

Strengthening Ginger Value Chains in North East India

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Abstract : The aim of the paper is to find out the critical points in value chain practices existing in Ginger farming in the North Eastern State of Sikkim, India. The paper tries to find out possible solutions so that these value chain practices can be linked to financial service providers for the betterment of the ginger growers. It has been perceived that strengthening the value chains as well as promoting coordination between rural communities, public and private institutions results in betterment of the livelihoods in rural areas. Ginger is one of important cash crop in Sikkim and the quality of ginger produced in Sikkim is one of the best as per market demand. But the prevailing value chain practices in ginger farming are very weak in the State. For instance, farmers sell their produce to the middlemen or shopkeepers and mostly immediately after harvesting when the price is at the lowest in the local market. Therefore, access to rural finance and market acts as constrains in rural areas in Sikkim. The paper focuses on the design and facilitation role played by the government and banks, and on the role and contributions of other public and private organizations such as the Sikkim State Cooperative Supply and Marketing federation Limited (SIMFED), North Eastern Regional Agricultural Marketing Corporation Limited (NERAMAC) etc. The paper also sets out recommendations for strengthening and scaling up the value chains in ginger farming, while discussing strategies, activities, and achievements.

Key Words : Livelihoods, Value Chain, Microfinance, Market Linkage, North East Region.

I. INTRODUCTION

Ginger (*Zingiber officinale*) is a herb that is originally cultivated in China and other South East Asian countries now equally spread around the world. Ginger has been used as a food additive, and medicinal purposes. It is the "root" of the ginger plant (rhizome) that is most useful for medicine and for flavoring food. The eight North Eastern states of India accounts for 49% of India's Ginger producing area and 72% of India's ginger production. Ginger is an important cash crop of Sikkim. It is grown by all section of farmers including small and marginal farmers. Ginger produced in the North Eastern region has reported to have higher oil (5.9-8.56%) than ginger from other regions of India (5-8%). The climatic conditions of North Eastern states are suitable for ginger cultivation. This attributes to the good quality of ginger that is produced from this region. The North Eastern state Sikkim has around 7000 hectares under Ginger cultivation which annually produces around 377000 tonnes of ginger and this accounts for around 9.8% of India's production.

Ginger has a strong distinct flavor due to this mainly consumed as a major spice and flavor ingredients all across the globe. Pickles, ginger flavored tea etc. are also common food items found all across the countries. Compounds in the ginger rhizome, called oleoresins, have anti-inflammatory properties and are also known to have a positive effect on the muscles in the digestive tract. Thus Ginger is often an important ingredients in various medicinal applications like cough syrups, health tonics, digestive tablets etc various application (Spices Board, 2009).

1.1 Production practices of Ginger Cultivation

Lands where water stagnates are avoided for ginger cultivation. Farmers also believe that planting the same land every year does not produce a good crop. Chosen fields are cleared of all vegetation by burning and the ash is also used as fertilizer. The land is then ploughed, dug and hoed. A second plowing occurs 15 to 18 days later. Cow dung is applied to the fields and they are plowed again to mix the manure into the soil. Beds 20 to 25 cm high are prepared with drains between them. Just before planting, the stored ginger seed rhizomes are sorted again. Good healthy rhizomes, that are, large, shiny, free from spots or marks, and free from bud or eye injury, are selected.

The selected ginger rhizomes are planted in two or three rows in the beds and covered with up to 8 cm of soil. During planting the seed rhizomes are broken into pieces to ensure that each has two to four sprouts. Immediately after planting, the beds are mulched with dry leaves up to 8 to 10 cm thick. Most farmers in Sikkim, practice intercropping with maize as maize plants provide shade to the Ginger. When the ginger plants have three or four leaves, the *mau* or mother rhizome is removed. Care is taken not to damage the roots and cause infection. The roots are immediately covered again with soil. Fifteen days after *mau* extraction, manure is applied to keep the seeds for the next season, healthy looking plants are selected where plants that are not dried, and harvested 15 to 20 days before and stored in a dry, shady place. If seeds are bought from open market or obtained from government sources, they are stored in house in a cool, dry place covered with gunny bags or outside in a dry, shady place. Farmers usually change the seed every two to three years to reduce the prevalence of disease.

Bhainse, *Gurubathane* and *Majauli* are the three types of Ginger harvest in Sikkim based on their respective sizes of the harvested rhizomes. However, there are little efforts by farmers to sort the produce according to their sizes and sell the same.

