types of demand.

Activities to be undertaken in a pack house are as under :-

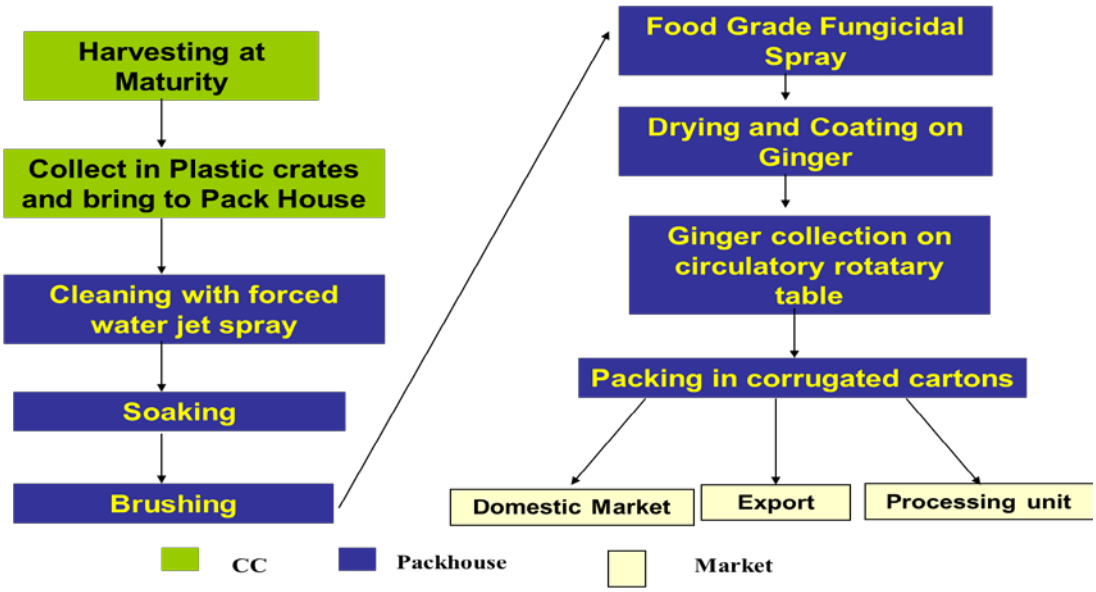


Fig. 51: Activity Flow in a Pack House

BOX -11 GIN-FED's market intervention

The average annual production of ginger in the Karbi Anglong district is 30,000 tonnes and it is grown by about 10,000 farmers. The ginger grown in Karbi Anglong has a low fiber content. Varieties such as Nadia and Aizol, which yield high quantities of dry rhizome and oleoresin oil, are in great demand among domestic buyers and exporters.

Within a few months of its formation, GIN-FED was able to spice up the lives of ordinary ginger-growers and free them from the clutches of middlemen. At the first meeting of its shareholders at Diphu, GIN-FED issued to each of them a bar-coded G-Card – the first commodity-based debit-cum-credit card in India for farmers to avail themselves of cash advances of up to Rs.10,000 from banks to cultivate ginger on two *bighas* of land.

Earlier, ginger-growers had to go in for distress sale of their produce at Rs.2.50 to Rs.3 a kg. Following GIN-FED's market intervention, the demand for Karbi ginger has grown phenomenally and the same middlemen who once short-changed them now offer up to Rs.15 for a kg.

11.12 Sikkim Ginger Compared to Its Competitors In International Markets

There are competitors of India in the world Ginger market. For eg. China, Nigeria, Thailand, etc. These competitors can be divided into two segments –

- Producers – China, Nigeria, Thailand
- Traders – Netherlands

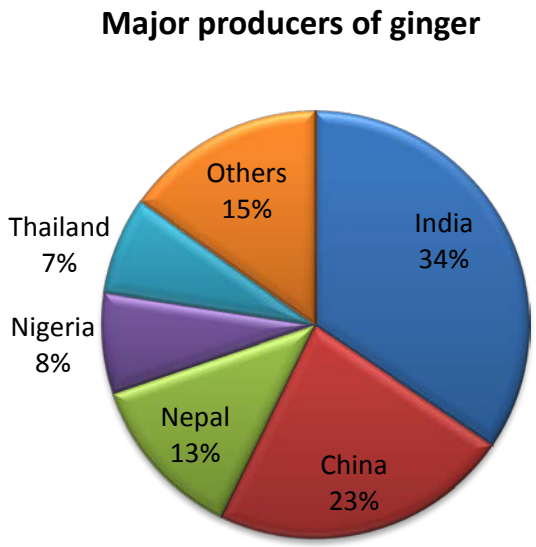


Fig. 52: Major Producers of Ginger in World

India is the largest producer of ginger followed by China and Nepal. Based on primary research, China's dominance in the trade of ginger and its huge home consumption, ginger production is expected to be higher than that of India. Apart from these, Ginger from Nigeria, China and Jamaica are known in the export markets.

Table 11.3: Characteristics of Ginger from Top origins

Origin	Flavour and Aroma	Gingerol/ Shagaol	Volatile oil	Crude fibre	Prefrence
China	Mild flavour and aroma well intact by mechanical drying processes	Low pungent compounds	Low	Low	Food and confectionary applications where softer and milder ginger required; Finely ground ginger powder
India	Citrus lemony	High pungent compounds	Med	High	Oleoresin extraction, Medicinal usage
Nigeria	Strong, harsh, spicy, woody		High		Ginger oil distillation as it offers best oil yields
Australia	Pronounced fresh citrus lemony aroma intact due to mechanical drying				
Jamaican	Mild spicy, sweet, slightly earthy woody				Known for usage in ginger beer

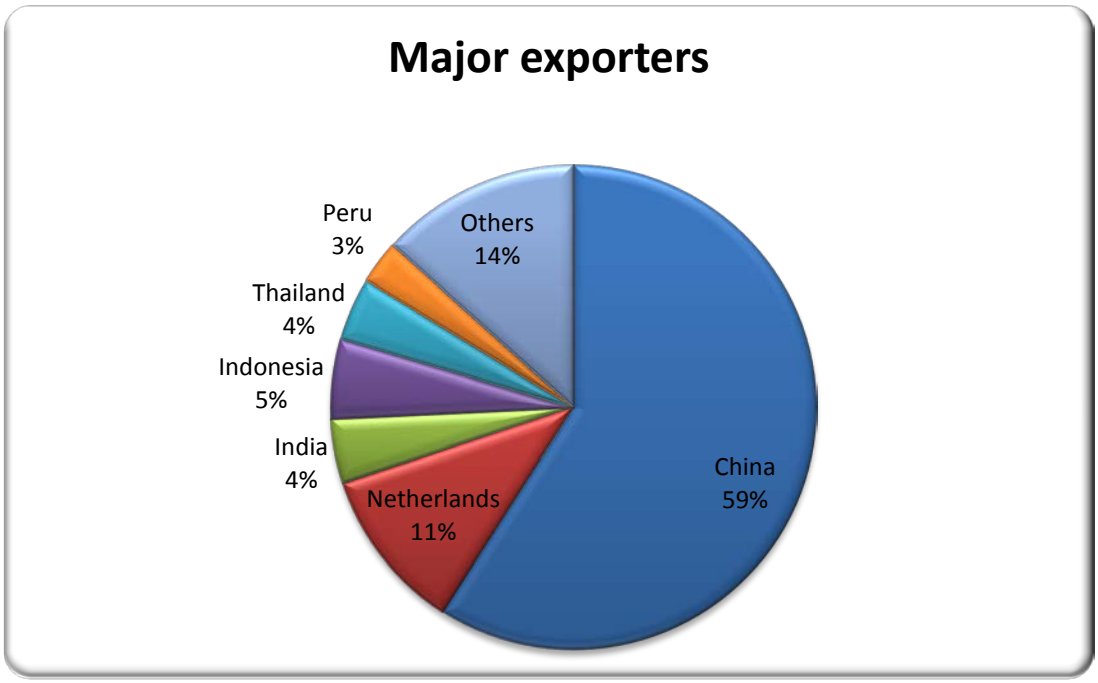
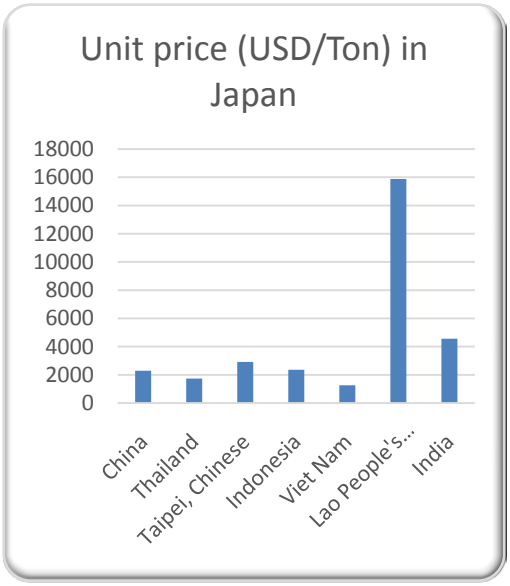
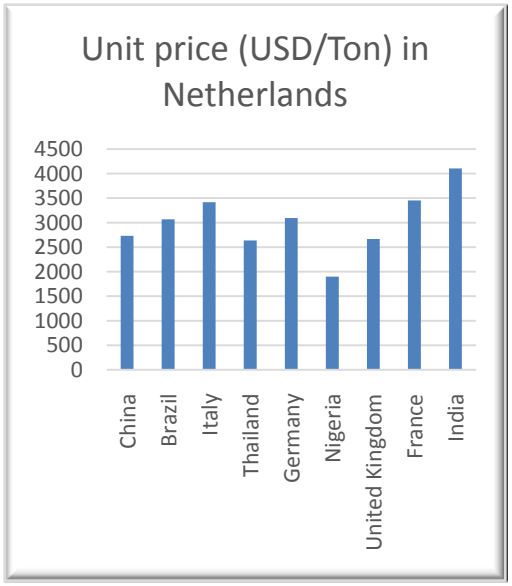


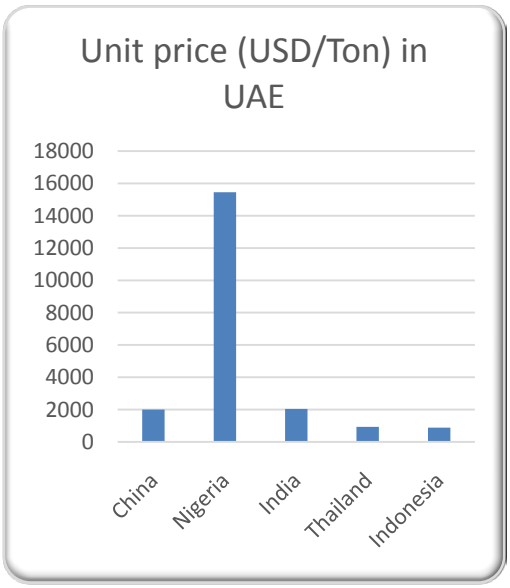
Fig. 53: Major exporter of Ginger in World

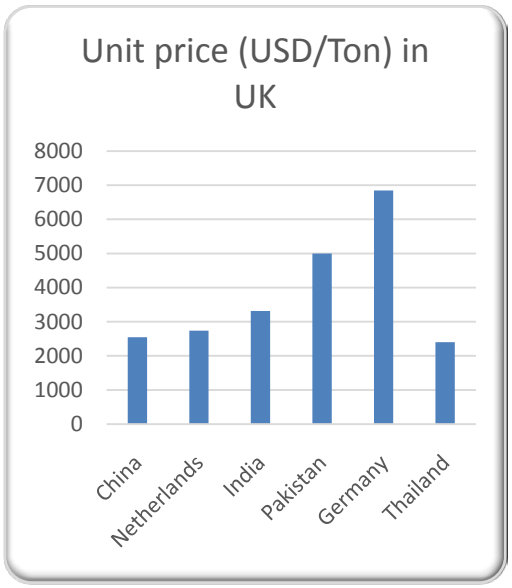
Though India produces 34% of the ginger in the world, it accounts for only 4% of the exports. China leads in exports of ginger having 59% of the market share. Countries like Netherlands have 11% of the export market but are net importers and not producers of ginger. This proves, how effectively this country markets ginger and acts as a trading country.

Unit prices (USD/Ton) for each of the competitor in the major import markets in 2014









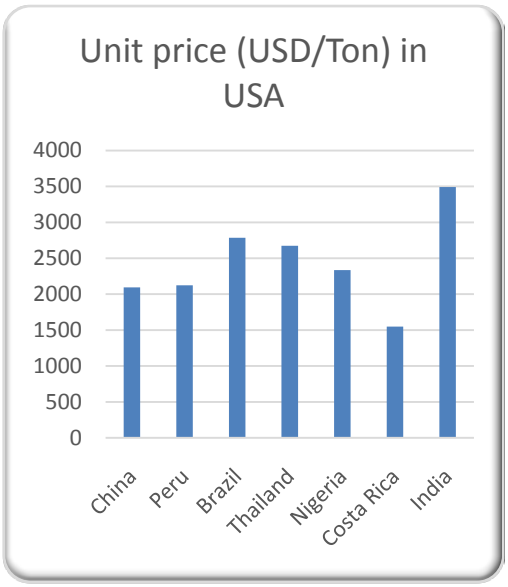


Fig. 54: Price and Value of Ginger in Importing Countries

Except in UAE, India's prices to all other major importing markets have high unit price and is highly uncompetitive against its L2 competitor. China has the least pricing in majority of the major importing markets. Both China and Thailand have competitive pricing in the major importing markets. This is because, productivity of ginger is very low in India, and China and Thailand are able to compete in providing **clean, bold and larger finger size ginger at lower prices** in the International market.

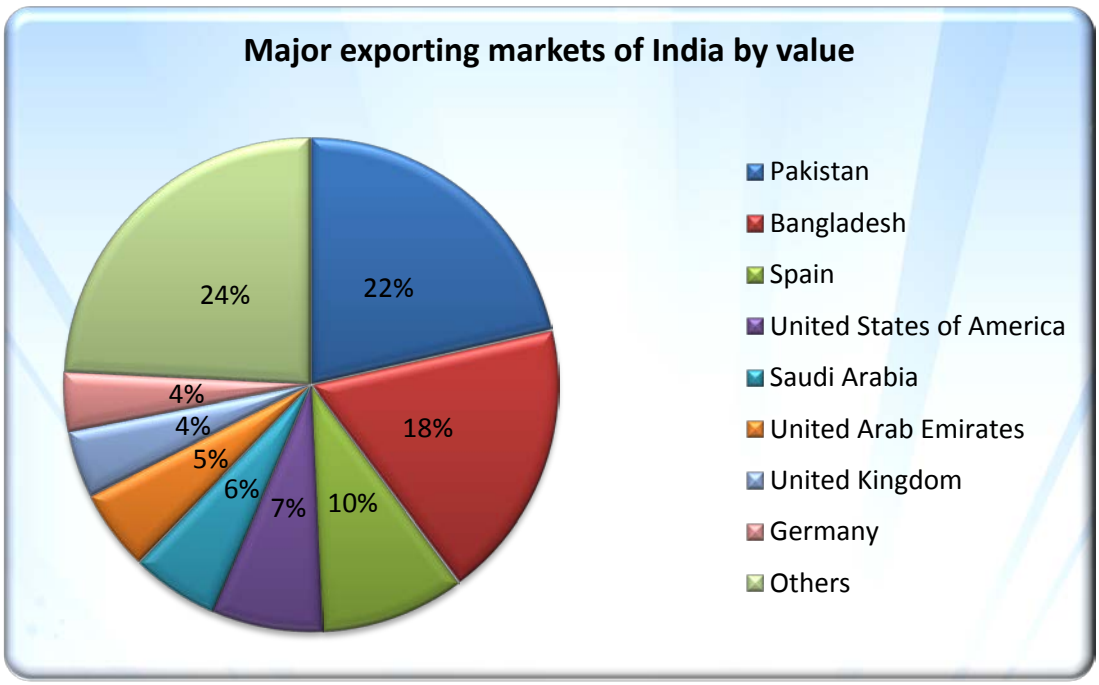


Fig. 55: Major exporting markets of India

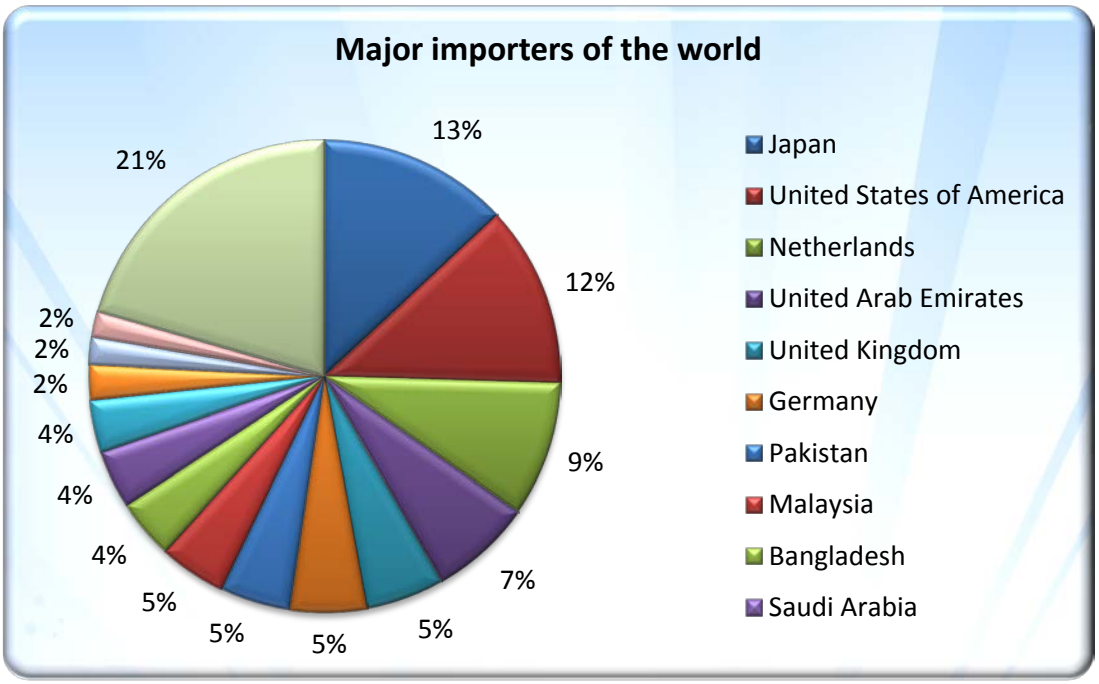


Fig. 56: Major Importers of Ginger

From the above charts we see that, there is a clear mismatch between the major export markets of India and the major world importing markets. While the major exporting markets for India are Pakistan and Bangladesh, the major world import markets are Japan, USA and Netherlands. Netherlands serves as importing countries and re-export to neighboring countries.

From the above charts, it can be observed that though India is one of the major producers of ginger, it does not feature amongst the top exporters of the world, has uncompetitive pricing and its target markets do not match with the major world import markets. This might be probably because the quality and the applications of ginger from L2 competitors are different from that of Indian ginger as seen from the above table.

Hence, it is important that India supplies to markets that has requirement for value added products of Indian ginger like oleoresin.

11.13 Food Safety Issues

Food safety issues have been rising in EU market. The incidences of food safety are exhibited and described as under:

- **Aflatoxin**: Ginger imports in EU have been reported incidences of aflatoxin. Ginger is prone to develop aflatoxin if it is improperly dried and stored.
- **Pesticide residue**: Ginger grows underground and has no direct exposure to pesticides and hence has reported low incidences of pesticide residues.

- **Pest infestation**: Being a starch based spice, ginger faces a mjor pest infestation by beetle *Lasioderma serricorne* which infests tobacco and turmeric
- **Sulphur contamination**: Indian ginger has had reported incidences of sulphur contamination which arises due to post harvest practices of sulphur fumigation in India which is practiced to hasten the drying and give the dried ginger a whitish appearance.

The incidence of number of notifications issued on Ginger Imports in EU countries is shown in exhibit.

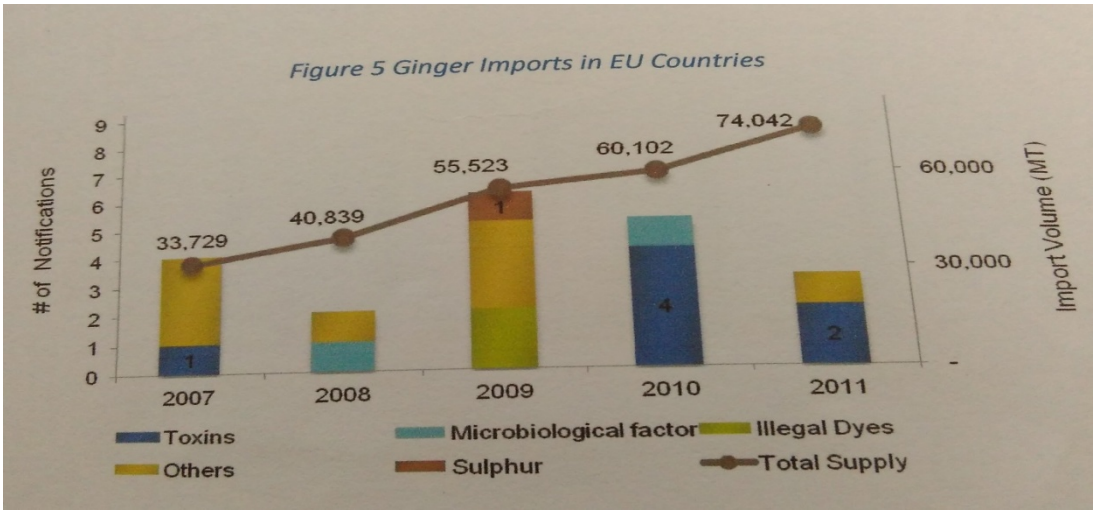


Fig. 57 Ginger Imports in EU Countries and Notifications

11.14 Action Points

Action Plan for the Sikkim Ginger .Where should Sikkim export its Ginger ?

