

## MARKETING MARGIN ASSESMENT OF OFF-SEASON VEGETABLES VALUE CHAIN IN SURKHET-DAILEKH ROAD CORRIDOR

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### ABSTRACT

*A study was carried out to identify structural causes of marketing margin for off-season vegetables value chain in a part of Surkhet-Dailekh road corridor during July to August 2011. Cost of production and producer's price were calculated at collection point of Bubairakhe in Goganpani VDC of Surket, and consumer's price observed at 30km far end market in Birndranagar municipality of Surkhet. From the result of study, the marketing margin found doubled in all types of off-season vegetables value chain. The share of post-harvest loss observed first most important factor for higher marketing margin, in tomato 42 percent and cauliflower 37 percent. However, it found third important factor in cabbage 28 percent. The profit margin kept by value chain actors, with contrasting in common perception, observed second important factor for increasing marketing margin in tomato 31 percent, cauliflower 28 percent and cabbage 44 percent. Hence, apposite attempts to reduce post-harvest loss in off-season vegetables value chain might be an important way for reducing marketing margin in off-season vegetables value chain.*

**Key words:** off-season vegetables, value chain, marketing margin, post-harvest loss

### INTRODUCTION

The diverse agro-climatic conditions of Nepal both among and within the different ecological regions are conducive to produce various crops including off-season vegetables. Off-season vegetable farming refers to the production of vegetables before or after their normal season of production by using different agro climatic conditions, adjusting the planting time, selecting and improving the varieties, and/or creating a controlled environment. Awasthi (2003) reported that more than two hundred vegetable species are grown in different climatic zones of Nepal and out of which fifty species and their varieties are grown on the commercial basis. Tomato, cauliflower, cabbage, cucumber, onion and chili are the major off-season vegetables of Nepal among them, the cultivation of tomato, cauliflower and cabbage are the most popular and the most profitable (NARC, 2006 and SNV and DOA, 2009).

AEC (2006) reported that off-season vegetable farming is one of the potential sources of income and reliable means for the reduction of poverty and malnutrition persisting over the hills of Nepal. It plays a positive role for contributing better livelihood by providing regular employment and income to the marginal farmers of hills and their family members throughout the year (Panta, 2001). Because of comparative advantaged through topography (Prasin, 2011) farmers from hills have greater value to produce off-season vegetables during rainy season when prices observed higher in Terai areas and Indian boarder cities. Despite of numerous advantages from off-season vegetables value chain there is still observed a huge gap in marketing margin (the difference between the consumer's price and producer's price). Such gap in marketing margin always creates doubt among value chain actors, which ultimately hinders the proper marketing of the off-season vegetables value chain.

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Therefore, to identify the structural causes for such gap and thereby help to maintain vertical governance across the actors of off-season vegetables value chain, a study was carried out in a part of Surkhet-Dailekh road corridor. The result of this study aims to provide precious insight for those who want to work in marketing of off-season vegetables value chain.

## **METHODOLOGY**

This study was conducted in two different places of Surkhet-Dailekh road corridor during rainy season (July to August 2011). Up to collection level the study was confined in Bubairakhe marketing hub of Goganpani VDC where farmers from Goganpani and Piladi VDCs of Dailekh and Ratu VDC of Surkhet usually sale their produce. Similarly, Birendranagar Municipality of Surkhet (nearly 30 Km distance far from collecting point) was taken for wholesaling to end market of off-season vegetables value chain. A small number of value chain actors involved in different functions (25 farmers, 4 collectors and 5 each wholesalers and retailers) were interviewed with the help of questionnaires for primary data. Similarly, other relevant and necessary information were collected from the secondary sources. Survey was mainly focused on cost of production and increment in marketing margin of off-season vegetables value chain. The collected data were tabulated, summarized and analyzed critically according to the objectives of the study. To obtain a standard value of loss during various functions of value chain, first actual gram loss in kilogram was calculated and then multiplied by average purchasing price at each level of value chain.

## **RESULTS AND DISCUSSIONS**

### **SELECTION OF OFF-SEASON VEGETABLES VALUE CHAIN**

The listing of off-season vegetables value chain for Surkhet-Dailekh road corridor were prepared with supports of secondary data from various sources. Finally, on the basis of volume and value of supply, cauliflower, tomato and cabbage were selected for rainy season (July-August) with the discussion of selected actors from study area. According to SNV & DOA (2009) these three crops are the potential off-season vegetables value chain in Surkhet-Dailekh road corridor. Naveen of tomato, Rami of cauliflower and Green Coronet of cabbage were the commonly growing variety in the study area.

### **COMMON VALUE CHAIN OF OFF-SEASON VEGETABLES IN STUDY AREA**

The links, based on the number of transactions that occur between the farmer and final consumer is described as the value chain. Value chains are also synonymously referred to as production chains market channels or market chains. Singh, (2005) in his study identified four different types of marketing channels as 1) producers-retailers-consumers 2) producers-wholesalers-retailers-consumers 3) producers-local level collectors-retailers-consumers and 4) producers-local level collectors-wholesalers-retailers-consumers. However, in terms of volume supply, the fourth type of chain observed the most common in study area.

### **MARKETING PRACTICE ADOPTED IN OFF-SEASON VEGETABLES VALUE CHAIN**

More than 80% of the vegetables are sold and 20% used as home consumption, gift to neighbors and farm wastage. Bamboo baskets (Doko) are the commonly used packaging materials for all kind of off-season vegetables value chain from farmer's field to collection centers. However, from collector to wholesaler, gunny bags are the most common packaging material for cauliflower and cabbage while paper cartoon are widely used for tomato. However, plastic bags are the usual packaging materials for all kind of vegetables used for retailing purpose.