1.2 The Value Chain Approach

The use of value chain approaches has been gaining in popularity since 1985, when Michael Porter introduced a generic concept of value chain model in his book, '*Competitive Advantage*'. Michael Porter defines and maps five broad categories of value chain activities - inbound logistics; operations; outbound logistics; marketing and sales; and, services – and then outlines ways in which the value chain model can be used to define an organizations competitive advantage in two categories: cost advantage; and, differentiation. Michael Porter further identifies ten 'cost drivers' for value chain approaches i.e. economies of scale; learning; capacity utilization; linkages among activities; interrelationships among business units; degree of vertical integration; timing of market entry; firm's policy of cost or differentiation; geographical location; and, institutional factors i.e. market regulation, trade union activities, taxation etc. (Porter, 1985).

In recent Agribusiness research, Value chain approach is getting very much importance. This approach or method has been particularly implemented to provide micro and small enterprise opportunities to rural areas, difficult remote regions, and to the rural communities involved in a particular sector or sub sector where a dearth of proper market knowledge.

1.3 Ginger Value Chains in Sikkim

The quality of ginger produced in Sikkim is one of the best in India as per market demand. Thus the Sikkim's variety of ginger fetches the best prices in the domestic market. There is a lack of organized market network in the state for ginger. Finance is available from Sikkim State Cooperative Bank (SISCO), other commercial banks and Micro finance institutions like *Rastriya Gramin Vikas Nidhi* but the outreach of rural finance is still negligible in the state. Farmers of Sikkim sell Ginger in local weekly *rural haats*, to local traders or middle men and generally transactions are done in cash. Some Cooperatives at the village level also procure ginger from farmers and sell the produce to the auction centers of North Eastern Regional Agricultural Marketing Corporation Limited (NERAMAC), Sikkim State Cooperative Supply and Marketing federation Limited (SIMFED) and these public marketing agencies graded the produce and send to higher order markets in outside the state. Ginger is generally sold loose by farmers without much cleaning and value addition. The unit of sale is *Mon* which is equivalent to 40 kgs. The inputs required for ginger cultivation are seeds, fertilizers and agricultural implements. Some of the traditional marketing channels of ginger growers in Sikkim are as follows:

Village level traders

Village level traders generally deal in multiple produce and receive advances from town level wholesalers for procuring ginger from farmers at the village level itself for passing the produce in the value chain. The village level trader in some cases were found to undergo basic value addition to the procured ginger in terms of cleaning, sorting, grading and standard packing the ginger into jute bag (*borra*) packets of 60 kgs. Village level traders of the villages transport their produce in half trucks at an average cost of Rs 15 per *Borra* (60kgs) to town level traders. Generally the village level traders supplied these *Ginger Borra* to major towns of Sikkim e.g. Gangtok, Namchi, Jorethang, Gyalshing etc for further marketing channels.