11.14.1 Strengthening Linkages in distribution of exported ginger: case study from Vietnamese spice sector

There are three distribution channels linking farmers with export markets.

1) Channel 1: Farmers --- Cooperatives --- Food and Vegetable Processing Companies --- Export Markets

After a harvest, farmers conveyed ginger to cooperatives to sell to processing companies. Most farmers were a cooperative's members. In this case, the cooperative represented farmers in signing a written contract with processing companies. Categories, volumes, qualities and prices of ginger were stated in the contract. Cooperatives have responsibilities in controlling the volume and quality of ginger provided to processing companies. Ginger then can be exported directly or through Vietnam National Vegetable, Fruit and Agricultural Products Corporation (VEGETEXCO).

2) Channel 2: Farmers --- Local Traders --- Food and Vegetable Processing Companies --- Export Markets

Local traders purchased ginger off the farmers directly from the field. Then, ginger was sold to processing companies in other provinces. However, a low volume of ginger was purchased via this channel because processing companies applied this method only when there was a temporary shortage of supply. A contract between local traders and companies was verbally signed in this case. Processing companies are always concerned about quality of ginger acquired via this channel.

3) Channel 3: Farmers --- The head of Village --- BAVECO/Others --- Export Markets

The majority of ginger was purchased throughout this chain. After a harvest, ginger was transported by farmers to the procurement site in the village. Here, the head of the village represented the village's farmers to sell ginger to processing companies. The purchase is notarized by the Commune's People Committee. Then, processing companies processed ginger and exported directly or via the VEGETEXCO to abroad markets. Formal contracts (written contracts), signed between farmers and processing companies, were notarized by Commune's People Committee. A contract covered different issues such as volume of ginger, prices and harvest schedules. However, the contract did not refer to sharing values, risks and decision rights. Rights and obligations of partners in the contract framework were not clearly stated to settle conflicts; and both farmers and processing companies would break the singed contract if doing so generated a financial gain for them. This channel was used by BAVECO in purchasing of ginger in Dong Phu and Dong Hung communes.

11.14.2 Reducing price spread: learning from the case of Ethiopian Commodity Exchange (ECX)

Since the agricultural markets in Sikkim are characterized by high costs and high risks of transacting forcing much of its produce into global isolation; with only one third of output reaching the market, commodity buyers and sellers tends to trade only with those they knew, to avoid the risk of being default or cheated. Trade is done on the basis of visual inspection because there was no assurance of product quality or quantity, this drove up market costs, leading to high consumer prices. For their part, small-scale farmers, who produce 95 percent of the output, came to market with little information and are at the mercy of merchants in the nearest and the only market they know, unable to negotiate better prices or reduce their market risk.

Sikkim can adopt the model of ECX; a new initiative for Ethiopia. It aims in connecting all buyers to sellers in an efficient, reliable, and transparent way, by harnessing innovation and technology, and based on continuous learning, fairness, and commitment to excellence. The ECX assures all commodity market players the

security they need in the market by providing a secure and reliable End-to-End system for handling, grading, and storing commodities. The system also provides matching offers and bids for commodity transactions, a risk-free payment and goods delivery system to settle transactions, all in a fair and efficient manner. It creates trust and transparency through the aggressive market data dissemination to all market actors, with clearly defined rules of trading, warehousing, payments, delivery and business conduct, and also an internal dispute settlement mechanism. It provides market integrity of the product, the transaction and the market actors.

11.15 Indian exporting markets and world importing markets

To understand the mismatch, suppliers to each of the major world importers were analysed to understand India's competitiveness in these markets. China dominates in the Japanese market because of logistical reasons, food safe quality and Japan maybe using ginger mainly for food flavouring purposes. But Japan is also a market which is very health conscious and Indian ginger is preferred for medicinal uses. Hence, India should target Japan for medicinal applications.

Chinese ginger is mainly used in flavoring applications. India should develop varieties as per the requirements of the importing countries. In UAE market India contributes 4% as compared to 90% of the share of China. China holds 70% of the market while India has only 1-4% of the market share. EU and USA like Japan are food safe markets. It has to be understood if food safety is an issue in these markets and if Indian ginger is considered to be unsafe compared to competitor ginger.

If so, Indian ginger has to be grown according to food safety complying methods and accordingly marketed and branded in the international markets. India's share in the world market is very low. There can be two reasons – 1. Food safety issues; 2. Applications of Indian ginger is different i.e. Oleoresin extraction and medicinal usages. Hence, methodology of cultivation and post harvesting handling techniques should be improved to comply with the food safety markets. Also, technology and policies should support oleoresin extraction manufacturers; Spice board of India should promote and brand ginger oleoresin from India during trade shows and international conferences.

11.16 Learning from successful Cases across the world

11.16.1 Production and Export of organic ginger Case Study – China

Wanzai County in Jiangxi Province, one of the most successful large-scale examples of organic farming in China. Wanzai's experiment with organic agriculture began in 1999, when the People's Congress of the town voted to convert the entire township to organic production and banned all synthetic agro-chemicals. Not only was the local government the initiating force, but it also supported the process by training farmers, spreading new technology and marketing produce.

By the end of 2014, Wanzai had a total of 5,400 hectares of farmland planted in organically certified rice, ginger, soybean, strawberry, scallions, yam and other cash crops, both for the domestic market and for export. Today, organic agriculture is Wanzai County's main development strategy, with 17,000 households participating across 48 villages in 11 towns.

Learning for India

- More than 50% of total production of ginger in India is from North Eastern region, Sikkim and Uttaranchal States. Entire ginger in these states is cultivated almost organically. Uttarakhand has high productivity in ginger and is ahead of other states in producing certified organic products. Organic ginger has a suitable market in Germany, Netherlands, France, U.S.A. and Japan. It will be advisable to arrange appropriate shows, buyerseller meets to promote its campaigning. At the same time, Sikkim needs to be supported by providing quality planting material of high yielding cultivars.
- India has a low productivity of 5.23 which leads to increased prices and uncompetitiveness in the international markets. Maximum yields are obtained using clean seed and high inputs of quality water, fertiliser and organic matter. Improvements in farm management practices and pest and disease management could significantly improve productivity and profitability of growers. Knowledge transfer between growers themselves and between growers and researchers could also result in productivity improvements by growers and lead to greater profitability.

11.16.2 Case study – Australia

In Australia, an association exists known as Growcom Farm Management Systems (FMS). It helps growers:

- Plan farm management
- Assess the effectiveness of farm practices
- Identify opportunities for improvements
- Demonstrate management outcomes to external stakeholders

The association helps growers plan and document all aspects of a profitable and sustainable farm business. For Sustainable farm business two modules are developed:

Modules currently include: water use efficiency and soil health and nutrient management.

Modules being developed include: workplace health and safety; on-farm biosecurity; industrial relations; business management; water quality and wetlands.

How is it delivered?
One-on-one farm inspections with a Growcom field officer and small, targeted grower workshops.

Learning for India
Sikkim needs to create such supporting bodies to provide assistance to farmers in order to increase productivity.

11.16.3 Case Study – Sierra Leone

A pilot project was conducted to commercialize ginger cultivation in Sierra Leone with the assistance of ITC. The government provided technical assistance, information dissemination and evaluation of cultivation techniques. The private sector provided farm gate buying at good contractual prices. ITC provided technical assistance, study tour to India for farmers and financial assistance. This resulted in good quality ginger.

Seeing the benefits of the program, the government showed interest in ITC conducting post harvesting training programs for producing export oriented ginger.
Sikkim government could also take assistance from ITC for improving ginger cultivation and post harvesting practices. Also, it needs to provide financial support to the farmers for them to adopt these new practices.

11.17 Action Plan for the Sikkim Ginger: Which market should Sikkim target?

11.17.1 Exporting Markets of India

India has a huge domestic demand for ginger and 90-95% is consumed domestically and only about 30M.Kgs of ginger is exported from India which includes re-exports of Nigerian and Chinese Ginger.

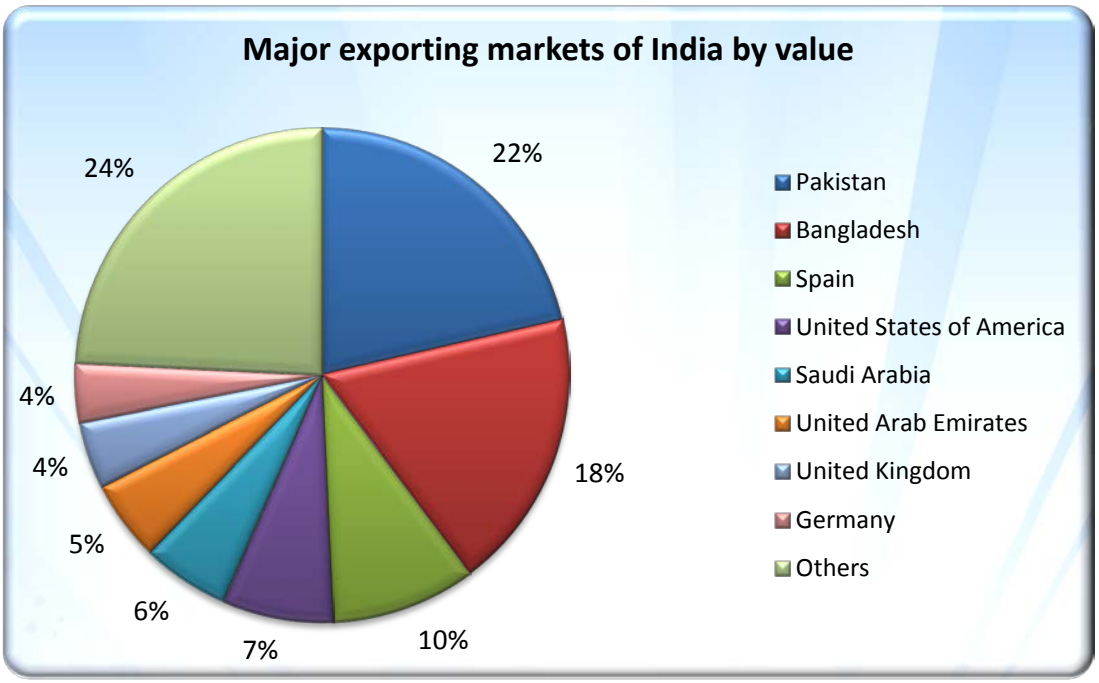


Fig. 58: Major exporting markets of India by value

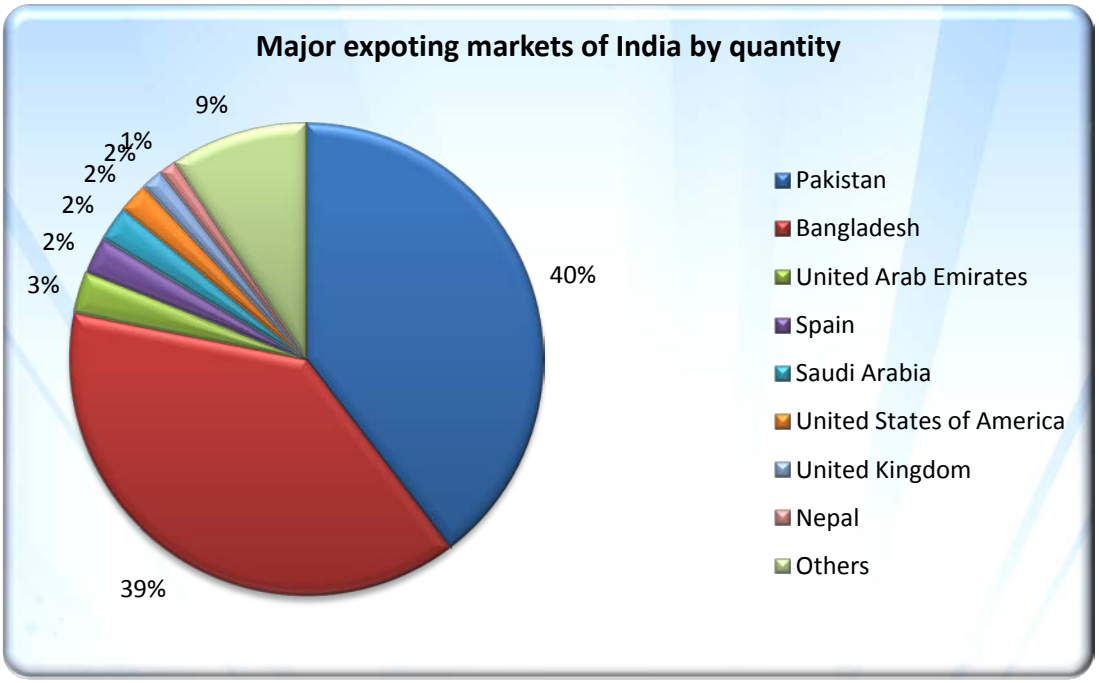


Fig. 59: Major exporting markets of India by quality

From the above charts it is seen that Pakistan and Bangladesh are major importers of ginger from India. Also, other major import markets are USA, Spain and UAE.

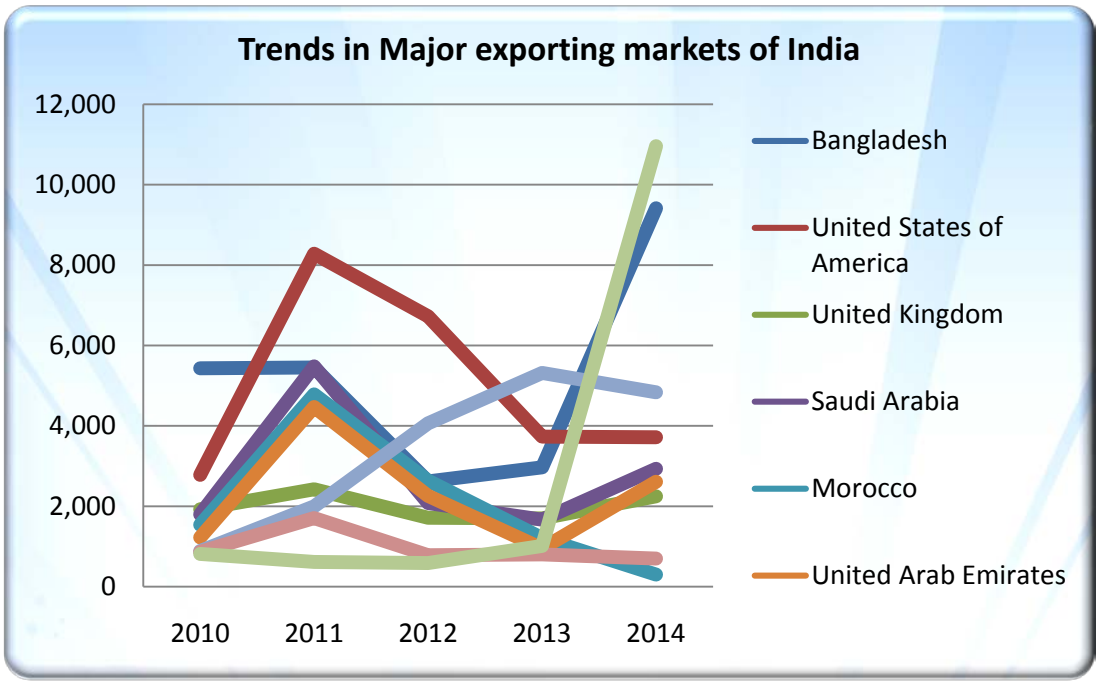


Fig. 60: Trends in Major exporting markets of India

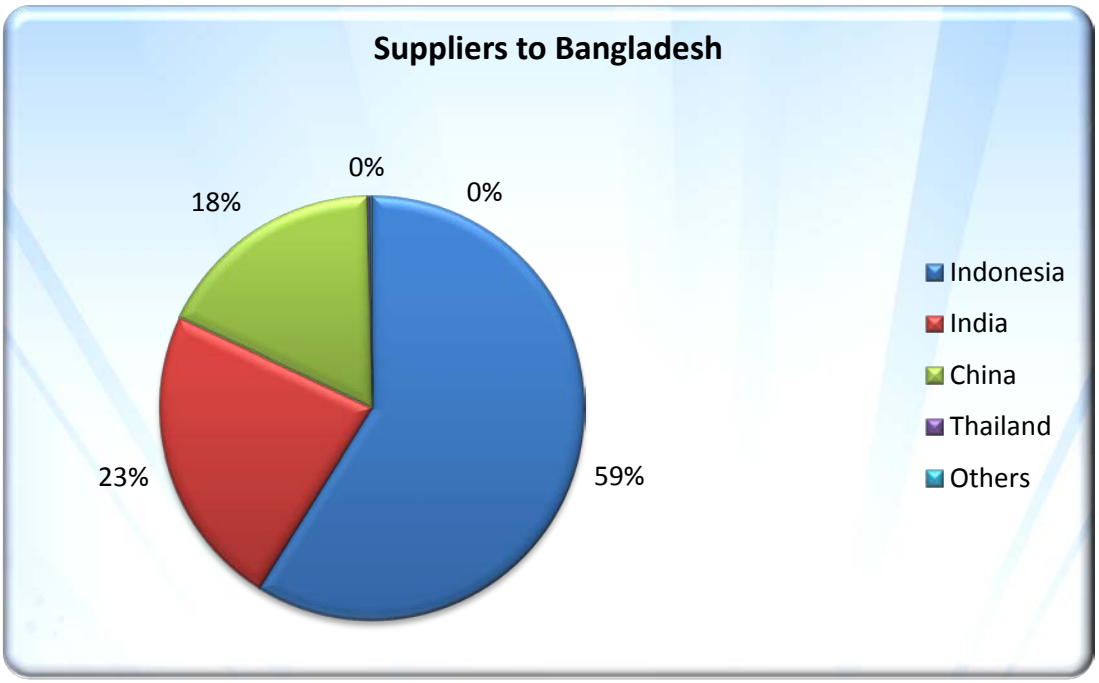
The above chart shows a sudden surge in demand from Pakistan in 2014 while Bangladesh has been amongst the top importers during the period, there has been demand fluctuations showing a declining trend till 2013 and a sudden surge in 2014. The rest of the market shows an increase in demand in 2011 followed by a decline till 2013 and slight increase in 2014.

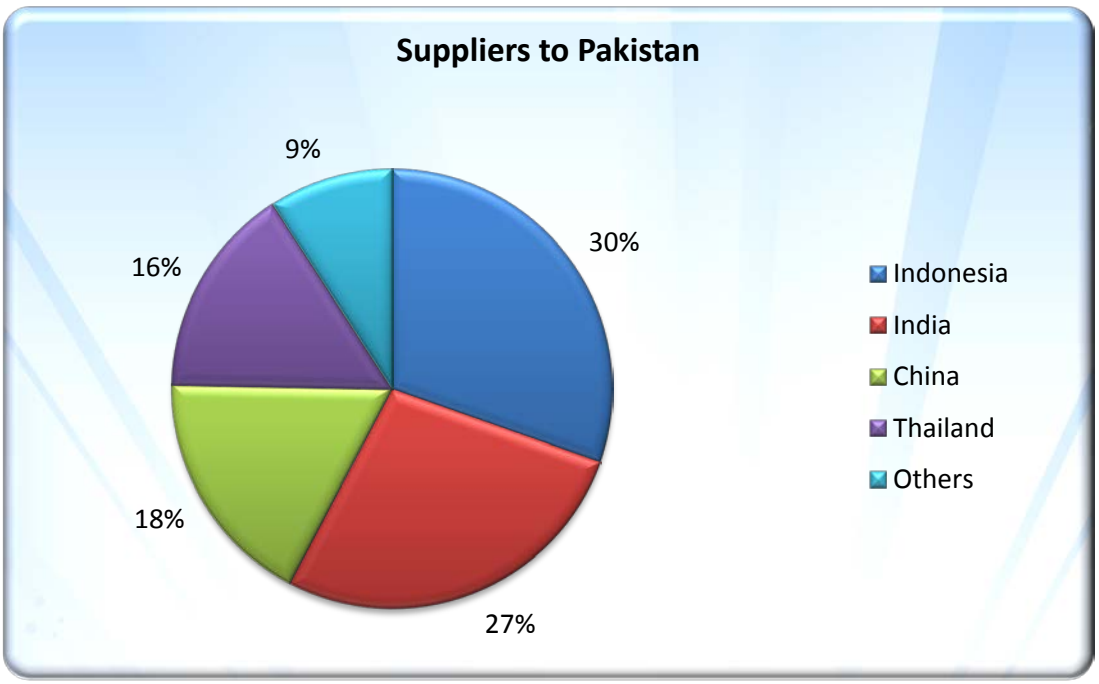
Major fluctuations in the export market

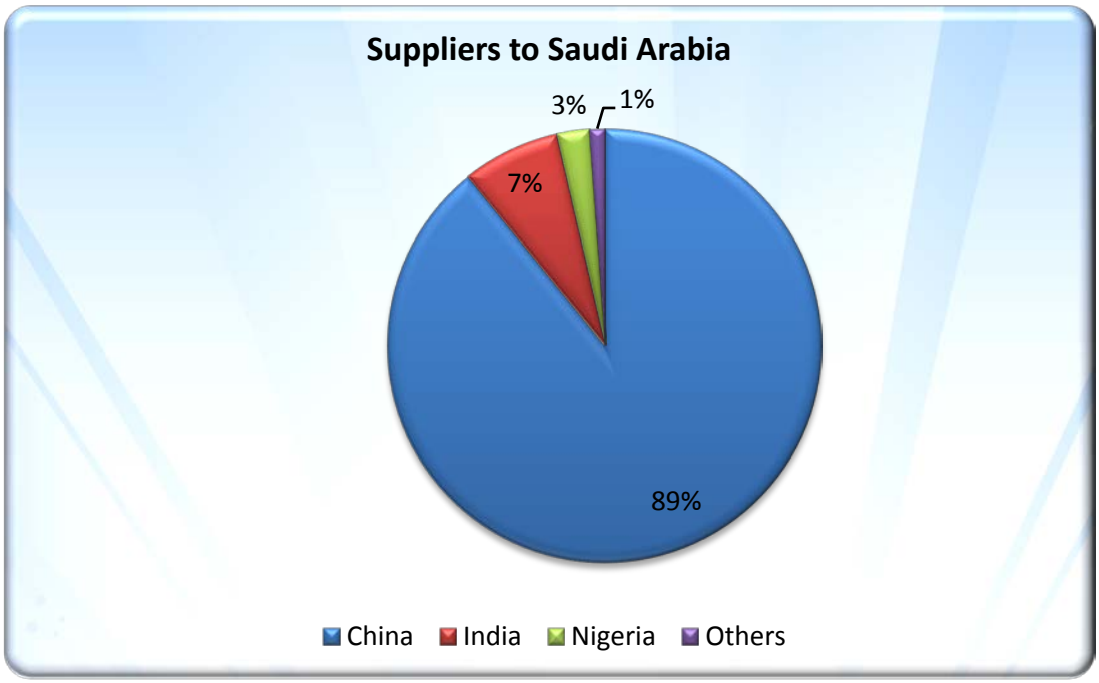
2010	**2011**	**2012**	**2013**	**2014**
Bangladesh	USA	USA	Spain	Pakistan
USA	Saudi Arabia	Spain	USA	Bangladesh
Saudi Arabia	Bangladesh	Morocco	Bangladesh	Spain
Morocco	Morocco	Bangladesh	Saudi Arabia	USA
UAE	UAE	UAE	Morocco	Saudi Arabia

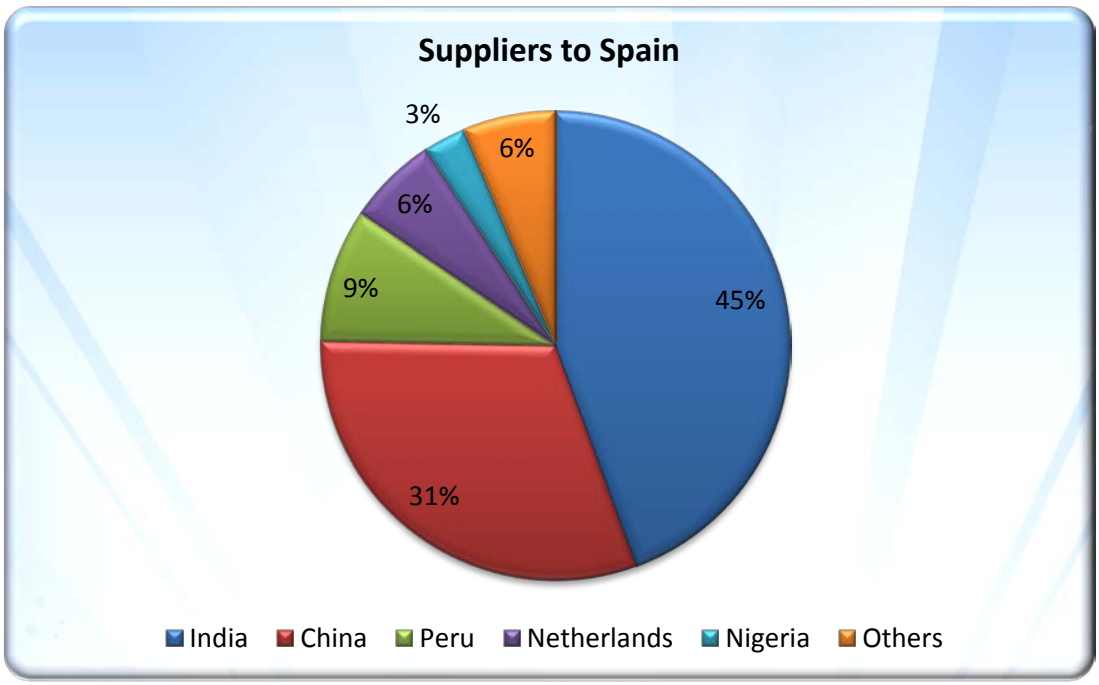
Bangladesh, USA and Saudi Arabia remains as the major exporting markets through the period 2010-14. Bangladesh was a top exporting market, but over the years other countries like USA, Spain and Pakistan has taken over that position. Pakistan is a new entrant in the list in 2014. Fluctuations are being seen in the major exporting markets of India from 2010-14.

Which countries are a major Suppliers in the major export markets:






Suppliers to Saudi Arabia
3%
1%
7%
89%
China
India
Nigeria
Others


Suppliers to Spain
3%
6%
6%
9%
45%
31%
India
China
Peru
Netherlands
Nigeria
Others

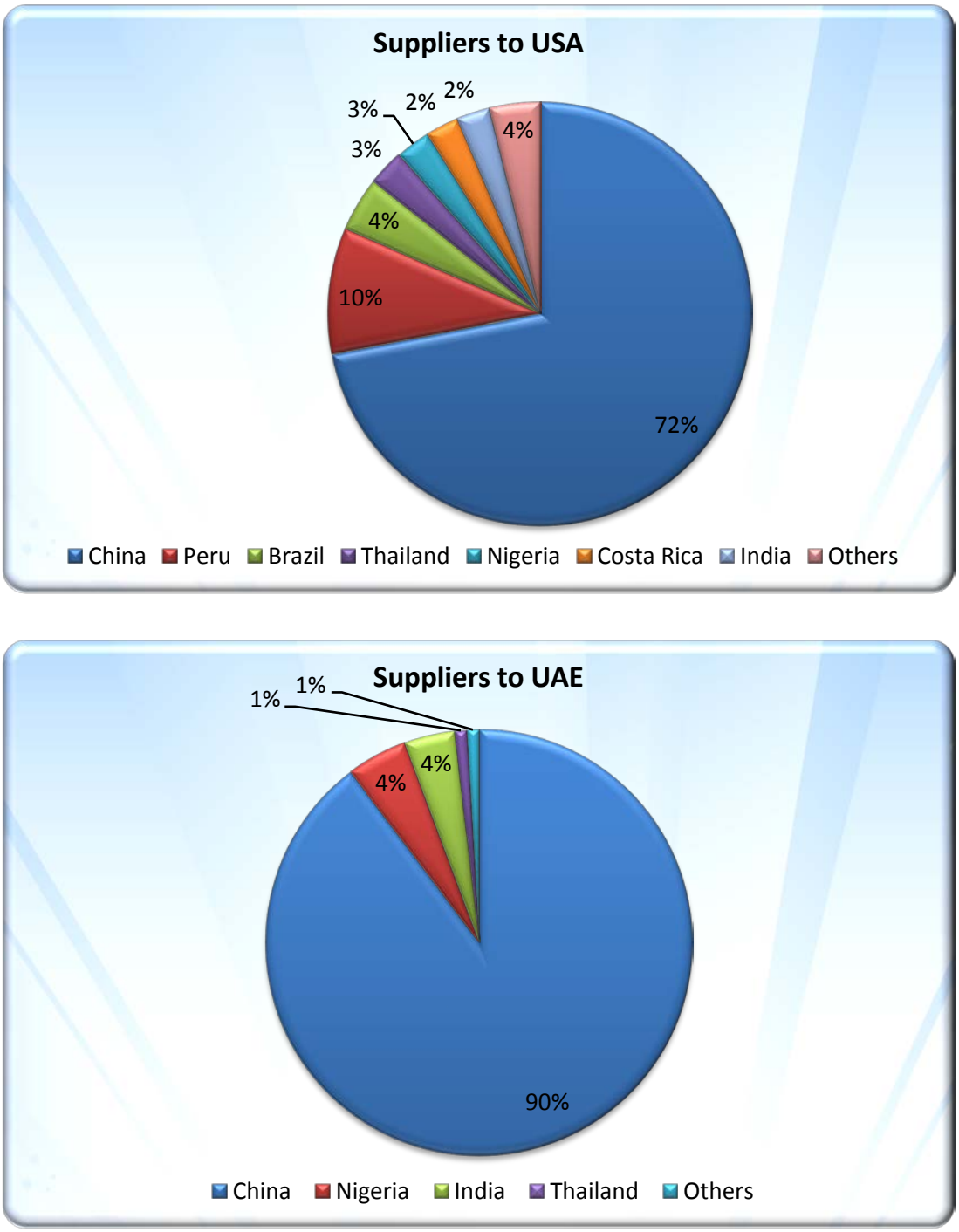


Fig. 61: Suppliers in the Major Export Markets

In Bangladesh and Pakistan (Asian countries) India has a good market share of around 25% while major competition is from Indonesia followed by China. Reasons to this needs to be understood since both the countries are logistically more closer to India and accordingly focused on.

In Spain, India is the major exporter with neck to neck competition from China. It has to be analysed what does the customer prefer and accordingly this market should be

focused on. Since, India already has a strong hold focus on increasing customer satisfaction should be the priority.

In USA, Saudi Arabia and UAE, the markets are dominated by Chinese ginger. India has a very small market share. The most obvious reason seems to be the price. Hence, India needs to work on lowering its export prices in these markets in order to increase its market share.

11.17.2 Trade Intensity Index of India for ginger with respect to major export markets

Trade Intensity Index: This index measures the extent to which L1 competition supplies the domestic demand of a country. A high TII would indicate that the country is open and acceptable to imports of that commodity from India.

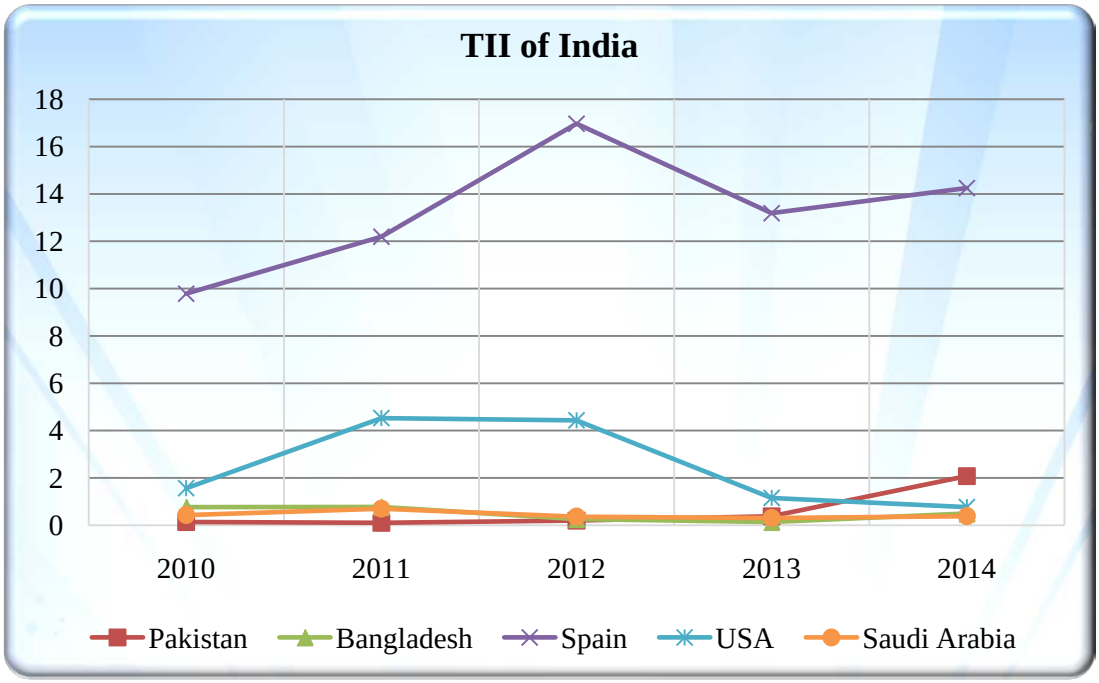


Fig. 62: Trade Intensity Index for Ginger

The TII gives the strength of India's ginger exports to the major markets vis-à-vis the world exports to the major export destinations of India. The observations are as under:

- As revealed from graph, for Spain there is an increasing dependency on imports from India vis- a – vis imports from the rest of the world.
- For Bangladesh and Saudi Arabia TII<1 which indicates that they are not dependent on India for imports.
- Pakistan shows a stagnant dependency on Indian imports till 2013 after which it shows an increasing trend (TII>1)
- USA at first shows an inclining trend till 2012 followed by decline in dependency on Indian exports.
- This chart reiterates its strong hold in Spain and its weak market share in the other markets.

Competitor's TII

Pakistan	
Country	TII
India	2.08
Indonesia	5.25
China	4.47

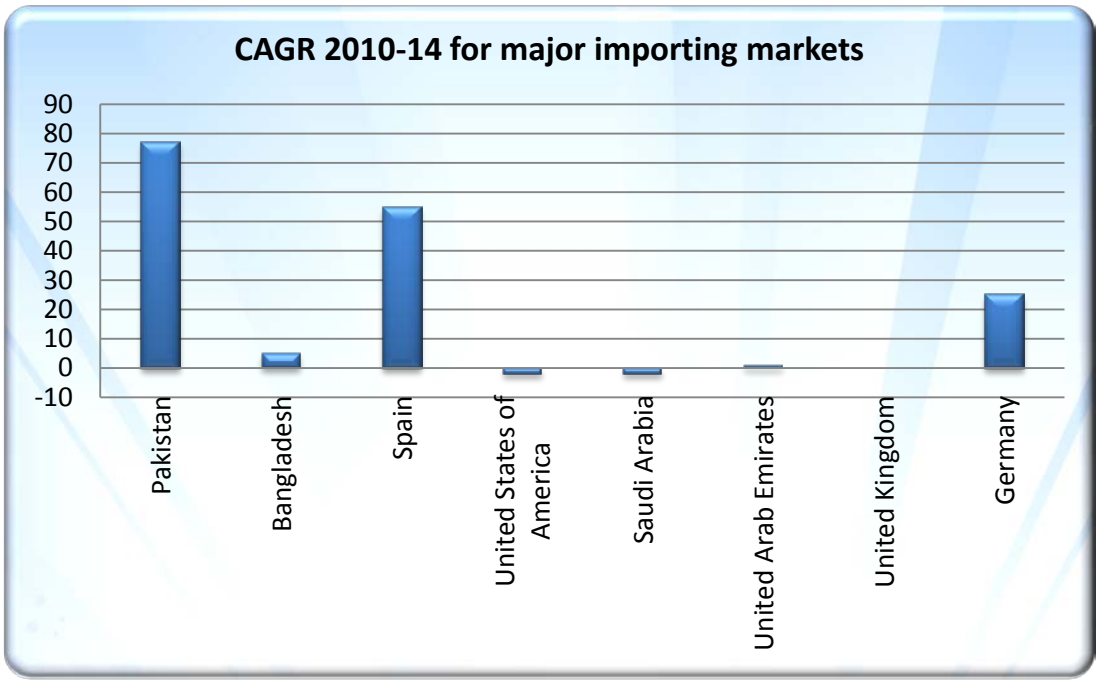
Bangladesh	
Country	TII
India	0.49
Indonesia	3.34
China	1.4

USA	
Country	TII
India	0.77
Peru	2.74
China	20.39

Spain	
Country	TII
India	14.24
Peru	6.31
China	5.63

Saudi Arabia	
Country	TII
India	0.37
Peru	14.3
China	9.17

Fig. 63: Growth rates of Major importing markets of ginger from India



It can be seen that for major markets are showing very slow growth. This indicates that India should focus on value added products and National tariff lines.

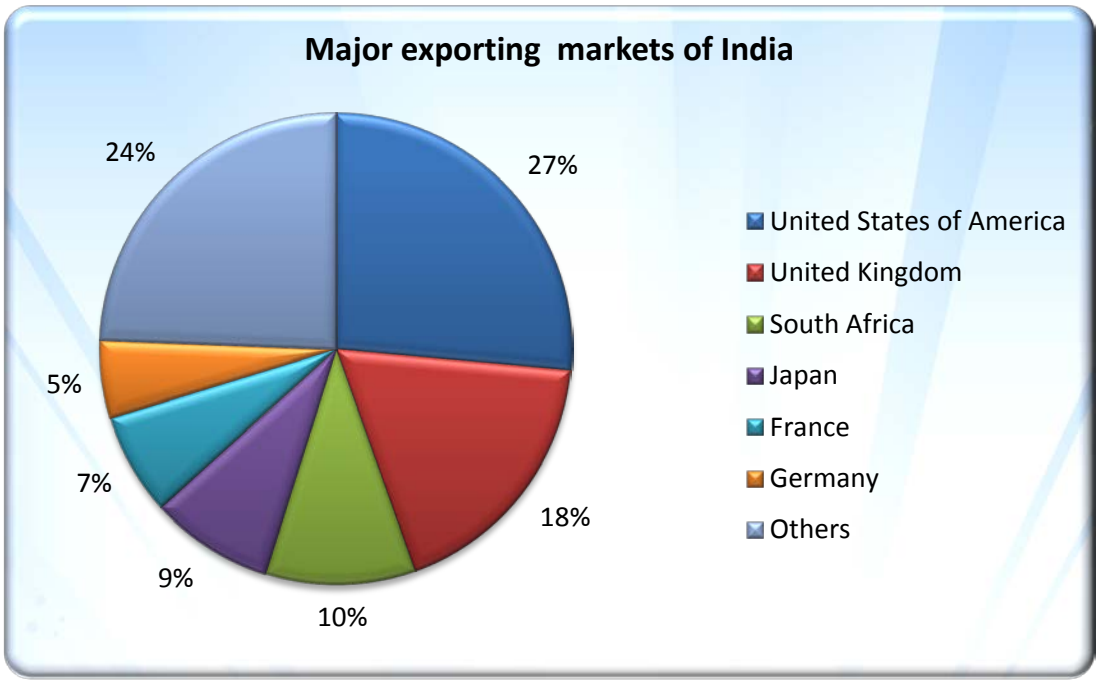


Fig. 64: Major exporting markets of India

Until now, the markets that have been identified have been existing markets where India already exports and where Sikkim can create a market for itself. Further based on health segmentation target countries which are susceptible to diseases which can be cured by ginger products**.**

The list of buyers organic spices from Sikkim is given in annexure - 3

Medicinal Property	Disease	Target countries
Digestive health	Digestive issues	Hungary, Slovakia, Portugal, Germany, Czech Republic, Spain
Anti inflammatory	Joint health	USA, UK, Sweden, Finland, China

Conclusion:

India's share in the world market is very low and that of Sikkim even lower. There can be two reasons – 1. Food safety issues; 2. Applications of Indian ginger is different ie. Oleoresin extraction and medicinal usages. Hence, methodology of cultivation and post harvesting handling techniques should be improved to comply with the food safety markets. Also, technology and policies should support oleoresin extraction manufacturers. There is huge range of products that find use in food industry, pharmaceutical industry, personal care, home care, baby care. It a high value market segment which can be targeted after consolidating production, supply chain and creating environment for value addition and investment. Spice board of India and Government of Sikkim need to promote and brand ginger oleoresin from India during trade shows and international conferences.

CHAPTER 12

IDENTIFICATION OF SUITABLE MARKET STRATEGIES FOR CYMBIDIUM (67021090)

Sikkim is fast emerging as an Orchid growing state with more and more people getting attracted to this cash crop. Infect Sikkim is the only state in the country which at present produces high volume cymbidium orchids and demand for the same from both in and outside country have been increasing. In order to have better market access the State needs to overcome hurdles in transportation to nearest market place, effective cold chain and adherence to stringent standards. The chapter discusses the export demand and price trend analysis for devising suitable strategies.

12.0 Product profile

Cymbidiums are being cultivated in partially modified greenhouses covering 32 ha area in Sikkim The area are Upper Lingtham, Thingchim, Lingza-Phodong in North, Naitam-Paubuik, Kartok, Assam-Lingzey in East, Nagi, Tangzi, Bikmat, Jaubari and TIngrithang in South Districts of Sikkim.

The major clusters of Orchid in Sikkim are:

Table 12.1: Major Cymbidium Clusters in Sikkim

S. No	District	Cluster	Number
1	East Sikkim	Naitam-Paubuik,Pakyong& Assam Linzey	3
2	West Sikkim		
3	South Sikkim	Nagi, Tangzi, Bikmat, Jaubari&Tingrithang	5
4	North Sikkim	Upper Lingtham, Thingchim&LingzaPhodong	3

12.1 Existing Marketing Practice: Flowers are usually transported by open trucks, buses or jeeps from Gangtok, Melli and other neighboring areas to markets outside Sikkim like Siliguri, Darjeeling and Kalimpong. About 2500 – 3000 cut flowers/Stems (Average size and length) can be carried by a single jeep. Cut flowers are packed in cartons and then placed in jeep for transportation. Each carton packs about 120 -150 cut flowers/stems (average size and length).

Main Markets: The domestic market for cymbidium cut flower are the urban cities.

MAIN MARKETS IN INDIA –	MAIN MARKETS ABROAD –
❖ New Delhi	❖ JAPAN
❖ Mumbai	❖ IRAQ
❖ Ahmedabad	❖ SINGAPORE
❖ Kolkata	❖ DUBAI
❖ Pune	❖ MAYANMAR
❖ Kochi	
❖ Chennai etc.	