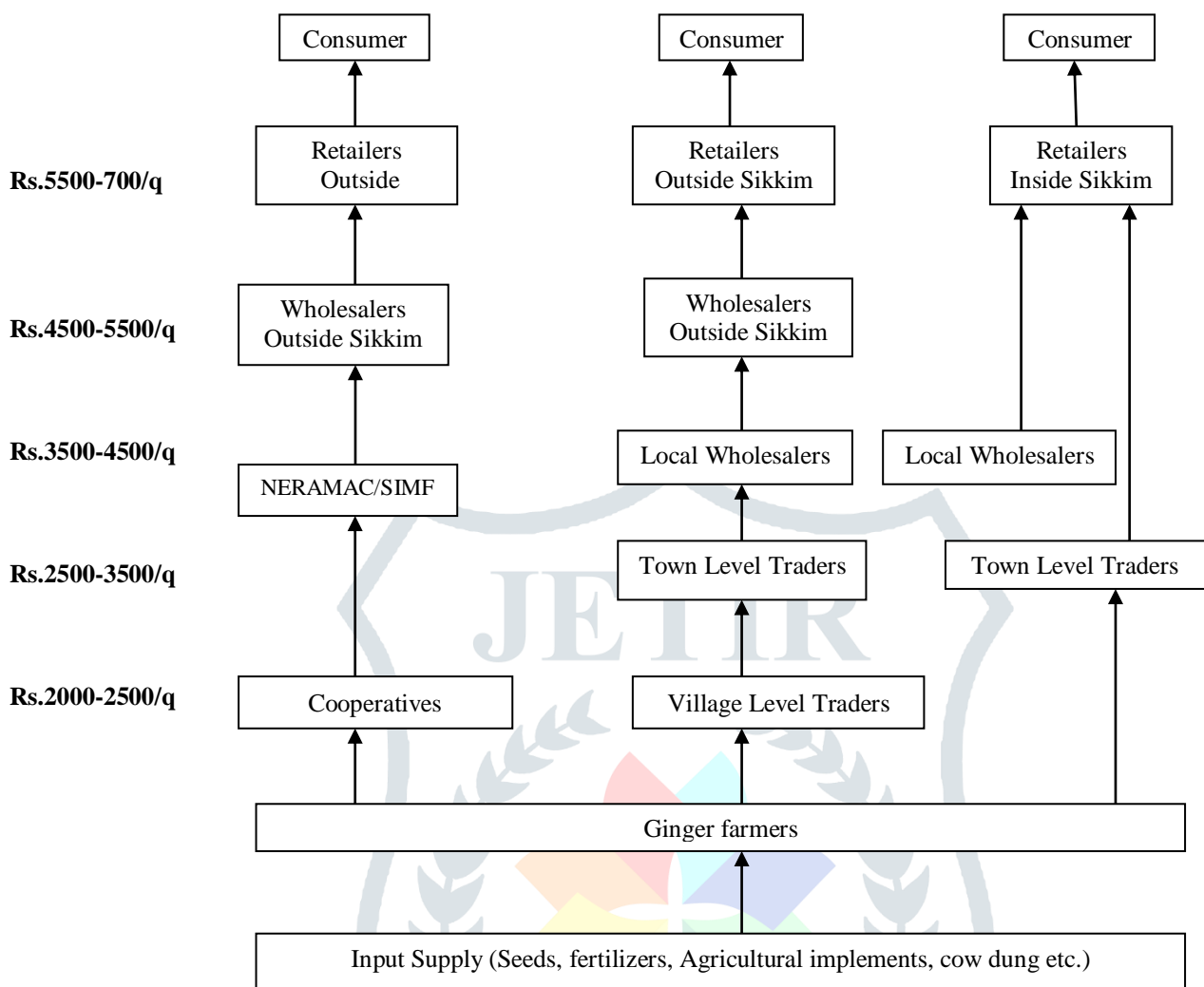
Town level traders

The town level traders are the major aggregators of ginger farming at the town levels and also form the link between the village level traders and local wholesalers. The town level traders collected produce from village level traders and grade the produce according to parameters like size of rhizomes, quality, moisture content etc. There is a price difference of Rupees 5-8 per kg between these qualities in the local market. They negotiate with local wholesalers and a primary function of these traders is to grade the collected produce and pack them in standard packing sizes of 60 kg jute bags. The labour charges incurred by the trader are around Rs 10 for packing, weighing and loading the packets onto the vehicles of transport. The town level traders often deduct 3-4 kgs per packet while paying the farmer his dues by accounting for impurities in his ungraded produce.

Wholesalers

There are around 150 wholesale ginger traders in the regulated market for agricultural commodities in *Siliguri* city of West Bengal state. *Siliguri* is the nearby city from Sikkim and it connects with rest of the country. Ginger from Sikkim, and other North Eastern States converge in *Siliguri* to be traded to all corners of the country. In this market the quality of ginger is differentiated by the thickness of the Rhizome which are *Mota* (thick) or *Patla* (Thin). The produce after arriving in the regulated market in *Siliguri* undergoes a washing (in the constructed tanks) and grading again to be repacked into packets of 60 kgs. The washing of the produce brings about a special glaze to the ginger which not only gives a good price also restores the lost moisture. There are some organized groups in the regulated market who exclusively performs the washing grading. There are some types of deals that generally occur between town level traders and wholesalers. The wholesaler acts as commission agent in selling the produce to wholesalers in other places of the country like in ginger auction centers in Delhi, Kolkata and Mumbai. The commission charged is from both parties (seller and buyer) and all other associated costs like sorting, grading, washing, weighing, loading, etc are borne by the seller. Unloading expenses and taking the produce to the regulated market in outside *Siliguri* market is also with the buyer. So, the wholesaler plays the mediator between the buyer and seller. The wholesaler acts as a middleman and negotiates a deal from the seller by fixing the price of the produce per quintal such that whatever be the prevailing prices in the market, the deal will be carried out at the negotiated prices only. Under such circumstances all expenses are generally borne by the wholesaler himself including transportation charges. The wholesaler decides himself whom to sell and at what price to sell and the buyer and seller do not come face to face with each other. The Table 1 shows the Value chains of Ginger farming in Sikkim.