12.2 Marketing Channel

Market channel structure of flowers in Sikkim consists of Growers' co-operative (e.g. Namchi Orchids Grower Co – operative Society, Kangchenzongo Horticulture Society etc.), Joint Ventures (Sikkim Flora Limited and Sikkim Himalaya Orchids Limited), Nurseries (Hidden Forest, Beyul Nursery, Wayside Garden, Flora Nursery, Puspanjali Nursery, Sunakhari Nursery etc.), Government farm (Model Floriculture Center at Namli, Farm at Mallidara for Gladiolus bulb Multiplication, Farm at Hilley for Lilium bulb Multiplication) and Flowers Agri Export Zone in East Sikkim. Major existing marketing channels through which the trade is occurring are as follows:

- **Sale to Middle man at production center** – Individual farmers or growers co-operatives in Sikkim sell their produce to middle man and the middle man then carry the produce in the market.
- **Sale in local market** – Individual farmers bring their produce to the local market. Flowers are transported through jeep; bus or open truck and transport arrangement are made by farmers.
- **Sales to Nurseries and retailers in Sikkim** – Small farmers sell directly to nurseries and retails (in Sikkim mainly in and around the Gangtok). The retailers provide their specific requirements to the farmers who supply the flower. Any sorting/grading is carried by the farmers in the farm (only simple, traditional sorting of flowers). Farmers also sell their flowers to nurseries and middle man in Kalimpong and Siliguri.
- **Sale in exhibition, flowers shows and SIMFED** – Member farmers of growers' co-operative sell on an average up to 10 % of their produce in the annual mela. Floriculture produce is also sold in flower exhibition that are organized around the year at the Flower Show Venue in Gangtok. SIMFED also purchase flowers from farmers and sell it in distant market like Delhi.
- **Sale by Nurseries** – Nurseries sell their produce in the local market, to the retails outlets, florists, hotels and offices. The nurseries also sell their produce to buyers (wholesalers) in Kalimpong and Siliguri. Major existing marketing channel through which flowers trade is occurring are described below:

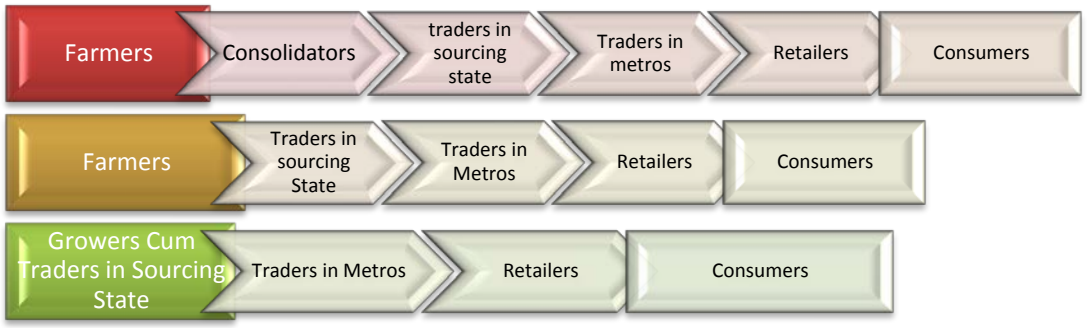


Fig. 65: Marketing Channel of Flowers in Sikkim

The trading of flowers from Sikkim to metros, consolidators, aggregators and commission agents play major role at the production end in aggregating the products and making it available in the markets. These intermediaries increase the produce price and make it less competitive in distant market. If we develop a platform at which all trader directly purchase the produce from farmers then it will reduce the produce price by 25 to 30 % and will make the produce more competitive in distant market.

Small farmers in Sikkim receive the lower price as compared to large scale farmers' group. Large farmers and farmer's group can sell directly to the traders, pack house or to Siliguri markets whereas the small farmers are able sell to middle man/ consolidators/commission agents only.

The factors determining price of Orchid is as follows:

- Number of Flowers
- Length of Spikes
- 4 Colours of Flowers
- Shelf Life
- Extent of Blooming of Flower Buds Others
- Prices of cut flowers according to DARJEELING GARDEN PVT LTD.

There are 5 different grades of orchids- A+ , A , B , C , D.

GRADES	STICK LENGTH	PRICE/stick
A+	70 cm	Rs 290
A	65 cm	Rs 250
B	60 cm	Rs 200
C	<50 cm	Rs 150
D	<45 cm	Rs 100

Problems related to Marketing: The problems related to marketing of Orchids are as follows:

- ❖ High cost of planting material
- ❖ High charges for transportation.(additional charges of rs 4000 per 120 pieces if send through airways)
- ❖ Low production so cannot full fill demands from abroad.
- ❖ Damage of flowers due to improper packaging methods.
- ❖ Less number of processing units and value addition centers.

12.3 Marketing Strategy:

Considerations:

1. The produce is perishable and requires cool chain management.
2. Low area under production and low volume which makes it uneconomic to export.
3. There is a demand for Cymbidiums in domestic market as well as in international market.
4. There is a scope for entrepreneurship for developing value added decorative products.

Sikkim annually produces Rs 20 million worth of orchids on an average. A cut stalk (floret) costs between Rs.20 and Rs.150 depending on the quality. The state government has introduced a special package in 18 clusters under which 50 flori-farmers have been given 500 orchid plantings (saplings) each with necessary support for cultivation, training and marketing.

The state has to overcome several challenges to send the produce out to the national market. -The first hurdle is transportation to the nearest marketplace, an effective cold chain is another area of concern. During monsoon, when the roads are blocked by landslides, transporting the flowers to markets in New Delhi and Kolkata becomes difficult.

Orchids and other horticultural products are marketed by SIMFED - the government's national sales network.

Sikkim and the northeastern states-the country's premium place for traditional orchid ce - should concentrate on the domestic market and explore its "optimal capacity" for high returns instead of eyeing bigger export share globally.

The region needs to look at expanding markets in New Delhi, Mumbai, Bangalore and Chennai. They fetch good prices. The critical thing is to ensure top quality in the

market every day. Going to the international market requires adherence to stringent standards.

The National Research Centre for Orchids - a Sikkim government-aided facility at Pakyong, 12 km from Gangtok - has developed four new hybrid varieties of orchids from the tissues of the 2005-2006 crop to help the state compete with states like Kerala, Tamil Nadu, Maharashtra, Assam and Orissa in the national market, its when it opened . The centre has collected and preserved 850 species of the 1,300 orchids in the region. The mandate now is to conserve orchids, catalogue their molecular characterization, enrich cultivation and check bio-piracy.

12.4 Marketing Infrastructure

There is a requirement of an Organized marketing structure for Orchids. State Horticulture Department is planning to develop flower auction in Singtam.

Setting up state-of-the-art auction centre will facilitate linking of the distant markets with production areas of the states. It will also help the traders in big cities to source their requirements by establishing direct link with the market or traders buying produce in the auction. The market will promote Sikkim produce in the metro markets. Consequently, the market will help to increase farmer's share in end consumer price and reduce the role of intermediaries.

In addition, the facility would provide logistics support including cold chain support and facility for storage, cleaning, grading, sorting, packaging of produce and extension support and advisory to farmers. Moreover, the infrastructure such as cold store and refrigerated transport vehicles will help the wastage in the value chain to come down.

There is an immense possibility of developing a vibrant Cymbidium Industry in Sikkim.(State Programme of Sikkim- Report).

There is a need to bring value addition in the flower. Looking in to the best practices followed in by other Countries, the point emerges that innovations have to be encouraged to develop products for value addition.

Shrink Wrap Gift Box: College of Agricultural Engineering and Postharvest Technology (CAE&PHT)has also developed Shrink Packaging Technology for packaging of Cymbidium. This technology is for grade B and C flowers of cymbidium. The flower spikes can be packed in a gift box with a Shrink wrap. It increase the shelf life of flower from 15 to 20 days. The cost of a box is Rs 50. The orchids packed this way can be sold as gift items at flower counters at Airport and Railway Stations and

other points in city. CAE&PHT has trained entrepreneurs for packaging of flowers and its marketing.

Box: Dry Orchid Flower

Product –The product is dry orchid flowers in a wide range of Colours like pink, yellow, white, purple and in mixed tenure. Some of the varieties are of Cymbidium Species like Winter Flowering Orchids- *Cymbidium lowianum,C. mastersii*, Spring Flowering Orchids-*Cymbidium devonianum,C. eburneum*, Summer Flowering orchids-*Cymbidium aloifolium.*

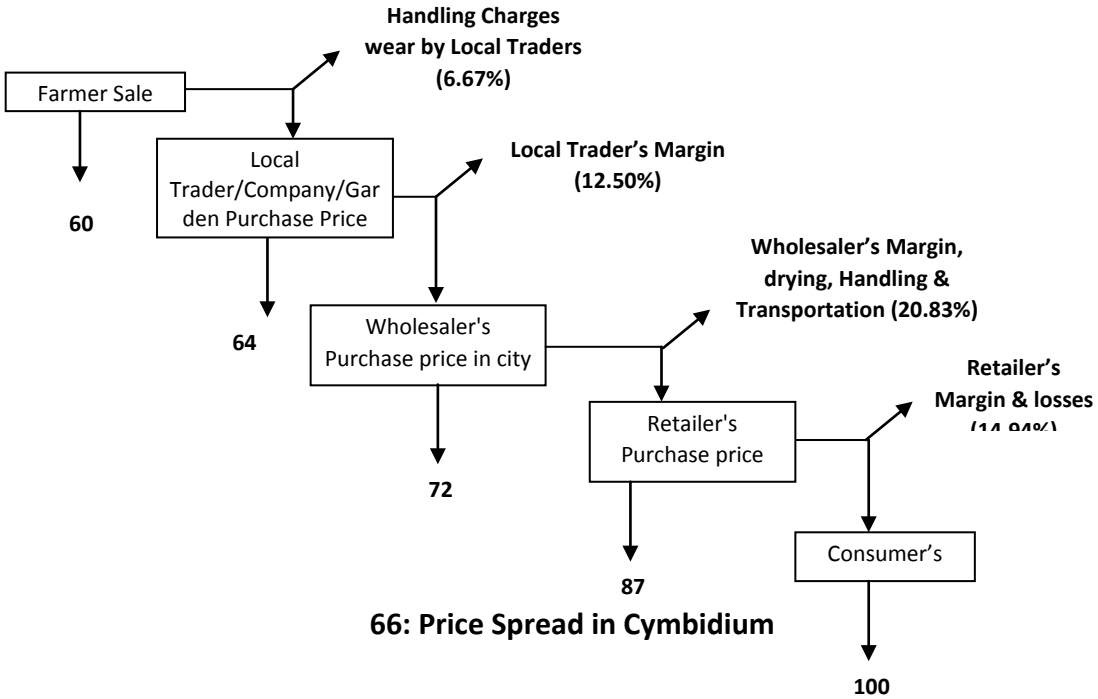
Purpose – The orchid growers and entrepreneurs can generate more income by selling the dry flowers in flower markets. Dry flowers will be of no moisture content so there won't be any issue of perishability .The only thing that will be needed is proper packaging and genuine transport method.

Process- Dry orchid flowers can be produced by covering the sticks with Silica gel and letting it dry in an air tight container till it is completely dry.

Selling of dried orchid flowers can be a good entrepreneurial idea for starting a new enterprise. Orchid flowers in this way find a decorative use in various forms.

12.5 Price Spread in Cymbidium:

In Sikkim, Farmers sale the flower to companies particularly (Mannam Garden Pvt Ltd), SIMFED and also directly to retailers. Selling price of Cymbidium depends on length and number of bulb in a spike. Selling price of Cymbidium at farmers level is 30 to 80 Rs/spike (Large spike-60 to 80 Rs and small 15 to 30 Rs). Wholesale price of Cymbidium in the city is 60 to 100 Rs. Retailers purchase one spike of cymbidium from wholesalers at a price of 80 to 120 Rs/spike. At consumer level, price of each spike is varies from 100 to 150 Rs/spike. Average price of a Cymbidium spike is given in figure below;



66: Price Spread in Cymbidium

Among all cut flower in India, the orchids have taken a significant position in cut flower industry due to its attractiveness, long shelf life, high productivity, right season of bloom, easy in packing and transportation. Orchid accounts for a large share of global floriculture trade both as cut flowers and as potted plants and is estimated around 10% of international fresh cut flower trade. The value of fresh cut orchids and buds trade during 2007-2012 with the average trade value was US $ 483 million. In 2012, there were more than 40 exporting orchid countries and 60 importing orchid countries around the world, and the total size of the global trade is US $ 504 million.

Table 12.2 : Value of Fresh Cut Orchids and Buds Global Trade (2007-2012)

S.No	Year	Import (Million US $)	Export (Million US $)
1	2007	233,734,023	230,470,421
2	2008	252,647,645	238,702,950
3	2009	232,568,129	217, 781, 745
4	2010	251,445,523	227,389,789
5	2011	265,702,077	244,996,271
6	2012	267,196,847	237,543,797

Source :Department of Foreign Trade, Thailand (2013)

Table 12.3 : Estimated Marketable Surplus of Flowers in Sikkim

Year	Estimated Production (MT)	Expected Surplus	Expected Surplus
2015-16	38.94	80%	31.15
2016-17	47.37	80%	37.90
2018-19	57.64	80%	46.11
2019-20	70.13	80%	56.11
2020-21	85.33	80%	68.27
2021-22	103.83	80%	83.06
2022-23	126.33	80%	101.06
2023-24	153.71	80%	122.97
2024-25	187.02	80%	149.62
2025-26	227.56	80%	182.04

12.6 World Scenario

Netherland is the global market player of Cymbidium followed by Thailand. Netherland is major hub for floricultural activities in the World. Floricultural produce from the developing nations in Asia and Africa in general moves from Netherlands to major markets such as USA & Japan. During review of literature it was found that the top ten flowers which are highly traded in international markets are Rose, Tulipa,

Spray Chrysanthemum, Gerbera, Lilium, Cymbidium, Freesia, Chrysanthemum and Eustoma Russellianum.

12.6.1 Export Demand

The Netherlands is the top most orchid exporting country (39. 67%) followed by Thailand (28.41%), Taiwan (10%), Singapore (10%) and New Zealand (6%) respectively. Importing countries are mainly Japan (30%), UK (12%), Italy (10%), France (7%) and the USA (6%), respectively. The total orchid cut flower trade of the world mostly consists of Dendrobium species, (85%), Phalaenopsis (15%) and Cymbidium species and Asia is the main source of orchid to enter the world.

12.6.2 Domestic Demand

India accounts for nearly 7% of worlds orchid biodiversity contributing 1350 species which are distributed in five major phyto- geographical regions viz. In India, Sikkim and Darjeeling hills with cool summer night and monsoonal summer rain are ideal for cymbidium cultivation. The growth of orchid exports from north eastern hill region especially Sikkim would provide opportunities for employment and also for development of supporting industries like packaging, cold storage, auction center and transportation. East Sikkim has been declared as Agri Export Zone exclusively for production of cymbidium orchids. In Sikkim, more than 250 hybrids of cymbidium orchids are commercially cultivated in an around 25 ha of land and about 5 lakhs spikes are produced annually.The recent export scenario of orchids in Indian context is given below.

Table 12.4 : Export of Orchids from India (Rs. in lacs& quantity in MT)

Country	2010-2011		2011-12		2012-13	
	Quantity (MT)	Value (Rs.in lacs)	Quantity (MT)	Value Rs.in lacs)	Quantity (MT)	Value Rs. in lacs)
Bahrain	0.00	0.00	0.00	0.00	0.20	1.43
Maldives	0.04	0.18	0.13	0.56	0.27	0.96
Kenya	0.00	0.00	0.04	0.05	0.06	0.09
SriLanka	0.00	0.00	0.00	0.00	0.02	0.05
Quatar	0.00	0.00	0.01	0.02	0.00	0.00
Singapore	4.77	3.08	0.00	0.00	0.00	0.00
UAE	0.04	0.06	0.20	0.35	0.00	0.00

Source: DGCIS Annual report

12.7 Price Trend Analysis

Cymbidium: Cymbidium has been considered as top commercial orchids in Europe since many years. They fetch the highest price in the international markets of which major Asian markets of Singapore and Japan or the Dutch market. Cymbidiums imported from the Netherlands fetched as much as 11.18 US$ per stem in Singapore

and those imported by Japan from New Zealand fetched US $ 3.33 per stem. As per Dutch auction market is concerned, the cymbidiums fetched highest value averaging Euro cents 331 per stem during 2003-2007 period.

Table 12.5 Average Annual Prices at Netherlands Auction (2003-2007)
(Euro cents/stem)

Orchids	2003	2005	2007	Average Price
Phalaenopsis	38	46	37	40
Cymbidium (Bigbud)	330	334	329	331
Cymbidium (Smallbud)	138	148	140	142
Paphiopedilum	58	52	63	58

Source: CBI Market Survey, Cut Flowers and Foliage Market in the EU

Conclusions:

Sikkim needs to focus on expanding markets in New Delhi, Mumbai, Bangalore and Chennai as they fetch good prices. The critical thing is to ensure top quality in the market every day. Going to the international market requires adherence to stringent standards Sikkim needs to take advantage of tourism and market orchids with better packaging and other forms to tourists.

CHAPTER 13

IDENTIFICATION OF SUITABLE MARKET STRATEGIES FOR BUCKWHEAT (11029090)

Buckwheat is a pseudo cereal with a huge demand in international market. It is grown as a miner cereal crop in hilly areas of Sikkim mainly for food security. The emerging trend for health food positions buckwheat as a super food because of high essential nutrient content including protein and minerals. Russia and China dominate the global buckwheat trade. The production of buckwheat in India is very minor but looking at the huge scope for consumption of high value foods, demand for buckwheat honey and other industrial purpose requires Sikkim to boost cultivation of buckwheat and aggregate buckwheat from adjoining States and then export market.

13.1 Product Profile

Buckwheatis an important minor cereal crop of Sikkim. It is cultivated in the mountain region at elevation above 1400 m for grains and green leaves. In the higher elevation of Himalayas at up to 4500 m height, this is the only crop which grows successfully. Mostly two species of buckwheat are cultivated in the region, i.e., F. esculentum and F. tatricum.

Most of the buckwheat is ground into flour and used to making a varieties of food including noodles. It has also been grown as a cover crop to smother weeds and improve the soil fertility. The crop seem to improve soil tilth and is reported to make available phosphorous. Buckwheat is cultivated primarily to obtain grains for human consumption. It is a health food because high essential nutrients content including protein and minerals. It is also used for livestock and poultry feeds.

13.2 Trend in Area, Production & Productivity in Sikkim

Out of the net cultivated area of 70,000 ha in the states, the Buckwheat occupies 3630 ha of area which consist of local as well as Hybrid Varieties. Area under Buckwheat is highest in East & south Sikkim with highest productivity in 2013-14. East and South Sikkim alone produce about 74 % of Buckwheat. Only 26 % of Buckwheat produce in North & West Sikkim.

Table: 13.1 Area and Production of Buckwheat in Sikkim

S.No	Districts	Area ('000 Ha)	Production ('000 Tones)	Average Yield (Kg/Ha)
1	North	0.19	0.18	950.00
2	East	1.17	1.16	991.45
3	South	1.46	1.41	965.75
4	West	0.81	0.74	913.58
Total		**3.63**	**3.49**	**955.20**

Source: ENVIS Centre: Sikkim

13.3 Varieties

Meethey, Tithey and PRB-I. Department of Food Security and Agriculture Development, Govt of Sikkim has been able to conserve, preserve and popularize traditional varieties of Buckwheat called Meethey which was on the verge of extinction and with constant effort the department has been able to cover 515.90 ha area under local varieties.

Timely harvesting of Buckwheat is essential to prevent shattering of grains. Generally late harvesting is done in high altitude while early harvesting is done in the mid and low altitude areas. Yield of 12-14 q/ha is expected from well managed crop. The plant shows irregular time of maturity because of indeterminate growth habit. If the harvesting is delayed shattering starts, which cause huge losses, almost upto 25 %. Due to its gradual formation and maturity harvesting is done periodically and finally the crop is cut and then threshed when the rest of the seed are fully matured. The harvesting period is not limited in Tartary (Tithey) Buckwheat as compare to common (Mithey) Buckwheat. The Mithey type matures earlier than Tithey types. After harvesting, the seed must be well dried and kept at about 14 % or less moistures for the safe storage. Over matured seeds when in contact with moisture, germinate very quickly as the seeds have vivipary characteristics.

13.4 Marketing Practices

Table 13.2: Estimated Marketable surplus of Buckwheat in Sikkim

Year	Estimated Production (MT)	Consumption within the states	Expected Surplus	Expected Surplus
2015-16	3839.28	70%	30%	1151.78
2016-17	4223.52	70%	30%	1267.06
2018-19	4646.22	70%	30%	1393.86
2019-20	5111.21	70%	30%	1533.36
2020-21	5622.75	70%	30%	1686.82
2021-22	6185.48	70%	30%	1855.64
2022-23	6804.53	70%	30%	2041.36
2023-24	7485.53	70%	30%	2245.66
2024-25	8234.69	70%	30%	2470.41
2025-26	9058.82	70%	30%	2717.65

With 30% marketable surplus the option for viable market is to process buckwheat to produce value added items for international market.

13.5 Price Spread and Market Channels in Buckwheat: In Sikkim, marketing channel of buckwheat is dominated with local traders or money lender. They are also called aggregators. Large traders in Siliguri directly contact local traders in Sikkim from where it is distributed to millers, retailers & consumers. Present prevailing price of Buckwheat in Sikkim which farmers received is Rs. 35 per kg. Handling charges which is wear by local traders is varies from 2 to 3 %. That means, local trader purchase price become Rs. 36 per kg. Local traders sell buck wheat to wholesalers/large traders in Siliguri at the margin of 9 to 10 % which increases the price of buckwheat from Rs. 36 per kg to Rs. 39 to 40 per kg. During movement of buckwheat from Sikkim to Siliguri, transportation charges wear by wholesalers/ large traders. Including losses, margin & transportation, wholesalers/large traders sale buckwheat to retailers at Rs. 46 to 47 per kg. Finally retailers sell the buckwheat to consumers at 10 to 11 % margin. Presently retail price in Sikkim market is Rs. 50 to 52 per Kg. Generally, peoples consume it in the form of powder and price of buckwheat in the form of powder is varies from Rs. 120 to 130 kg. It also purchase buckwheat directly from farmers at price Rs. 40 per kg and convert it into powder. In the market, SIMFED sale powder form of buckwheat at price Rs. 120 per kg. Price spread of buckwheat with margin have been described in figure below:

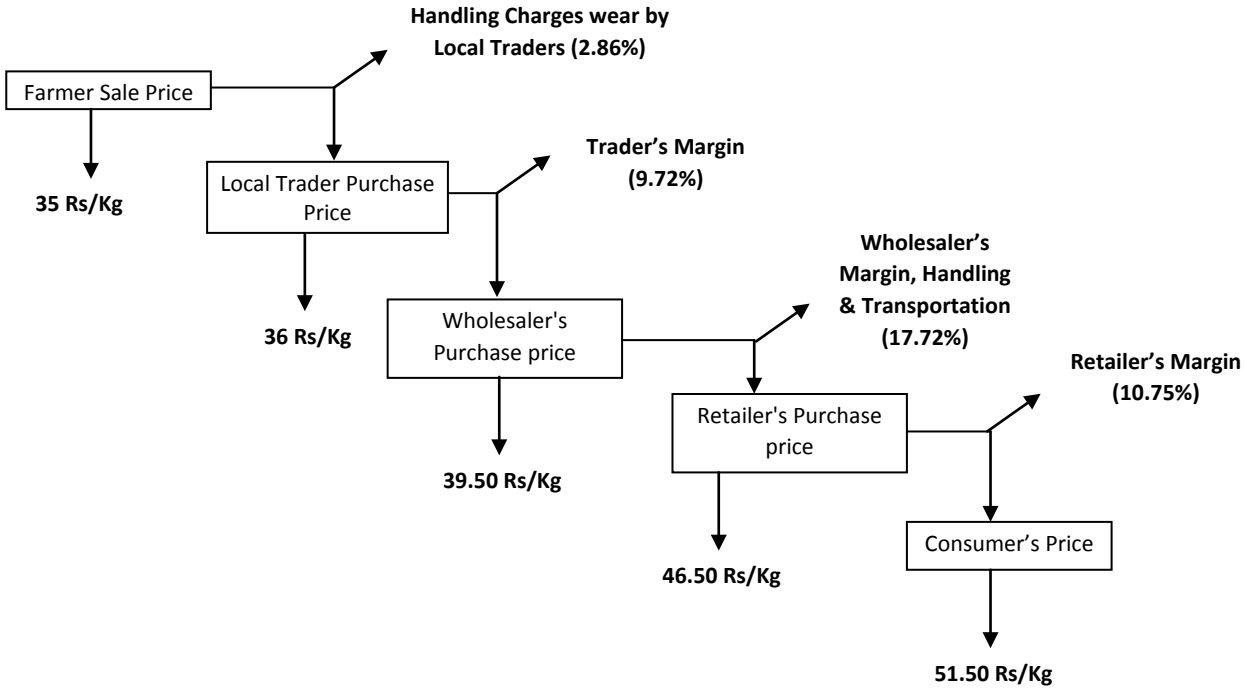


Figure-66: Price spread in Buckwheat

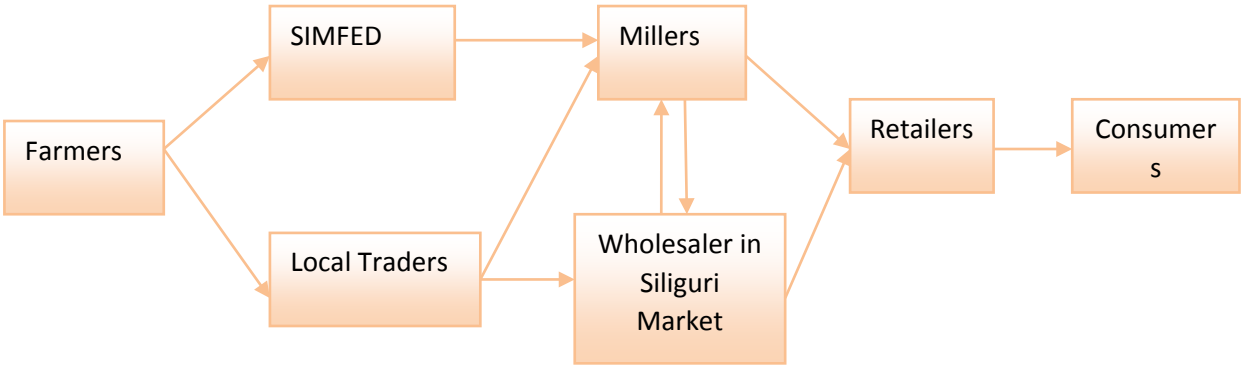


Figure- 67: Market channel for Buckwheat

13.6 Global production scenario

Russia and China dominates the global buckwheat trade. In 2014, China exported 41 thousand tonnes of buckwheat totaling 28,445 thousand USD, a robust 48% over the previous year. Its primary trading partner was Japan, where it supplied 79% of its total buckwheat exports in value terms, accounting for 63% of Japan's total imports. India

From 2007 to 2014, China was a net exporter of buckwheat. Over this period, exports consistently exceeded imports in value terms. However, in physical terms, the difference was less pronounced.

Top producers of Buckwheat (Common cultivation)

Country	Rank	Production (tons)
Russia	1	833,936
China	2	733,000
Ukraine	3	179,020
France	4	154,800
Poland	5	90,874
United States	6	81,000
Total World	33	2,34,558

The U.S. and Lithuania were among the other main global suppliers of buckwheat in 2014. The fastest growing exporters from 2007 to 2014 were India (+61% per year) and Lithuania (+39% per year). Lithuania, by virtue of this sustained recent growth, significantly strengthened its position in the global export structure. India's share is only 6%.

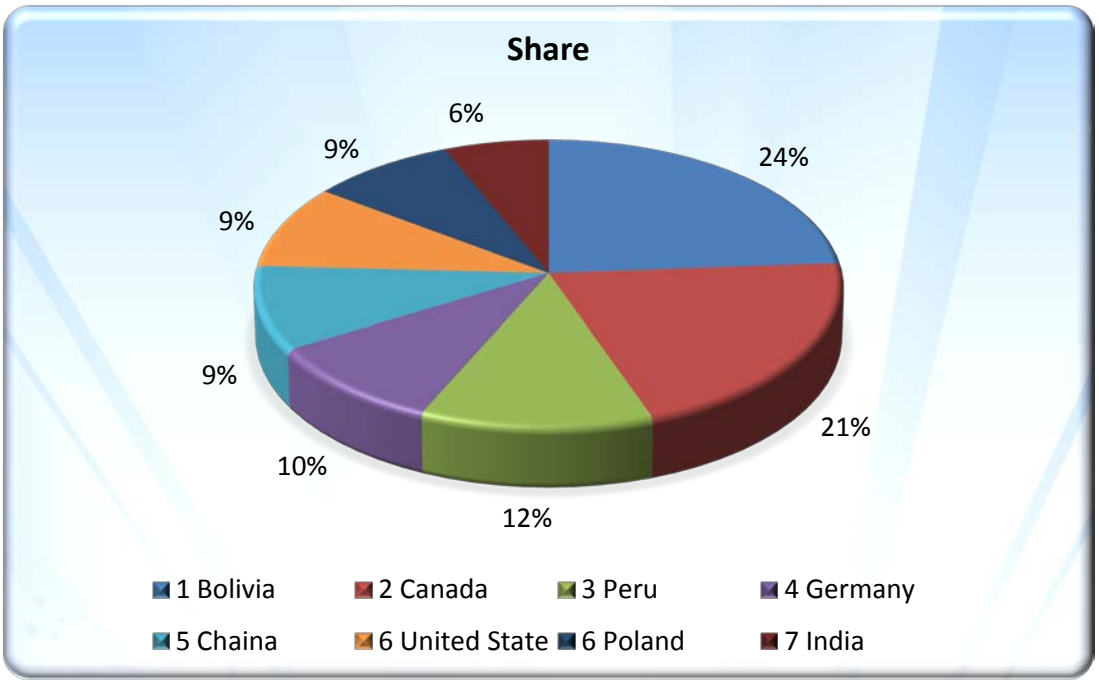


Fig. 66: Share of India in Global Production

The top 5 Importing countries of Buckwheat in 2014 were Japan, France, the U.S., the Republic of Korea and the Democratic People's Republic of Korea, with a combined 98% share of China's buckwheat exports.

13.7 Packaging and its details

For exports and domestic market packing

Raw Herb Material-->Select & Wash-->Stoving--> Smashing--> Extract&Reflow--> Concentration-->Double-Evaporation-->Drying-->Sieving-->Mixing--
>Packing(Polyethylene (PE))

Polyethylene 50 to 100 kgs bags PACKAGING:

1. 100/50 kgs bags/jute bags
2. 25kg in Paper bags
3. 15/10 kg in Vacuum bags

13.8 Export Suppliers and Domestic Market Supplier

Exported and supplied at 99% pure and carry a maximum of 15% moisture. Whole buckwheat exporter in India.

- **Niranjan Deoras Productions**
- **Singhal Trading Compan;** Export buckwheat hulls
- **Shiv International**
- **Satnam Organics**
- **Shubham Enterprises**

Buckwheat grain is grown mainly for human consumption and as animal feed, although it can also be used as a vegetable, a green manure crop, as a smother crop to crowd out weeds, as a source of buckwheat honey and many more.

The major markets which can get the most out of buckwheat are proposed below:

1. Human consumption

Common buckwheat is consumed in many different preparations in different countries. In Japan it is mainly consumed as a noodle soba. In Europe and North America buckwheat flour is generally mixed with wheat flour to prepare pancakes, biscuits, noodles, cereals, and is used as a meat extender. In Russia and Poland the groats and flour are used to make porridge and soup. In Sweden it is used to stuff fish. In Southeast Asia, buckwheat is a staple food in many hilly areas. Here the flour is used to make unleavened bread chapattis. It is also mixed with water and fried to produce a crisp pakora. The flour also can be mixed with potatoes to make parathas. It is also used for fasts and for religious celebrations. Buckwheat is used to make alcoholic drinks; the liquor prepared from Tartary buckwheat being ascribed medicinal qualities. In China it has been reported that buckwheat is used for the production of vinegar. Vegetable crop Buckwheat is often raised as a leafy vegetable crop in many areas of the Indian subcontinent. The leafy tender shoots of the plants are harvested and dishes prepared from them. This often augments the supply of fresh vegetables that are available at this time of year. The crop is generally used for dual purpose as the remainder of the crop is harvested for grain and straw.

2. Buckwheat Cookies

Buckwheat flour contains D-Chiro-Inositol (1.4% in buckwheat) is a proposed mediator of insulin action. D-Chiro-Inositol is highly correlated with both plasma and urinary glucose, which is high for diabetic patients and low in non-diabetics so D-Chiro-Inositol is a component of the secondary messenger pathway for insulin signal transduction found to be deficient in Type II diabetes.

3. Buckwheat Honey

Honey crop Common buckwheat has been used as a source of nectar for honey production in many countries. Buckwheat fills a special need for the beekeepers because honey production comes late in the season when other nectar sources are scarce. Relatively pure buckwheat honey is dark-coloured and has a strong flavor that is relished by some people but is disliked by others. Buckwheat was once a major source of nectar for beekeepers in New York State of the USA and the supply did not meet the demand. However, in many areas buckwheat production has declined and buckwheat honey is so uncommon that it demands a premium price. The nectar flow in buckwheat is most favorable under adequate moisture conditions. Under these conditions, a hectare could support up to 2.5 hives and produce up to

175 kg of honey in a season. An acre of buckwheat can support a hive of bees producing up to 150 pounds (68.0388 kgs) of honey. Buckwheat honey is even being sold by online retail giant Amazon at the price of $12.39 per pound.

4. Buckwheat therapeutic pillows

Buckwheat is a pseudo-cereal processed into products such as breakfast foods, flour and noodles, and is used as stuffing in therapeutic pillows. The anti-allergic action of buckwheat grain extracts (BGE). Buckwheat reduces allergy causing agents and provides immunity naturally. Buckwheat therapeutic pillow is available on Amazon and sold at a price range of $19.9 per pillow.

5. Scope of Breaking up disease cycles

Buckwheat can provide agronomic benefits to a rotation by breaking up disease cycles, smothering weeds and conserving moisture. Buckwheat appears as a very suitable precrop for fiber flax due to its strong competitive strength against cough-grass and dicotyledonous weeds. Buckwheat, sown as crop, cover crops or for green manure, may produce allelophatic substances that could inhibit weeds and also follows crop in rotation.

6. In livestock forage and feed

Buckwheat has historically been used as feed for cattle, pigs and chickens. The grain is high in the amino acid lysine. Green manure and soil conditioner Buckwheat is useful as a green manure crop for renovation of low-productivity land because it grows well on such land and produces a green manure crop in a short time. As many as 7 t/ha of dry matter have been obtained at an age of 6-8 weeks under conditions in Pennsylvania, USA. When a crop is harvested early in a year a second crop of buckwheat often can be grown and ploughed down as green manure.

7. Feed and cover for wildlife

Sportsmen have long known that buckwheat is useful as a food and cover crop for wildlife. Deer eat buckwheat and will begin foraging as soon as a few seeds have developed. The grain is also eaten by wild turkeys, pheasant, grouse, waterfowl and other birds. The crop is generally planted and not harvested so that the standing plants provide both food and cover for wildlife.

8. As a Green manure and cover crop

Smother crop Buckwheat has been used as a smother crop, owing to the lack of good herbicides for broad-leaved weed control. Buckwheat is generally a very good competitor as it germinates rapidly and the dense canopy that it produces soon shades the soil, flowering within 3 to 6 weeks and completely maturing within 11 to 12 weeks. During its growth period, it reaches a height of 2 to 3 feet, forms a dense canopy, and produces about 2 to 3 tons of biomass per acre. Often growers will

increase the seeding rate in areas where they expect more weed competition so that the canopy is developed more quickly. This rapidly smothers out most weeds, especially broadleaved ones. If the weed growth gets above the buckwheat canopy, buckwheat becomes a poor competitor. Buckwheat has been cited as being a useful crop for the control of many weeds including quack grass, Canada thistle, sow thistle, creeping jenny, leafy spurge, Russian knapweed and perennial pepper grass. Buckwheat can also be grown as a cover crop to prevent erosion, improve soil aggregate stability, scavenge nutrients such as phosphorus and calcium, and mineralize rock phosphate. When buckwheat residue is incorporated into the soil, it rapidly breaks down and releases nutrients for uptake by the subsequent crop. In addition, buckwheat has the potential to suppress root pathogens such as *Thielaviopsis* and *Rhizoctonia* species.

Conclusion:

The analysis indicates that organic buckwheat market has lots of untapped potential and can generate revenues if placed in the potential markets with a decent market plan. The crop is highly under-utilized and if used upto its potential it can revolutionize many sectors of Indian food, pharmaceutical, cosmetics and other related industries. Sikkim needs to adopt better post-harvest practices and diversify in non agri sector with buck wheat products.

Chapter 14
WAY FORWARD AND ACTION PLAN

In order to enhance the farmers' shares in consumer price, forward linkages to the domestic and international markets, standardization of quality and grades are the pre requisites. In addition to the creation of infrastructure, eco-system needs to be developed for creating conducive trading environment close to the production areas This chapter provides analysis of constraints and challenges, Market based solution and action plan for marketing of Organic Spices of Sikkim.

14.0 Constraints & Challenges

The agriculture sector of Sikkim is facing a number of challenges, which results in low productivity, poor quality and high wastage due to post-harvest losses. The sector is constrained by low productivity, high cost of production, lack of post-harvest infrastructure resulting in huge post-harvest losses, inefficient & fragmented supply chain, lack of know-how and poor market access &intelligence.

Fig. 67: Major Challenges faced by Farmers

The following are the main issues in the agriculture sector of the State, that need to be addressed in order to improve the production and market potential of the produce which in-turn will help the farming community to get better income.

14.1 Existing Gaps

Production

1. Poor Productivity: Productivity of most of the crops, except cardamom, is below the national average.
2. Dominance of traditional farming system/poor awareness about improved POP: Most of the farmers are still practicing the traditional farming system owing to ignorance about improved package of practices.
3. Dominance of traditional varieties: Farmers are still growing the traditional varieties which results in poor productivity. For example, in ginger widely grown varieties in Sikkim are Gorubathaney and Bhaisey.
4. Inadequate irrigation facility/storage structure for water: Water is scarce in hilly terrain with high run off losses.
5. Low adoption of farm machinery: Farm machinery and implements are yet to become popular.
6. Unrestricted movement of infected planting material from neighboring countries/states
7. Inadequate availability of input for INM & IPM.
8. Unavailability of Skilled Man Power

Post-Harvest & Marketing

1. Very few farmers, except of Orchids, practice sorting, grading and cleaning at farm gate
2. Non-availability of adequate post-harvest handling facilities in the production clusters & markets
3. Inadequate availability of packaging material
4. Traditional system used for drying of L. cardamom
5. Lack of Market Access
6. Inadequate market information system
7. Unavailability of regulated/organized market
8. Poor Market Infrastructure at Singtam
9. Inadequate cold chain facility
10. Inadequate storage facility and farm gate/market

Processing Unit

Absence of large processing unit for Ginger, L. Cardamom, Turmeric & Buckwheat

On the growers side the challenges include inability to make investments in packing material, infrastructure, and flexibility regarding the timing of selling and choice of buyers as farmer is forced to sell to first available buyer or village level aggregator. Therefore the state is unable to meet the market demand for their produce in importing countries and in urban centers within the country.

For many commercial entities (such as exporters, big traders, marketing companies, processors etc.), the prospect of working with a large number of small farmers raises concerns about communication, management, quality, reliability of supply and transaction costs.

In Sikkim the farmers are grouped under ICS, as per the mandatory requirement of certification process. So this is an added advantage by which small-scale farmers can work together. This system will help the major Buyers to access the farmers and disseminate information, inputs, technical and quality assistance, and various other needs and create a network for timely and accurate market information.

14.2 Suggestions for marketing and Action Plan

An analysis of opportunities and challenges helps in make investment decision, location of facilities, making marketing strategies . The recommendations are as follows :

Production based:

1. **Capacity Building of farmers on improved production technologies**: Farmers are still practicing the traditional system of farming and this call for promotion of improved production technologies. Demonstration plots should be created at block level to showcase improved production technologies, varieties, farm implements and post-harvest management.
2. **Replacement of low yielding varieties**: In the selected crops, traditional varieties are popular amongst the farmers. These varieties are low yielding and therefore need to be replaced by high yielding cultivars.
3. **Establishment of Accredited Nurseries for Production of Organic Planting Material**: Availability of disease free organic planting material will be decisive to success of Organic Sikkim. It is therefore suggested to establish one model organic nursery in each district which should be accredited.
4. **Development of irrigation facility/storage structure for water**: Water is key for vegetative growth and development and its availability at appropriate time & quantity is very crucial. In hilly terrain, rainfall is the major source for water and in absence of suitable storage structures there are losses in the form of runoff. It is therefore necessary to undertake water harvesting and construction of storage structures. Besides, large scale promotion and adoption of micro irrigation technique should also be undertaken for judicious use of water.
5. **Establishment of Quarantine Laboratories:** Unrestricted movement of infected planting material from neighboring countries/states: Sikkim is now an organic state therefore there is an urgent need to put in place quarantine laboratories at important gateways which link Sikkim to other countries and

states. This will help in restricting movement of uncertified planting material and ensure movement of disease free planting materials.

6. **Development of Skilled Man Power**: Fast changing agriculture scenario calls for availability of skilled technical manpower in the production clusters. This manpower should be well versed with working of farm machineries, post-harvest equipment's, etc. It is therefore suggested to promote skill development through establishment of Institute on Organic Farming. The Institute will be responsible for developing skilled manpower in the region. It would undertake programmes on seasonal crops planning, tools and machinery, composting, soil biology, livestock, and business planning and marketing, business development plans.
7. In Sikkim, women constitute nearly 47 % per cent of the total population. Their social position in the State seems to be better than in rest of the country. In contrast to the unfavorable sex ratio in the population as a whole, the number of women in government employment is greater than that of men. Participation of women in economic activities is high in Sikkim. The women, especially in the rural areas, are involved in agricultural operations from sowing to harvesting.

Looking at the increasing participation of women in agriculture and their significant role, it is required to provide them a platform where their skills can be enhanced and their roles can be identified. It is therefore recommended that women farmers should be encouraged and should be given preference while selecting beneficiaries for capacity building, post-harvest management and skill development.