Table 1. Ginger Value Chain Analysis Map



2. OBSERVATION

The field study was conducted at Hee Bermik Block and Soreng Block of west Sikkim district. The interviewed farmers are mostly from *Nepali* community and have small and marginal land holding between 0.5 to 5 hectares. According to the farmers, due to the middle man and village level traders mostly comes from outside the state and lack of accessible market, the small ginger growers shall their produce in a very nominal price in local market at around Rs. 60-70 per kg, depending upon the quality of the product. For Technical support Farmers informed that there not undergone any capacity building training or demonstration from Agriculture Department or from other agencies. For credit support, the farmers have less awareness about the benefits of Self Help Groups, Joint Liability Groups, *Kishan Credit Cards* offered by banks etc. Although the Cooperatives or Multi Purpose Cooperative Societies (MPCS) are existed in all *Gram Panchayat* level but there functioning is not up to the mark and most of them now defunct. Also the rural bank branches and Microfinance Institutions (MFI) have very poor performances in agricultural lending.

The study finds that the farmers who are engaged in ginger farming are more in number in the unsatisfied side with their overall income and support from the government and banks. The reason of getting low income is that during the season they don't get access to a better market and end up selling to the middlemen or local traders itself at the village or have to sell it to the nearest village in a very low price.

The study also finds that there is gap in input suppliers and production process in ginger farming in Sikkim. Ginger seeds from the Agriculture Department are distributed only to some handful farmers and most of the farmers neglected in this seed supply mechanism. Another issue there is no cold storage facility available in the district level or block level, so farmers cannot store there produce and it led to distress sale in the local market. Farmers do not clean their produce and sells off the produce immediately after harvesting, so cleaning sorting and grading should be taken up at the village Level by farmers to maximize profits. The Table 2 shows constrain matrix for ginger value chains in Sikkim.

Table 2: Constrain Solution Matrix for Ginger Value Chains

Factor	Constrains faced by Farmers	Critical intervention points
Input Sourcing and Production	Ginger seeds from the government are distributed only a handful farmers. Availability of bio-fertilizers other than ash and Cow dung. No Cold storage facility.	Support ICAR and Universities in Speedy research of appropriate Organic fertilizers, pesticides. Set up cold storage facility and Transportation facility at the village level.
Value Addition	Farmers do not clean their produce and sells off the produce immediately after harvesting without sorting and grading.	Cleaning sorting and grading should be taken up at the village Level by farmers to maximum profits.
Market Access	Farmers sell individually to the village level traders or town traders resulting in higher overhead marketing costs.	There is scope for collectivizing farmers to sell collectively to the higher order markets.
Institution building	There is a low affinity among farmers for collective action for sourcing of seeds and sale of Ginger.	Guide farmers for collective sourcing of seeds and marketing to reduce operational costs.
Access to Credit	Availability of timely and right amount of credit to the farmers.	Organizing small and marginalized farmers to link with bank branches.

3. CONCLUSION

The study of the selected villages in Sikkim reveals that the middlemen, village traders and other informal finance providers are taking the advantage of ginger growers less marketing knowledge and giving them low price. In this regard, SIMFED and NERAMAC which are specialized public marketing institutes build for these purposes should have a very big role to play. These public institutions should not only focus on just the marketing in selected auction centers or some high order markets in outside state, they should also focus on making ginger growers market oriented and making them aware about the changing market scenario. So, social mobilization and creating awareness among the farmers on proper production and marketing strategies should be a key task for these agro marketing agencies.

Government should create basic rural infrastructure for production and marketing of agricultural communities by creation of rural marketing centers, irrigation and rural water supply, better transportation facilities etc in difficult and hilly terrains should be implemented. Those farmers, who are not attracted to the value chains and sold their product to middleman or local traders at a very low cost in the village or block level, can be attracted by showing them the roadmap towards success. Focus should be given on creating awareness by government departments, Micro Finance Intuitions and NGOs to farmers about the benefits of alternative practices like food processing of ginger etc. can help them achieve self sustainability.

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