Post-Harvest & Marketing

1. **Post-harvest management**: During interaction with farmers & traders and visit to markets in Singtam and Siligudi it was evident that farmers growing ginger and cardamom hardly undertake cleaning, grading and sorting. In cardamom farmers undertake drying but the produce is sold without proper grading or sorting. This results in poor realization of prices. It is therefore necessary to educate farmers on post-harvest management and place adequate post-harvest facilities at farm gates.
2. **Post harvest infrastructure in the production clusters**: Agricultural commodities undergo a series of operations after harvesting such as cleaning, sorting, grading, drying, winnowing, bagging, storage, etc. before they reach the consumer and there are appreciable losses in crop output at all these stages. The existing gap in infrastructure results in inefficient market operations and high transaction costs. Multiple handling by various players in the fragmented supply chain and the lack of warehouse and cold storage facilities also result in high post-harvest losses. It is therefore necessary to

put in place Common Facility Centres in the production clusters. These facility centre and markets should be equipped with adequate facilities such as cleaning, grading, drying, winnowing, packaging, etc.

3. **Establishment of Modern/ Integrated Pack Houses**: Modern pack houses having facilities for sorting, grading and packaging are also needed for orchids and spices. It is therefore recommended to establish one such packhouse in each district. The pack houses will have the following infrastructure:
   - Receiving area, a covered shaded area for arriving produce to be off-loaded and undergo pre-selection and weighing.
   - Mechanized handling and cleaning equipment.
   - Mechanized roller or belt based system to allow working personnel to selectively pick and choose produce for next activity
   - Mechanized washing/Drying lines, where required.
   - Designated area where produce will be manually packaged into market lots.
4. **Establishment of cold chain facilities**: Cold chains are essential for extending the shelf life, period of marketing, avoiding over capacity, reducing transport bottlenecks during peak period of production and maintenance of quality of produce. The development of cold chain industry has an important role to play in reducing the wastage of the perishable commodities and thus providing remunerative prices to the growers. It is therefore recommended to establish one such cold chain having facilities of cold storages and reefer vans.
5. **Establishment of Biofertilizers & Biopesticide Units**: Importance of bio-fertilizers and bio-pesticides assumes greater significance since Sikkim has been declared as a organic state. State level agencies are already promoting use of bio-fertilizer and bio-pesticides at farm level units. However, it is suggested to establish bio-fertilizer & bio-pesticides in place to ensure availability of adequate bio-fertilizer and bio-pesticide unit in each districts of Sikkim.
6. **Establishment of Packaging Manufacturing Unit**: Packaging has a vital role to play in containing and protecting agricultural produce as it moves down the supply chain from producer to the consumer. It assumes greater significance when the produce has high export potential. It is therefore suggested that a packaging material unit be established in Sikkim which should undertake manufacturing of product specific and market specific packaging material.
7. **Market Intelligence System**: Marketing Information helps farmers to optimize their marketing decisions of where to sell, when to sell and at what price to sell. Currently, Market information in Sikkim is mainly limited to few commodities such as cardamom and to some extent in ginger, where Spice Board sends SMS regarding prevailing prices in major markets to farmer

groups. This needs to be replicated on large scale where all the registered farmers should be informed about prevailing prices in major markets.

8. **Establishment of collection centers and Terminal Markets**: There is no regulated or organized market in Sikkim which results in unhealthy and unscrupulous practices reducing marketing charges and providing facilities to producers and sellers in the market. This at times results in short-weightment, excessive market charges, unauthorized deduction, adulteration of produce, etc. It is therefore suggested to establish regulated/ organized markets which should have necessary infrastructure and facilities.
9. **E-auction Centre**: Sikkim produces quality orchids, however, difficult terrain and poor connectivity makes marketing very tedious and expensive. This also results in higher prices of the produce in destination market making it uncompetitive against imported orchids. Organic orchids of Sikkim are now its strength and all efforts should be made to tap the international market. It is therefore suggested to establish e-auction centre which will connect the remote farmers to major international markets.
10. **Establishment of Online portal for marketing of branded organic produce:** Organic products falls under premium segment and its customers are educated class of people who are technology savvy. Therefore, introduction of exclusive online portal can boost up sales and help in market penetration through price skimming.

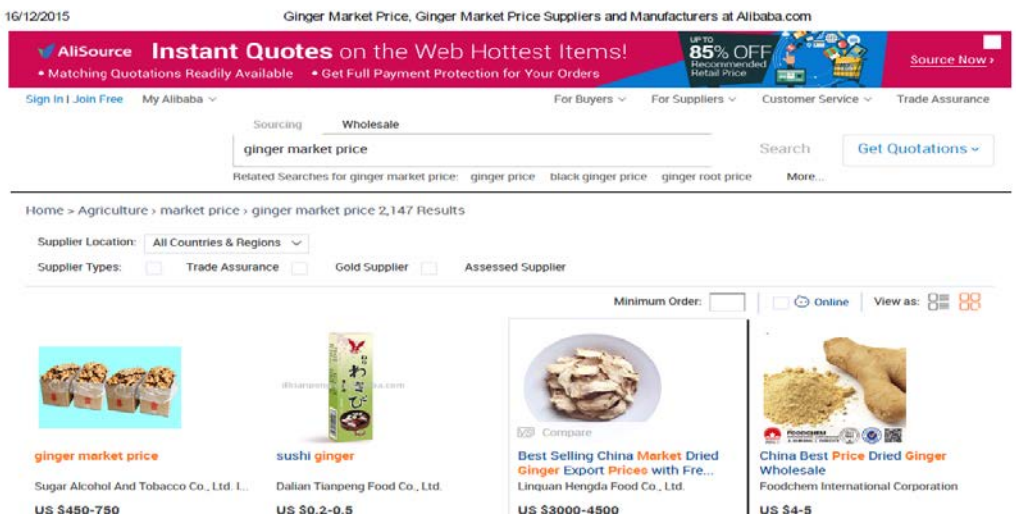


Fig. 68: Example of an online portal for agricultural produce

11. **Establishing Centre for excellence:** A centre for excellence to provide training of trainers (TOT), conducting research on marketing, to provide support to innovations, developing documentation centre, to have best of ICT facilities and linkages with International market data and tools is proposed to be setup in Gangtok or Rangpo.

12. **Legal Reform by Government of Sikkim as per APLM Model Act:** In order to move forward Sikkim Government needs to have a Regulatory framework for organized marketing system for Organic produce which is responsive to domestic standards and complies with internationals standards for export.

    It is recommended to have two bodies to have a legal framework which regulates, facilitates and promotes organic produce. It is important to adopt for Agricultural Produce and Livestock Marketing Act (APLM) 2017 and establish State Agriculture Marketing Board which will look into establishment, operation and management of market, develop market infrastructure, provide market information system and provide market linkages. Another body for product development, promotion and marketing of organic produce is required to be established in the lines of Uttrakhand Organic Commodity Board. This Commodity Board should act as facilitators for marketing and promotion of organic produce, undertake capacity building, product development, strategies for branding and strategies for market access in international markets. It is recommended that both Marketing Boards and Commodity Boards should work in consonance with each other.

13. **Sikkim should build a brand for its organic produce for better returns:** An important means of communication for branding is packaging and logo. All products should be packaged and have organic label “Sikkim Organic” brand. Anything going out of the state needs to be packed in specially design packing material with printed logo and brand. This will help in branding the produce as organic.

14. **Public Private Partnership for Organic marketing:** There is a huge scope for government and private sector to come together to spur the development of Organic marketing in Sikkim. The processing industry for spices of Sikkim, supported by investments by the government and the private sector, can lead to enhancing price realization, cut out intermediaries and improve the supply chain through forward and backward linkages.PPP model is also suitable for operation and management of markets in Sikkim

    An important role of the government, besides funding through the PPP, will be to create an enabling environment for private investment. This needs to be done by adopting regulatory framework for investment and agreement. It is steps such as these that will catalyse private sector investments in supply chain infrastructure and services, leading greater value-addition.

14.3 Market based solutions for marketing organic produce

In order to provide solutions to a holistic value chain of organic produce market based solutions have been recommended on the basis of need analysis. To implement the solutions service providers and users have been identified. The following Table provides possible areas of intervention by both public and private agencies.

Table : 14.1 Market based solutions for Marketing of Organic Produce

Market-based Solutions	Supply and Demand Analysis	Service Providers and Users	Constraints of Service Providers and Users	Possible Areas of Project Intervention/Facilitation
Easy availability of quality seeds and commercial farming of seeds	• Prior experience of ICAR on similar activities and its potential capacity for expansion in Central Agriculture University • High demand of seeds due to increased interest of farmers towards commercial farming.	• Private nurseries, ICAR demonstration farms • Farmers	• Less programmes and low budget of ICAR towards R&D of quality turmeric seeds in Sikkim • Requirement for high yielding varieties suitable to local climatic condition. • Lack of identified seed pocket area • Low knowledge on proper seed production practices and its storage.	• Coordinate and collaborate with ICAR in R&D of quality turmeric seeds. • Piloting of high yielding varieties of seeds (including those having high curcumin content) developed by NARC and available in other places. • Facilities DADOs in identification and declaration of turmeric, ginger and large cardamon seed pocket area. • Facilitate farmers for producing good volume of seeds and provide them quality seed

Market-based Solutions	Supply and Demand Analysis	Service Providers and Users	Constraints of Service Providers and Users	Possible Areas of Project Intervention/Facilitation
				production and storage training. • Develop linkage of commercial seed producers with seed buyers.
Access to technical knowledge for scientific production practices and post-harvest handling	• Presence and capacity of local NGO, Agriculture Extension Offices, LRPs to provide training. • Farmers using traditional methods which needs to be improved for increasing productivity.	• DADOs, agriculture technicians • Farmers	• Low technical knowledge on proper production practices and post-harvest handling to local agriculture technicians • Lack of publication dedicated for turmeric productions and post-harvest handling practices • Less idea on promising areas for commercial turmeric production.	• Provide ToT to local agriculture technicians (JT, JTA, staffs of DADOs) and lead farmers on scientific production and post-harvest handling practices who will provide raining to farmers. • Develop training materials and publications on Spices production and post-harvest handling. • Facilitate DADO towards identification and declaration of turmeric production pockets.
Establishment of processing units at local levels and access of farmers and processors to	• emergence of retails chains in Tier I cities who have demand for processed products.	• Trading companies, equipment manufacturers • SME Processors,	• Lack of sufficient investment and knowledge in establishment of local	• Provide technical and financial support for establishment of local processing units on

Market-based Solutions	Supply and Demand Analysis	Service Providers and Users	Constraints of Service Providers and Users	Possible Areas of Project Intervention/Facilitation
equipment and technical support	• Willingness of users to pay for better processing technology/ service	farmers	processing Units • Lack of especially designed technology for curing(boiling), slicing and drying • Problem of investment (difficulty in obtaining loan and high interest) for purchase of equipment for capacity upgrading and product diversification	community-private-partnership basis • Collaborate with equipment manufacturer in developing and piloting suitable technology for curing, slicing, and drying • Conduct assessment of promising processors and provide technical and financial (soft loans) support for upgrading and product diversification. • Developing entreprenuership
Access to business development services	• Presence of business development service providers in Public and Private Institutions • Greater requirement of BDS for taking farming as business	• (Business Development Service (BDS) providers (Private, NGO) • Farmers, collection centres and processors	• Only work on basis of demand with provision of certain incentives for providing the services. • Lack of information among farmers, collection centres, processors and other local enterprises on BDS providers and their services to farmers.	• Provide business scheme training to farmers' groups through BDS providers. • Provide business planning and enterprise development training to collection centres, processors and traders through BDS provides.

Market-based Solutions	Supply and Demand Analysis	Service Providers and Users	Constraints of Service Providers and Users	Possible Areas of Project Intervention/Facilitation
Access to microfinance and loans	• Various financial institutions providing loans to farmers and traders. • Investment as essential requirement for expansion of business.	• Microfinance institutions, commercial banks, cooperatives and saving groups, farmers, traders.	• Only provide services according to demand and assessment of service seeker. • Lack of linkage to MFIs by cooperatives and groups. • Low coordination between traders, commercial farmers and commercial banks. • Low knowledge of traders and commercial farmers on development of proper financial plans.	• Assess the demand for finance from farmers. • Capacitate farmers' groups/cooperatives in legal documentation and other relevant task for getting financial loan/assistance from MFIs. • Facilitate for round-table between traders, commercial farmer and commercial banks for development of policy acceptable to both parties. • Provide training to traders and lead commercial farmers in development of financial plan presentable to commercial banks.
Establishment/upgrading of collection centres (CC), storage house, and gravity ropeways	• Availability of government budget as well as donor programmes for development of infrastructures .	• DADOs, donors, projects • VC actors, other indirect beneficiaries.	• Lack of assessment (including impact and number of beneficiaries) of potential sites f or infrastructure development.	• Identification and assessment of potential sites for development of infrastructure which can provide greater impact and

Market-based Solutions	Supply and Demand Analysis	Service Providers and Users	Constraints of Service Providers and Users	Possible Areas of Project Intervention/Facilitation
	• High demand of farmers and other actors for greater benefit to wider population.		• Lack of access to government and donor programmes and their information.	wide base of beneficiaries. • Facilitate better linkage and access of beneficiaries to government and donor programmes through better coordination. • Support establishment of infrastructure on community-private –partnership basis.
Develop farmers Producer Organizations (FPO) and cpacity building	• Presence of NGOs to facilitate for organizing groups. • Farmers' willingness to get organized in groups • Capital and support system available with SFAC and NABARD and NIAM	• LNGOs • Farmers • ICAR • SFAC • NABARD • NIAM	• Lack of orientation and awareness on benefits towards forming specific group • Lack of capacity development	• Organize farmers' groups and facilitate establishment of turmeric farmers' groups within them or create new groups. • Organize capacity Building of FPO
Provision of specific programmes of turmeric, ginger, L Cardamom, buckwheat cymbidium	• Government budget provision for spice crop development • Greater commercialization of turmeric in recent years.	• ICAR • VC actors	• VC actors not well organized • Lack of market orientation	• Facilitate farmers' groups and other VC actors to get organized for better lobbing with government.

14.3 Action Plan under Mission on organic value chain development Components

A.1. Value Chain Processing

Financial Assistance for setting up of functional infrastructure for collection and grading units under the ownership of Farmer Producer companies is available. The Infrastructure requirement for collection and grading at District level is as follows

Infrastructure	North	South	East	West	Total
Assembly Points	10	28	13	15	66
Collection Centre	1	4	1	1	7
Wholesale markets		2		1	3

S. No.	Component	Rate	2015-16		2016-17		2017-18		Total		Remarks	
			Physical	Financial (lakh)	Physical	Financial (lakh)	Physical	Financial (lakh)	Physical	Financial (lakh)		
A.2 Support for extension services, input facilitation, training handholding and certification												
B. Value Chain processing (For FPC and private entrepreneur through Bank credit linked)												
B.1.1	Setting up of functional infrastructure for collection, aggregation and grading units @ Rs.15 lakh (75% subsidy) Assembly Points-Collection centres Wholesale markets	11.25 lakh 10 lakh 30 lakh 100 lakh	20 2 1	200 60	20 3 1	200 90	26 2 1	260 60	66 7 3	660 210 300 **1170**	Funding State Funding from Css of ISAM Funding from Css of ISAM	

1.1.1 B.2 Value chain Processing

B.2.1-**Financial assistance for setting up of integrated processing units:**

Integrated processing unit is proposed to be set up in the wholesale markets. Three wholesale markets have been prepared to handle adequate throughput through the year. The three locations proposed are Jorethang, Melli and Rangpo. A processing unit for processing ginger and turmeric can be an integrated one but for buckwheat huller is essential. Hulling machine will add value to buckwheat and enhance its marketing. The processing units will be run by entrepreneurs or Farmer producer companies (FPC). Under MOVCD, FPC registered and having at least 200-500 members are entitled to avail assistance. FPC can avail back ended subsidy without credit link, subject to the condition that they are able to meet their share of the project cost and route their entire setting up through banks. Assistance to Farmer Producer company will be restricted to 75% of total financial outlay or Rs 600 lakhs, whichever is less. Assistance to private entrepreneurs shall be 50% of TFO or maximum600 lakhs whichever is less as credit linked back ended subsidy.

The project needs to be advertised to get expression of interest. The project will require a detail technology to be employed with appropriate standards which can be formalized by hiring the services of experts and consultants.

B.3 Value chain packaging Storage and transportation

B.3.1 Integrated pack house

Integrated pack house as subsidiary component of collection, aggregation and grading units an integrated processing units have been proposed. This need to be set up at whole sale market as it is a point where organic producer arrives. The pack house are required to established with the objective to provide services of sorting, grading, packing through value addition, primary processing and storage of semi-finished perishable items.

The pack house shall essentially consist of a building block where in the raw horticulture produce shall be brought in for inspection. Once laid on the inspection tables, the labor shall wash, sort and grade the produce according to its quality and marked requirements. This shall be followed by necessary processing techniques that shall increase the shelf life of the produce without changing its fresh looks. The produce than shall by packed and dispatched

The component should be taken up by entrepreneurs and Farmer producer companies (FPCs). Assistance to Farmer Producer companies shall be restricted to 75% of TFO or Rs 37.50 lakh, whichever is less. Assistance to private entrepreneur shall be 50% of TFO or maximum of Rs 37.50 lakh whichever is less.

B.3.2. Transportation /4 wheeler upto TFO of 12 lakhs (50%)

i. It is suggested to have 4 wheelers which can be mini van with a carrying capacity of 3 tones to be attached with 7 collections centers

ii. Rope way for Transportation of flowers and spices in valleys. The cost of ropeways need to be decided on the basis of kilometers.

Assistance to Farmer Producer companies and private entrepreneur will be restricted to 50% of TFO restricted to Rs 6 lakhs

B.3.3.1 Cold chain component- pre cooling/cold stores chamber

Multipurpose cold storage of capacity 1000tonnes for ginger, turmeric, Cymbidium and other perishable products are proposed. The cold storage will have 4 refer vans of 4 Mt capacity for movement of produce from collection centre to wholesale markets,

Assistance to Farmer producer companies and entrepreneur is restricted to 75% of TFO or Rs 18.75 lakh, whichever is less separately for both refrigerated vehicle and cold storage

C. Value chain marketing

Branding, labeling, packaging , publicity and certification of processing unit

The proposal for this component rests on following justification;

Product	North Value (Lakhs)	South Value (Lakhs)	East Value (Lakhs)	West Value (Lakhs)	Total Value in a year (lakhs)	10% of value
Turmeric	14.73	103.36	76.3	60.21	254.6	25.46
Ginger	544.55	4827	4279	4076	13726.55	1372.655
Large Cardamom	7193	4503	6492	4457	22645	2264.5
Total					36626.15	3662.615

This component should be taken up by entrepreneurs and Farmer producer companies. Assistance of 10% of the value of the product can be given to support Branding, labeling and publicity. The Strategy for Branding the Organic Produce from Sikkim is as given in Annexure-

C.2 Seminars/conferences, workshop, Buyer seller meets, Auction meetings, festivals

To create awareness in the market and trading fraternity the State lead Agency shall organize Seminars/conferences, workshop, Buyer seller meets from time to time. The Auction meets can be organized in the places of market importance in other States with the participation of selected value chain operators.

It is proposed to organize following programmes

Programme	Rate (Rs)	Number of programmes	Remarks
State Level Conference	3 lakh per even	1	E State level conference on enhancing Export of organic products
Regional Conferences(2 days)	3 lakh per event	1	Conference on Market linkages, enhancing participation in value chain
Workshop (1 day)	1 lakh	5	Branding and Promotion, Consumer awareness, value addition, Market linkages
Buyer seller meet(BSM) (1 day)	1 lakh	4	One BSM per crop(Ginger, turmeric, Large Cardamom an Bukwheat
Festival/exhibition state level	3 lakh per event	1	Annual festival
Farmers training(1 day)	24000 per training	25	Regular trainings on marketing atleast 2 trainings in a month

C.3 Consumer awareness information dissemination through publicity, printed literature, films and local advertisement

A systematic launching of campaign for consumer awareness and product information through print and electronic media publicity, distribution of quality literature and local advertisement needs to be planned in a integrated manner for organic produce. A lumsum of Rs 50 lakhs can be allocated in a year for consumer awareness through social media, print media and through the road shows.

C.4 Hiring space in Prime Markets

State lead Agency shall facilitate effective marketing launch of value added organic product through periodic market campaigns in selected cities of the country by hiring spaces in prime locations and malls to create awareness and demonstrate the quality and uniqueness of the products. Services of market promotion and event management firms can be hired for such services.

It is proposed to hire space in 10 metro cities in Delhi, Mumbai, Bangalore, Kolkatta Pune, Hyderabad, Chennai, Lucknow, Gurgaon, Goa. For cities like Delhi, Mumbai, Bangalore 10 prime locations need to be identified for display of Organic Produce of Sikkim.

D. Value chain support agencies

Setting up of Lead agency/Organic Commodity Board/Organic Mission for scheme implementation and market facilitation.

To be set up at state level:

D.1 To effectively implement the mission objectives the states need to create dedicated lead agency in the form of organic commodity board. The proposal for Organic Commodity Board is as per annexure. As per MOVCD guidelines the State shall be entitled to receive 5% of total approved allocation for State lead Agency Management. The expenses include cost of hiring staff and manpower on contractual basis, travel and contingencies, institutional strengthening and purchase of machines and equipments. A separate TEFR on establishing Organic Commodity Board needs to be prepared.

D.1.2 Setting up of organic Certification bodies. One time assistance will be provided for hiring consultants for preparation of operating manuals, training and exposures of manpower and facilitating institutional set up

Under this Component Establishment of Institute on Organic Farming / Center of Excellence for Organic Farming is proposed. In the aftermath of focus on Organic produce marketing there is a need for training and skilling the stakeholders in value chain and the officers and manager from public and private sector It is therefore suggested to promote skill development and capacity building through establishment of Institute on Organic Farming. The Institute will be responsible for developing skilled manpower in the region. It would undertake programmes on complete value chain by a systematic effort to train manpower on seasonal crops planning, tools and machinery, grading, packing, promotion business planning and marketing, business development plans etc. The centre for excellence will also undertake certification of Processing units and help in inculcating best market practices for developing export market. Establishment of Institute on Organic Farming / Center of Excellence for Organic Farming Fixed Cost of Rs 500 lakhs and remaining 1600 lakhs for carrying out the activities of capacity building, Farmers meeting, promotion, exposure visits, Workshops and seminar over the period of three years is proposed.

The centre will also have a market Information cell. The cell will collect information from state markets, national market and international market. Besides price information, the centre shall have provisions for collecting updates on non tariff

barriers, tariff information certification requirement for products SPS. Net based facilities for collection, analysis and dissemination of information needs to be installed in the centre. The market information and advisories should be accessible through mobile devices and apps. This centre will be linked with Information and knowledge ecosystem at Mission Headquarter. A brief on how MIS cell will work is in Annexure

D. 2 Project Management Cell

Technical support group at national level for hiring, professionals/experts/staff/ Advisors/Travel etc. Under this component Establishing ICT facilities at State level are proposed.

Table 14.2 - Budget Allocation and financing pattern under MOVCD

S. No.	Component	Rate	2015-16		2016-17		2017-18		Total	
			Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
A.2 Support for extension services, input facilitation, training handholding and certification										
B. Value Chain processing (For FPC and private entrepreneur through Bank credit linked)										
B.1.1	Setting up of functional infrastructure for collection, aggregation and grading units @ Rs.15 lakh (75% subsidy)	11.25 lakh								
	Assembly Points-	10 lakh	20	200	20	200	26	260	66	660
	Collection centres	30 lakh	2	60	3	90	2	60	7	210
	Wholesale markets	100 lakh	1		1		1		3	300
										1170
B2. Setting up of value addition and processing units including packaging, storage and transportation										
B.2.1	Financial assistance for setting up of integrated processing units With TFO of Rs.800 lakh or more limited to 75% to FPCs and 50% to private as credit linked back	600.00 lakh	23	261	23	290	28	320	76	1170

S. No.	Component	Rate	2015-16		2016-17		2017-18		Total	
			Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
	ended subsidy									
B.3 Value chain packaging, storage and transportation										
B.3.1	Integrated pack house 75% subsidy to FPCs on TFO of 50 lakh or more and 50% to private limited to 37.50 lakh	37.50 lakh	1	37.50	1	37.50	1	37.50	3 pack houses	112.5
B.3.2	Transportation/4 wheeler upto TFO of 12 lakh (50%)	6.00 lakh/FPC Need based	2	12	2	12	-	-	4 minivans	24
B.3.3.1	Refrigerated transport vehicle upto TFO of 25 lakh (75% subsidy to FPC and 50% to private)	18.75 lakh	2	37.5	2	37.5			4	75
B.3.3.2	Pre-cooling/cold storage/ripening chambers. PFOs	18.75 lakh								
C. Value chain Marketing-Branding, labeling, certification, quality control, retail outlets, awareness and publicity through lead agencies.										
C.1	Branding, labeling, packaging, publicity and certification of processing units etc. (LS) As per crop requirement (5% of the value of the produce)	As per proposal, need to be ascertained							4 commodities	1860

S. No.	Component	Rate	2015-16		2016-17		2017-18		Total	
			Physical	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**
C.2	Seminars/conferences, workshops, Buyer-seller meets, Auction meetings, festivals (Details enclosed	As per proposal, need to be ascertained	12	24	12	24	12	24	36 programmes	72
C.3	Consumer awareness information dissemination through publicity, printed literature films and local advertisements	As per proposal, need to be ascertained		50		50		50		150 lakhs
C.4	Hiring of space in prime markets	As per project proposal	10 cities		15cities		20cities		10 Tier I Cities 10 Tier II cities	500 lakhs
D. Value Chain Support Agencies										
D1.	Setting up of Lead agency/Organic Commodity Board/Organic Mission for scheme implementation and market facilitation. To be set up									

S. No.	Component	Rate	2015-16		2016-17		2017-18		Total	
			Physical	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**
	at state level									
D.1.1	Staff, Manpower, Travel and contingencies, Institutional strengthening and hire/ purchase of machinery and equipments	5% of total scheme budget	Hiring experts and salary Purchase of machinery, office equipments	100 50	Hiring experts and salary Purchase of machinery, office equipments	100 25	Hiring experts and salary Purchase of machinery, office equipments	100 25		400
D.1.2	Setting up of Centre for excellence for organic prodcue. One time assistance will be provided for hiring consultants for preparation of operating manuals, training and exposures of manpower and facilitating institutional set up. Cost of manpower to be borne by the state. The Cell will also act as MIS cell		hiring consultants for preparation of operating and training manuals and establishing MIS	250 25 training	hiring consultants for preparation of operating and training manuals training and	250 50 training	hiring consultants for preparation of operating and training manuals training and	- 80 training	155 training	500 for setting up Institute 1600 for capacity buildin

S. No.	Component	Rate	2015-16		2016-17		2017-18		Total	
			Physical	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**
	with linkage with Information and Knowledge ecosystem at Mission Headquarter.		training and exposures of manpower	g	exposures of manpower	g	exposures of manpower	g		g of farmers and officers
D2.	**Project Management Cell at National Level**									
D.2.1	Technical support group at national level for hiring, professionals/experts/staff/Advisors/Travel etc.	0.5% of total budget	ICT tools such as Web portal for farmers, MIS cell and integration with Information and Knowledge System at Mission Headquarter.. Financial Budget Rs 100 lakhs per year for ICT tools and its application for Organic product Marketing							
D.2.2	Any other innovative requirement not covered under the scheme and also can not be met from other schemes including information and knowledge system having traceability platform at Mission Headquarter.	The Cell will also act as MIS cell with linkage with Information and Knowledge ecosyste								

S. No.	Component	Rate	2015-16		2016-17		2017-18		Total	
			Physical	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**	**Physical**	**Financial**
		m at Mission Headquarter								
	Grand Total (in Rupees Lakh)									**6653**

Based on the above, funding support for creating above mentioned infrastructure will require Rs.6653 crores under MOVCD.

Conclusion:

Efforts of Sikkim Government are certainly commendable, they are only the first step in the long-term sustainability of organic agriculture, which requires an active market for its produce, both domestic and abroad. It needs to overcome challenges at policy, and infrastructural levels. When an agricultural product from Sikkim gets sold in the market with the tag of another place (mostly Darjeeling and Siliguri), the whole idea of turning Sikkim into an organic State and the hard labour put in by Sikkimese farmers in producing organic products is lost. This highlights the importance of effective marketing plan of having wholesale markets within the state to stop the produce from flowing to nearby States for sale. Sikkim needs to have effective marketing strategies and launch aggressive campaigns for building up a brand that can highlight the State's organic produce.

Added to this, an overall improvement in road, storage and transportation infrastructure across the country can enable organic produce to reach markets on time thereby helping the consumers appreciate the value of fresh and chemical free organic food.

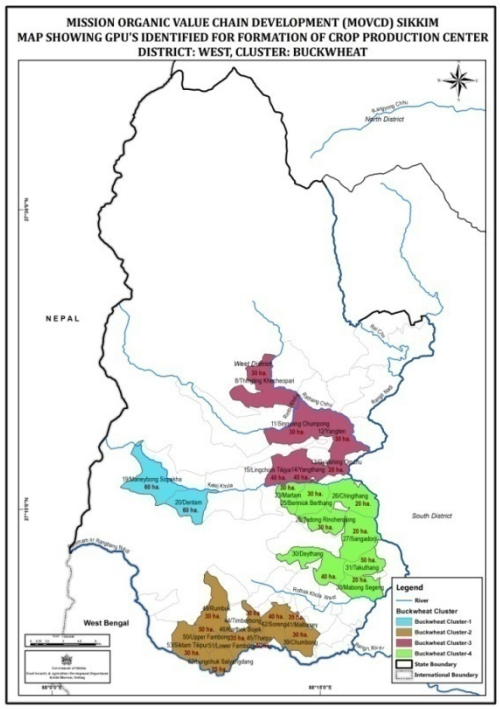
The Sikkim Government must also recognize the fact that having a regulatory framework for governance of marketing of organic produce is important. State needs to establish a marketing and promotion body within the framework of Agriculture produce and Livestock marketing Act 2017. The act provides for operation and management of marketing infrastructure and markets under PPP mode. The report recommends to have rules and regulations for enactment of an enabling regulatory framework to streamline the system.

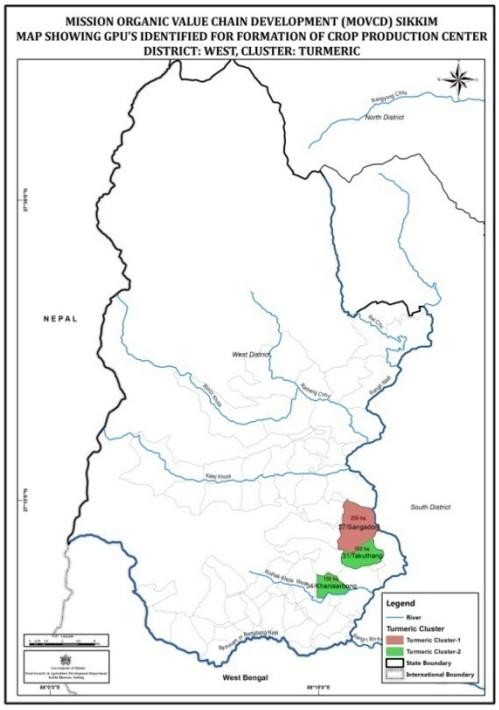
Under the Mission for Value Chain Development for North East Region (MOVCDNER), the plan is to process these four crops, package them, brand them and send them to other parts of the country or export them. The objective is that after 2018, only processed products will be sent out of Sikkim. A concrete action plan under MOVCDNER has been suggested for Sikkim in this report to facilitate the policy and vision of the State towards sustainable Organic marketing.

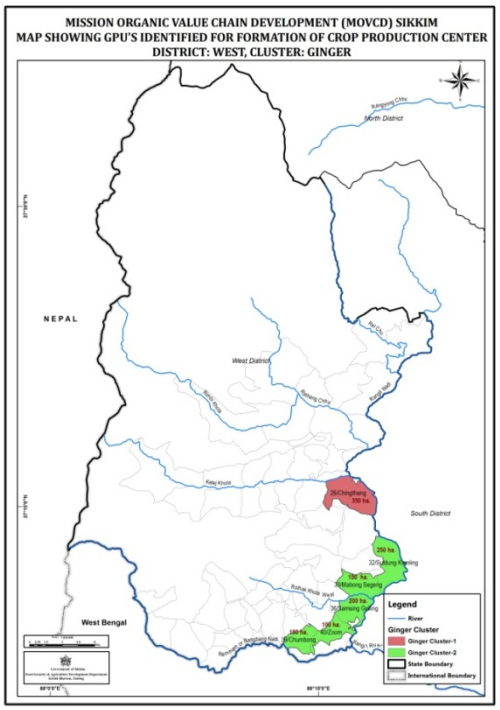
ANNEXURES

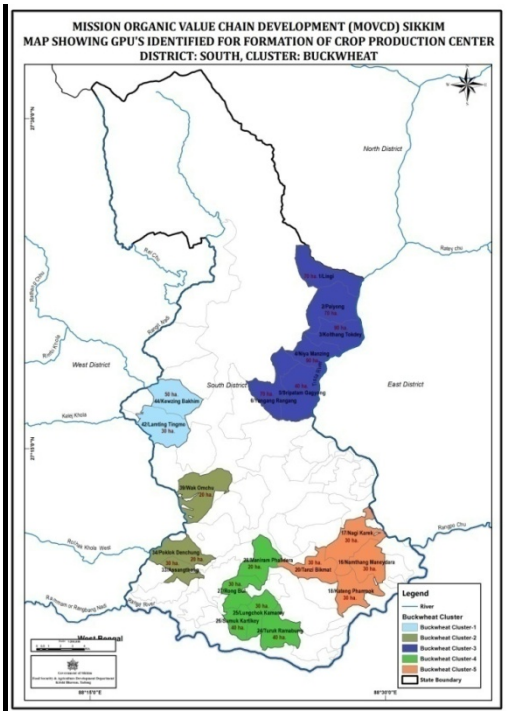
ANNEXURE-1

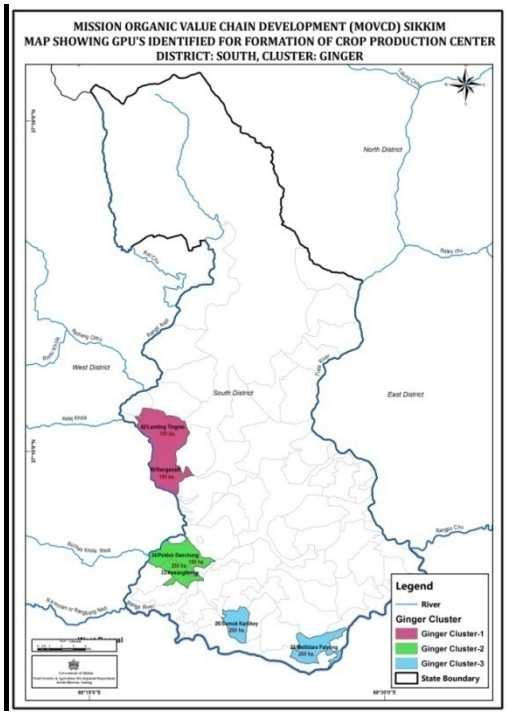
CLUSTER MAP

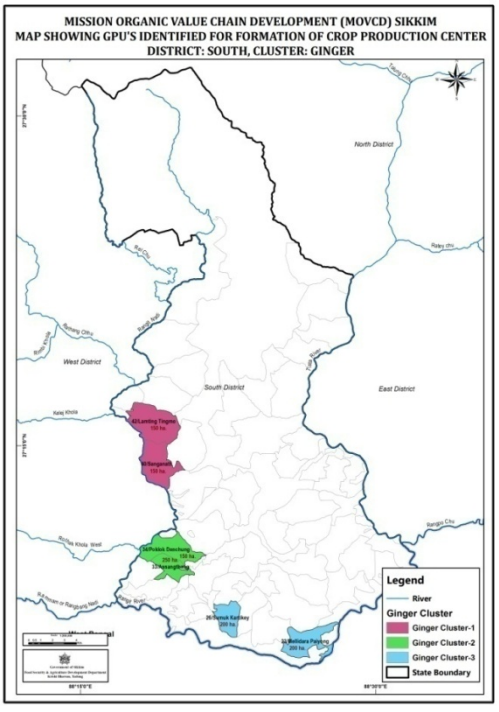


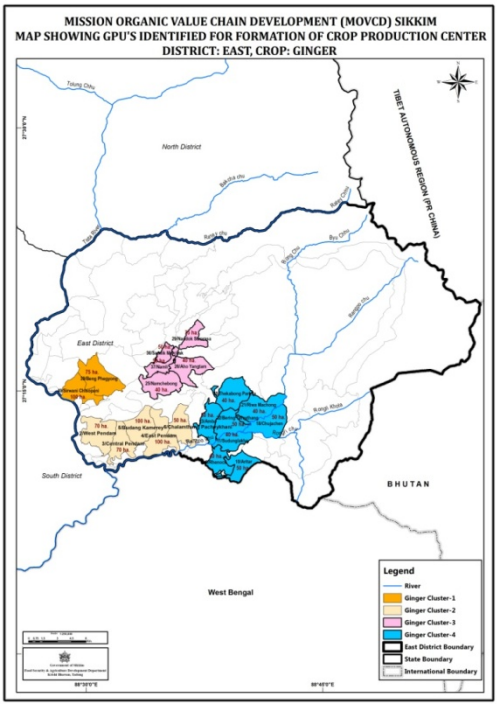


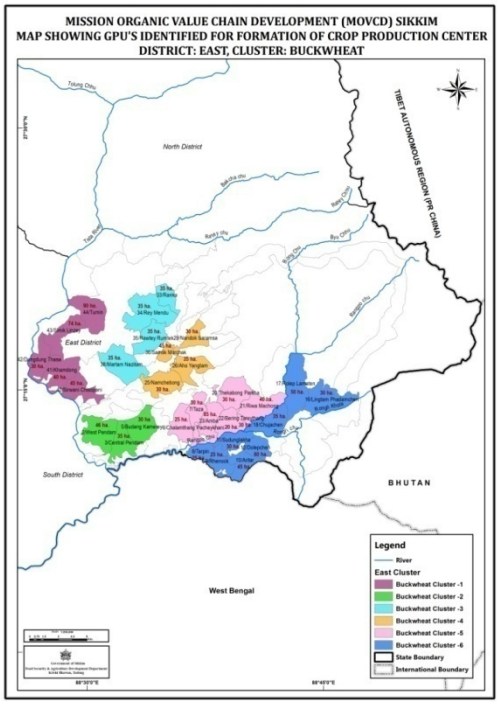


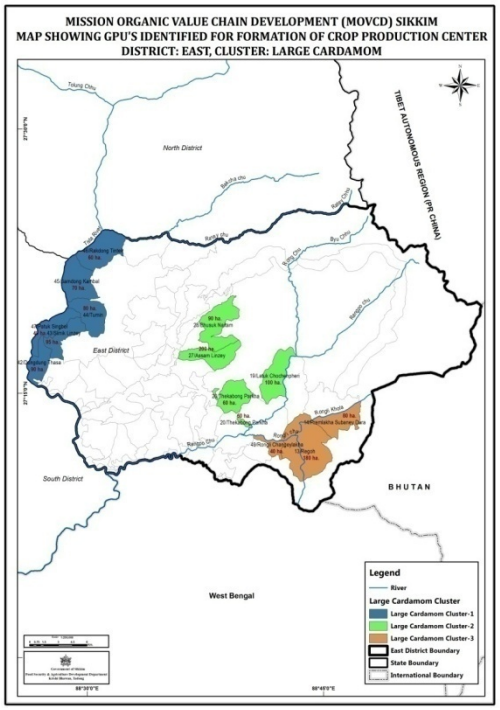

MISSION ORGANIC VALUE CHAIN DEVELOPMENT (MOVCD) SIKKIM
MAP SHOWING GPU'S IDENTIFIED FOR FORMATION OF CROP PRODUCTION CENTER
DISTRICT: SOUTH, CLUSTER: BUCKWHEAT
North District
West District
South District
East District
Legend
River
Buckwheat Cluster
Buckwheat Cluster-1
Buckwheat Cluster-2
Buckwheat Cluster-3
Buckwheat Cluster-4
Buckwheat Cluster-5
State Boundary


MISSION ORGANIC VALUE CHAIN DEVELOPMENT (MOVCD) SIKKIM
MAP SHOWING GPU'S IDENTIFIED FOR FORMATION OF CROP PRODUCTION CENTER
DISTRICT: SOUTH, CLUSTER: GINGER
North District
West District
South District
East District
Legend
River
Ginger Cluster
Ginger Cluster-1
Ginger Cluster-2
Ginger Cluster-3
State Boundary


MISSION ORGANIC VALUE CHAIN DEVELOPMENT (MOVCD) SIKKIM
MAP SHOWING GPU'S IDENTIFIED FOR FORMATION OF CROP PRODUCTION CENTER
DISTRICT: SOUTH, CLUSTER: GINGER
North District
West District
South District
East District
Legend
River
Ginger Cluster
Ginger Cluster-1
Ginger Cluster-2
Ginger Cluster-3
State Boundary


MISSION ORGANIC VALUE CHAIN DEVELOPMENT (MOVCD) SIKKIM
MAP SHOWING GPU'S IDENTIFIED FOR FORMATION OF CROP PRODUCTION CENTER
DISTRICT: EAST, CROP: GINGER
North District
East District
South District
West Bengal
BHUTAN
TIBET AUTONOMOUS REGION (PR CHINA)
Legend
River
Ginger Cluster-1
Ginger Cluster-2
Ginger Cluster-3
Ginger Cluster-4
East District Boundary
State Boundary
International Boundary


MISSION ORGANIC VALUE CHAIN DEVELOPMENT (MOVCD) SIKKIM
MAP SHOWING GPU'S IDENTIFIED FOR FORMATION OF CROP PRODUCTION CENTER
DISTRICT: EAST, CLUSTER: BUCKWHEAT
North District
East District
South District
West Bengal
BHUTAN
TIBET AUTONOMOUS REGION (PR CHINA)
Legend
River
East Cluster
Buckwheat Cluster -1
Buckwheat Cluster -2
Buckwheat Cluster -3
Buckwheat Cluster -4
Buckwheat Cluster -5
Buckwheat Cluster -6
State Boundary
International Boundary


MISSION ORGANIC VALUE CHAIN DEVELOPMENT (MOVCD) SIKKIM
MAP SHOWING GPU'S IDENTIFIED FOR FORMATION OF CROP PRODUCTION CENTER
DISTRICT: EAST, CLUSTER: LARGE CARDAMOM
North District
East District
South District
West Bengal
BHUTAN
TIBET AUTONOMOUS REGION (PR CHINA)
Legend
River
Large Cardamom Cluster
Large Cardamom Cluster-1
Large Cardamom Cluster-2
Large Cardamom Cluster-3
East District Boundary
State Boundary
International Boundary

****

ANNEXURE-2

Uttarakhand Organic Commodity Board

Uttarakhand Organic Commodity Board came in to existence on 19 May 2003. The board was registered under the societies registration act, 1860 and is acting as the nodal agency of the state to enhance organic activities in agriculture and allied sectors like Horticulture, Medicinal Aromatic Plants & Herbs and animal husbandry through out the state. On-going programs, many of which are funded externally presently provide the source for human resource for the technical and marketing activities.

Aim: The role of the Board in the promotion of Organic Farming in the state is assisted by articles of association which describes the UOCB as a promoting and facilitating organization

Work undertaken: Capacity Building of all stake holders of Organic Farming in the state has been undertaken by UCOB. The UOCB has trained farmers, extension workers from government line departments, NGO's, special projects in the state for the production, certification as well as marketing. UOCB has organized exposure visits for farmers, middle and senior level officers for seminars, exhibitions and other gatherings in Organic sector. Prime facilitator for back ward as well as Forward Linkage in the state. UOCB develops production plans as per market response and delegates the plan to the different production agencies, they be bio- villages run by the agriculture department or the different partner NGO's. The organic farmers are then assisted to become into Organic Producer groups and then linked with markets. UOCB facilitates the entire exercise. This has become one of the most important tasks where the UOCB has provided the vital 'fill in the blank' service. As UOCB is the prime mandator for the Internal Control System UOCB compiles all data generated by the extension workers as well as the internal inspectors. The compiled data is then used as commodity production projections of the coming season which then facilitates the forward linkage processes. The availability of updated data at a single window helps the marketing cell to plan for the supply chain. UOCB functions as the resource center for the Technical inputs for the organic production which is constantly being updated. Inputs which can be used as per standards, new products, technologies for the production as compiled by the board and then the information are passed on to the different stake holders in the state. Resource generation in the form of finances, human resources and building patronage for the Organic development for the state is also an important activity of the state. Development and Incubation of ideas, products as well as future strategies are also an important activity of the Board which is being carried out in some sectors.

Achievements of UCOB: UOCB has been able to popularize the concept not only within the state but also outside specially to the other mountain states. There is a constant visit list of farmers, officers and NGO for learning the Uttarakhand experience. Within the state a number of voluntary organizations have included the organic farming in their programs. Models where in the production to markets (complete supply chain) under the organic systems have been established at several places. The commodities where substantial progress has taken place is in Basmati, Mandua (finger millets), chillies, other spice, wheat, pulses, traditional rice, perishables like vegetables etc. These models now need to be multiplied and up scaled. Product Development of mandua (finger millet) as an ingredient in the India Mix, a product for the mid day meal under the ICDS program was done where the use of mandua has been standardized with the World Food Program (WFP) thus creating a market of 1000 metric tons of mandua in

ANNEXURE 2

LIST OF VALUE ADDED PRODUCTS FROM TURMERIC

Food	Various forms of turmeric available				
	Turmeric whole	**Turmeric powder**	**Turmeric Oleoresin**	**Essential oil**	**Cur cumin**
Turmeric powder	Y		Y		
Masala mixes		Y	Y		
Asian cuisine		Y	Y		
Turmeric protein bar		Y	Y		
Candy		Y	Y		
Gummies		Y	Y		
Chocolates		Y	Y		
Mint		Y	Y		
Tea powder		Y	Y		
Sports drinks		Y	Y		
Fruit juice		Y	Y		
Flavoured water		Y	Y		
Vegetable juice		Y	Y		
Cocktail mixers		Y	Y		
Herbal coffee		Y	Y		
Powdered drink mixes		Y	YY		
Turmeric milk		Y	Y		
Mustard turmeric sauce		Y	Y		
wasabi sauce		Y	Y		
Italian dressing mixes		Y	Y		
Apple cider vinegar and honey		Y	Y		
Peanut butter		Y	Y		
Noodles and pasta		Y	Y		
As a natural food colourant			Y		

Personal care	**Turmeric whole**	**Turmeric powder**	**Turmeric Oleoresin**	**Essential oil**	**Curcumin**
Skin lotions/ moisturizers			Y		Y
Cleansers			Y		Y
Actibacterial. Antifingal creams			Y	Y	Y
Anti ageing creams			Y		Y
Fragrance			Y	Y	
Aromatherapy			Y	Y	
Soap/ Shaving cream			Y	Y	
Home care					
Air freshners			Y	Y	
Diffusers			Y	Y	
Floor cleansers			Y	Y	
Detergents			Y	Y	
Fabric softeners			Y	Y	
Healthcare					
Antibacterial/antifungal creams			Y		Y
Joint pains			Y	Y	Y
Cardiac health			Y		Y
blood purifier			Y		Y
Weight loss			Y		Y
Anti Diabetic			Y		Y
Respiratory disorders			Y		Y
Memory enhancers			Y		Y
Immune system booster			Y		Y

VALUE ADDED PRODUCTS OF CARDAMOM

Grocery & Gourmet Foods	Large Cardamom	Allepey green small cardamom	Coorg green small cardamom	Bleached Cardamom	Powdered cardamom	Cardamom Oleoresins	Essential Oil
Whole Green Cardamom	Y	Y	Y				
Cardomom Powder					Y		
Mixed Spices & Seasonings	Y	Y	Y	Y	Y		
Cardomom Spice extract	Y	Y	Y	Y		Y	
Tea	Y	Y	Y	Y	Y	Y	
Green Tea	Y	Y	Y	Y	Y	Y	
Herbal Tea	Y	Y	Y	Y	Y	Y	
Cardomom Tea	Y	Y	Y	Y	Y	Y	
Lemon Tea	Y	Y	Y	Y	Y	Y	
Cardomom Candy	Y	Y	Y			Y	
Cardomom Syrup	Y	Y	Y			Y	
Spice Coffee powder					Y		
Beverages				Y			
Snack bars	Y	Y	Y	Y		Y	
Mango & Cardomom Jam	Y	Y	Y			Y	
Plum & Cardomom Jam	Y	Y	Y			Y	
Caramel Cardomom Jam	Y	Y	Y			Y	
Personal Care						Y	Y
Soap						Y	Y
Lip Balm						Y	Y
Perfume						Y	Y
Hand Moisturising Cream						Y	Y

Grocery & Gourmet Foods	Large Cardamom	Allepey green small cardamom	Coorg green small cardamom	Bleached Cardamom	Powdered cardamom	Cardamom Oleoresins	Essential Oil
Body Wash						Y	Y
Body Lotion						Y	Y
Stress relief body cream						Y	Y
Bath Salt						Y	Y
Sugar Butter scrub						Y	Y
Skin Oil						Y	Y
						Y	Y
Home							
Wax Candles						Y	Y
Room Spray						Y	Y
Healthcare						Y	
Vomiting						Y	
Indigestion						Y	
Heartburn						Y	
Cramp						Y	
Mental fatigue						Y	Y
Nervous Strain						Y	Y

Source: Author's calculations

VALUE ADDED PRODUCTS FROM GINGER

Food	Ginger	Ginger dehydrates	Ginger crushed	Stem ginger/ crystallized ginger	Ginger Oleoresin	Essential oil	Gingerol
Dry ginger powder	Y	y			Y		
Minced ginger	Y		Y		Y		
Grated ginger	Y				Y		
Ground ginger	Y		Y		Y		
Crystallised ginger candy	Y	Y		Y	Y		
Sushi ginger	Y		Y		Y		
Ginger juice	Y		Y		Y		
Ginger syrup	Y		Y	Y	Y		
Freeze dried ginger	Y		Y		Y		
Ginger chips	Y	Y	Y		Y		
Ginger chilli sauce	Y	Y	Y		Y		
Ginger tea powder	Y		Y		Y		
Ginger tea bags	Y	Y	Y		Y		
Instant ginger drink	Y	Y	Y		Y		
Herbal tea	Y	Y	Y		Y		
Ginger mints	Y	Y			Y		
Chocolate covered ginger	Y	Y		Y	Y		
Ginger chocolate	Y	Y		Y	Y		
Ginger lime sea salt - asian cuisine	Y	Y	Y		Y		
Sweet ginger sea salt - asian cusine	Y	Y	Y		Y		

Food	Ginger	Ginger dehydrates	Ginger crushed	Stem ginger/ crystallized ginger	Ginger Oleoresin	Essential oil	Gingerol
Coffee chile pepper rub - south west cuisine	Y	Y	Y		Y		
Ginger peanut sauce	Y	Y	Y		Y		
	Y		Y		Y		
Ginger seasame vinaigrette	Y	Y	Y		Y		
Ginger baby cookies	Y	Y	Y	Y	Y		
Ginger garlic seasoning	Y	Y	Y		Y		
Breakfast cereals	Y	Y	Y		Y		
Nutrition bars	Y	Y	Y	Y	Y		
Ginger scones	Y	Y	Y	Y	Y		
Granola bars	Y	Y	Y	Y	Y		
Ginger maple syrup	Y	Y	Y	Y	Y		
African seasoning sauces	Y	Y	Y		Y		
Tomato spread with ginger n cumin - french seasoning	Y	Y	Y		Y		
Ginger pickled veggies - Japanese cuisine	Y	Y	Y		Y		
Opies ginger stem in syrup	Y		Y	Y	Y		
Pickles	Y	Y	Y		Y		
Ginger sesame miso dressing	Y	Y	Y		Y		
Balsamic vinegar	Y	Y	Y		Y		

Food	Ginger	Ginger dehydrates	Ginger crushed	Stem ginger/ crystallized ginger	Ginger Oleoresin	Essential oil	Gingerol
Olive oil infused with ginger	Y	Y	Y		Y		
Sesame oil infused with ginger	Y	Y	Y		Y		
Mandarin ginger seasoning	Y	Y	Y		Y		
Shitake ginger seasoning	Y	Y	Y		Y		
Desserts, bakery, confectionery MIXES	Y	Y	Y	Y	Y		
Ginger quinoa	Y	Y	Y		Y		
Thai rice	Y	Y	Y		Y		
Couscous	Y	Y	Y		Y		
Couscous spice mix	Y	Y	Y		Y		
Ginger preserves	Y	Y	Y		Y		
Ginger marmalade	Y	Y	Y		Y		
Noodles - Asian cuisine	Y	Y	Y		Y		
Ginger wasabi sauce	Y	Y	Y		Y		
Ginger teriyaki sauce - BBQ	Y	Y	Y		Y		
Ginger glaze mix	Y	Y	Y		Y		
Peanut sauces	Y	Y	Y		Y		
Stir fry sauces	Y	Y	Y		Y		
Wine	Y				Y		
Soups	Y	Y+	Y		Y		
Cookies	Y	Y	Y	Y	Y		

Food	**Ginger**	**Ginger dehydrates**	**Ginger crushed**	**Stem ginger/ crystallized ginger**	**Ginger Oleoresin**	**Essential oil**	**Gingerol**
Crackers	Y	Y	Y	Y	Y		
Flavoured water	Y	Y	Y		Y		
Stocks	Y	Y	Y		Y		
Bisque - French cuisine	Y	Y	Y		Y		
Habanero sauce - South American	Y	Y	Y		Y		
Toothpaste					Y		Y
Mouthwash					Y	Y	Y
Mouthfreshner					Y	Y	Y
Teeth whitening products					Y		Y
Body lotion/ moisturizer					Y	Y	
Lip balm (ginger flavour)					Y	Y	
Soap					Y	Y	Y
Deodrants and Fragrances					Y	Y	
Sanitary napkins					Y	Y	
Wet tissues					Y	Y	
Vaginal moisturizers					Y	Y	
Menopause nutraceuticals					Y	Y	Y
Dshampoo & conditioner (Astringent, fragrance, anti dandruff)					Y	Y	Y
Shaving creams/ soaps					Y	Y	Y
Liubricants & aphrodisiac					Y	Y	

Food	**Ginger**	**Ginger dehydrates**	**Ginger crushed**	**Stem ginger/ crystallized ginger**	**Ginger Oleoresin**	**Essential oil**	**Gingerol**
Baby care							
Gripe water					Y		Y
Baby wipes					Y	Y	Y
Home care							
Air freshners					Y	Y	Y
Diffusers					Y	Y	Y
Floor cleansers					Y	Y	Y
Detergents					Y	Y	Y
Fabric softeners					Y	Y	Y
Healthcare							
Nausea					Y		Y
Stomach discomfort					Y		Y
Cold & cough					Y		Y
Joint pains					Y	Y	Y
Anti oxidants					Y		Y
Analgesic					Y		Y
Bronchitis					Y		Y
Aphrodisiac					Y	Y	Y

ANNEXURE 3

LIST OF BUYERS OF ORGANIC SPICES FROM SIKKIM

France

France is amongst the five largest markets in the world for organic food and beverages and is a very important market for spices and herbs. It is not only a significant importer from developing countries, but also a large producer and exporter of culinary herbs. French consumption of peppers (white, black, red and green peppercorns, chillies, cayenne pepper) is relatively high. Ginger herbal tea is widely consumed.

Organic importers and traders:

- Arcadie SA http://www.arcadie-sa.fr - Retailers and wholesalers of organic spices, herbs, dehydrated vegetables and extracts.
- Herbier du Diois http://www.herbier-du-diois.com
- Sanoflore http://www.sanoflore.net - Buyers and suppliers of organic culinary and medicinal herbs and herb teas, and major traders in organic essential oils.
- Weleda (Germany, France, Switzerland) http://www.weleda.de - Organic distributors of retail packed products
- Distriborg http://www.distriborg.com - Distributors.

Germany

- Germany is the world's second largest market for organic food and beverages and the largest spice and herb market in Europe, although it is currently growing at a slower pace than some of the neighbouring markets. There is a growing base of organic specialist shops and supermarkets, as well as the long established natural food shops (Naturkostläden) and traditional health food shops
- (Reformhäuser), which also carry some organic products. The demand for herbal plant materials used in organic health care remedies and cosmetic and body care is growing rapidly.

Organic importers and traders

- Golden Temple http://www.goldentemple.de - Importer/distributor.
- Improplant www.inproplant.de - Organic spices broker.
- Lebensbaum U. Walter GmbH http://www.lebensbaum.de
- Hamburger Gewuerzemuehle http://www.gewuerzmuehle.de

Importer/distributors

- Rapunzel Naturkost AG http://www.rapunzel.de
- Weleda http://www.weleda.de Natural and organic medicinal and cosmetics products. Medicinal herb buyer.
- Worlee http://www.worlee.de

The Netherlands

The country is a traditional importer and trader in produce for the EU market, and this applies particularly to organic spices and herbs, where Dutch trading companies are among the largest EU importers. The Dutch market for organic spices and herbs has increased both in the domestic market and for re-export to the EU. Demand for organic non- food herbal plants for nutraceutical/herbal medicines and cosmetic/body care products has also increased significantly over recent years.

Organic importers and traders

- Doens Food Ingredients BV http://www.doensfood.com - Organic food ingredients importer and supplier, including spices.
- Forestrade http://www.forestrade.com Spices and spice oils. Office in Europe ForesTrade-
- Europa@planet.nl.
- Organic Flavour Company (formerly Euroherb) http://www.ofc.nl Importers and suppliers of a wide range of organic herbs spices and other organic foods.
- Usselerriet BV http://www.usselerriet.com Organic dried vegetable, herb and spice suppliers.

United Kingdom

The United Kingdom is the third largest market in the world for organic food and beverages and is a major market for spices and herbs. Supermarket chains account for the majority of organic retail sales, as they do for conventional food and beverages, but they currently carry only a limited range of organic spices and herbs (dried or in paste form).

Organic importers and traders

- Barts Spices http://www.bartspices.com Buyers and packers of fresh/frozen and dried herbs and spices including organic and fairtrade.
- Beacon Foods http://www.beaconfoods.co.uk Fresh/frozen suppliers (garlic, herbs, chillies- some organic).

- Community Foods Ltd. Major wholesaler and importer http://www.communityfoods.co.uk
- Infinity Foods Ltd. Major whole foods/organic wholesaler and bulk importer
- http://www.infinityfoods.co.uk
- Kitchen Garden Organics http://www.kitchen- garden.co.uk - Organic spices, herbs, herb and spice pastes, organic essential oils.
- Steenbergs. Market organic and fairtrade spices. http://www.steenbergs.co.uk
- Organic Herb Trading Co. Traders in organic culinary and medicinal herbs, and organic essential
- oils. http://www.organicherbtrading.com
- Rasanco Ltd. http://www.rasanco.com Importer of organic ingredients (essential oils, dried and
- frozten spices and herbs).
- Norgrow. www.norgrow.com - Organic and conventional spices, herbs and other commodities
- Steng Ingredients www.steng.co.uk - Processor and importer of organic and conventional fresh and frozen herbs.
- Queenswood Natural Foods http://www.queenswoodfoods.co.uk/trading1.htm - Organic foods wholesaler.

Spain

Spain is a relatively large market for conventional spices and herbs and is a major producer and trader of paprika powder and saffron - with some organic exports. As with conventional spices such as paprika, where domestic production has largely been supplanted by imports, Spain's increasing labour costs will make organic spice and herb imports more important in the future.

Organic importers and traders

Serpentie Verde http://www.serpienteverde.com.
Especias del Sol http://www.especiasdelsol.com

Canada

Canada is the sixth largest market in the world for organic food and beverages. The market appears to be growing rapidly. Sales of organic spices and herbs are small, but the market is growing. Most imports are currently from the United States, but there is a keen interest in diversifying sources of supply.

Organic importers and traders

Bianca International **Organic importers and traders**

Bianca International Organic Inc. http://www.biorganic.ca - Agents for importers of organic produce.

Organic distributors/wholesalers/brokers (finished products)

- Horizon Distributors http://www.horizondistributors.com - Importer and distributor of organic retail packed foods.
- Ontario Natural Food Co-Op http://www.onfc.ca - Organic and natural foods distributor for Ontario and Eastern Canada.
- Sunopta. Distribution of organic and natural foods - http://www.sunopta.com/consumer.html

Japan

Japan is a large market for "specially cultivated crops" or "green products" (grown with reduced use of chemical pesticides and fertilizers), which were long considered as organic products. However, with the introduction of new standards (JAS), introduced by the Japanese Ministry of Agriculture in 2001, organic products are now defined similarly to those in other major markets. The market is growing rapidly following the introduction of the JAS, and as consumers are becoming increasingly concerned not only with their health but also with the environment, but it is fairly small compared with the other major markets in the EU and USA.

Organic importers and traders

- Altertrade http://www.altertrade.co.jp Fair trade and organic importers and distributors.
- The Fair Trade Company imports@globalvillage.or.jp - Fair trade and organic importers and distributors.
- Alishan http://www.alishan-organic-center.com - Organic and natural foods distributors.
- CGC Japan. http://www.cgcjapan.co.jp/english/index.html - Buying group for Japanese retail outlets.

United States

This is the world's largest organic market. The introduction of a national standard, the National Organic Program (NOP), implemented in October 2002, has made a significant impact on the development of the US organic industry. Throughout the value chain, from the domestic or foreign farmer to the final consumer, the NOP standards will increase the focus on organic products and help to regulate and promote trade.

Natural foods stores, dominated by the two chains Whole Foods Market Inc. http://www.wholefoodsmarket.com and Wild Oats http://www.wildoats.com still are the largest sellers of organic food sales, but mainstream supermarkets and grocery stores stock and increasing range of organic foods. Farmers' markets, food service and other non-retail outlets are also increasingly important outlets. The USA is a substantial producer of some organic herbs and a large importer of organic spices and herbs.

Organic importers and traders

- Forestrade, Inc. http://www.forestrade.com - Importer, processor and distributor of spices,
- Frontier Coop http://www.frontiercoop.com - Organic spices, herbs and essential oils supplier and importer. Large range of organic spices, herbs and essential oils in retail packs.
- Global Organics, Ltd. http://www.global-organics.com/index.shtml - Organic spices.
- Herb Trade, Inc. http://www.organicherbtrade.com/ - Specialist importer of organic herbs and spices.
- Marroquin International http://www.marroquin-organics.com - Trader in organic spices, herbs and essential oils.
- Mountain Rose Herbs http://www.mountainroseherbs.com - Organic herbs spices and essential oils.
- Organic Planet http://www.organic-planet.com - Importer of organic spices.
- Tree of Life http://www.treeoflife.com - Major distributor of natural and organic food.
- United Natural Foods http://www.unfi.com - Major distributor of organic and natural food.

After becoming a 100% or organic state it has become imperative for Sikkim that viable action plan and marketing strategies are developed so that the organic status is sustained in the long run. CCS National Institute of Agricultural Marketing has been advising the Government of Sikkim on devising suitable market strategies to leverage the advantage of high value organic produce in such a way that the strategic are inclusive of all stakeholders across the different levels of operational structure. In context of huge scope of high value organic agriculture produce for high end market, the study has done market analysis and has suggested market based solutions and action plan for five identified crops (ginger, turmeric, large cardamom, buckwheat and cymbidium to link the producer of Sikkim state consumers of premium markets.

In the context of the Mission on Value Chain Development (MOVCD) the infrastructure and investment requirement to develop uninterrupted flow of produce from farm to market has been worked out in the report. The report suggests suitable strategies for aggregation of produce and value addition to target premium markets. In addition to the creation of infrastructure enabling environment for marketing needs to be in place. The study suggests that the state should develop organized marketing system under the suitable Act i.e. APML Act, Companies Act or Societies Act. The regulatory and the governance issue of managing organic value chain and related food safety issues are of paramount, importance and hence Sikkim State should take concrete steps in this direction.

The recommendations and action plan offers market based solutions to enable the State to set up a specialized marketing system for organic producer. The report is useful for researchers, policy makers, entrepreneurs, Managers, commodity boards, companies, NGO, certificate agencies, farmer producer companies etc. After implementing the Action Plan under MOVCD the Sikkim State will set an example for the other States who are foraging in the organic sector.

NIAM

CCS National Institute of Agricultural Marketing, Jaipur

(Ministry of Agriculture and Farmers Welfare, Government of India)

Bambala, Kota Road, Jaipur- 302 033, Rajasthan
Ph: 0141-2795104 / 2770027 | Fax: 0141-2770595, 2771858
E-mail: dgniam@hotmail.com | Website: www.ccsniam.gov.in