Farmers typically transport their vegetables to the collection center in bamboo baskets (Doko) carried usually on the shoulder. While all local collectors used large vehicles like pick-ups and mini-trucks to transport vegetables in Surkhet wholesale market. However, grocery and handcarts are commonly used for retailing.

#### PRICE INCREMENT AT DIFFERENT LEVEL OF VALUE CHAIN ACTORS

##### *Producer price*

Producer price for major vegetables as ranked by farmers were examined by farmers' participatory technique. The farmers in groups were asked to estimate the costs depending on their practices and experiences and their net profits based on by deducting the cost of production and farm wastage from the price they generally received. Based on such assessment, cauliflower fetched higher producer price (Rs 18/kg) which is followed by tomato (Rs 16/kg) and cabbage (Rs 8/kg) (Table 1).

Table 1. Analysis of producer price

Vegetables	Price at Producer level (Rs/kg)			
	Production cost	Farm wastage	Net Profit	Total
Tomato	7.2	0.6	8.2	16
Cauliflower	5.4	0.5	12.1	18
Cabbage	3.5	0.3	4.2	8

Similarly, higher net profit could be observe in cauliflower (Rs 12.1 kg) which is followed by tomato (Rs 8.2/kg) and cabbage (Rs 4.2/kg) at producer level. This was also found in line with national average on net profit at farm gate level i.e. Rs 9.4/kg in cauliflower, Rs 5.8/kg in tomato, and Rs 4.8/kg in cabbage (MoAC, 2010).

##### *Price increment at Collection point*

Increment in price of off-season vegetables from producer to collector was calculated by adding net profit kept by collector, cost for post-harvest loss and handling up to collection point in producer price. With contradiction in profit kept by collector, the perusal of data showed that this difference observed sky scraping in cabbage (44%), which is followed by tomato (25%) and cauliflower (22%) in Table 2.

Table 2. Price increment at collector level

Vegetables	Producer Price	Price increment at Collector level (Rs/kg)				Total
		Transportation cost	Post-harvest loss	Packing/Storage/Wages	Net Profit	
Tomato	16	2	0.41	0.59	1	20
Cauliflower	18	2	0.40	0.54	1.06	22
Cabbage	8	2	0.16	0.54	0.8	11.5

Table 3. Price increment at wholesaler level

Vegetables	Price increment at Wholesaler level (Rs/kg)					Total
	Collector Price	Transportation cost	Post-harvest loss	Packing/Storage/Wages	Net Profit	
Tomato	20	2	2.4	0.6	2	27
Cauliflower	22	2	1.4	0.6	2	28
Cabbage	11.5	2	0.7	0.6	1.2	16

##### *Price increment at Wholesale*

Increment in price from collector to wholesaler observed significant in all type of off-season vegetables. In spite of equal margin, price moved up more in tomato (Rs 7/kg) than cauliflower (Rs 6/kg). However, lesser increment in price (Rs 4.5/kg) with lower profit margin (Rs 1.2/kg) observed in cabbage (Table 3).

### Price increment in Retailing

Retailing price is synonymously known as consumer price. It is calculated by adding margin of retailer and cost for post-harvest handling and loss in wholesale price. Based on survey data assessment in table 4, greater increment in price for retailing observed for cauliflower (Rs 8/kg) followed by tomato (Rs 7/kg) and cabbage (Rs 4/kg) in Table,4.

Table 4. Price increment at retailer level

Vegetables	Price increment at Retailer level (Rs/kg)					Total
	Wholesale Price	Transportation cost	Post-harvest loss	Packing/Storage/Wages	Net Profit	
Tomato	27	0.5	3.87	0.63	2	34
Cauliflower	28	0.5	4.87	0.63	2	36
Cabbage	16	0.5	1.37	0.63	1.5	20

### FACTORS FOR PRICE INCREMENT AND THEIR SHARE IN MARKETING MARGIN

Besides production cost, for more marketing margin, cost for post-harvest handling and post-harvest loss including profit margin are the crucial factors during marketing of off-season vegetables value chain. From the result of study in Table 5, the marketing margin observed doubled in all types of off-season vegetables value chain. Share of post-harvest loss for increment in consumer's price found first and the most critical in tomato (42%) and cauliflower (37%) however it observed third important factor in case of cabbage (28%). Moreover, with opposing in general perception, profit margin kept by value chain actors in various levels seemed second important factor for increasing marketing margin in tomato (31%), cauliflower (28%) and cabbage (44%). Similarly, share of transportation cost observed first crucial factor to increase consumer's price in cabbage (56%) but it contributed as third key factor for tomato (28%) and cauliflower (25%).

Table 5. Factors for price increment

Vegetables	Price increment factors in off-season vegetables (Rs/kg)					Consumer price
	Producer Price	Transportation cost	Post-harvest loss	Packing/Storage/Wages	Net Profit	
Tomato	16	4.5	6.68	1.82	5	34
Cauliflower	18	4.5	6.67	1.77	5.06	36
Cabbage	8	4.5	2.23	1.77	3.5	20

### CONCLUSIONS AND RECOMENDATIONS

Price increment up to consumer level was observed in end market site (in Birendranagar-Surkhet). Despite of common perception, the present study showed post-harvest loss found more prominent factor than profit margin kept by value chain actors for contributing high gap in marketing margin of off-season vegetables value chain. Thus, proper attempts to reduce post-harvest loss in off-season vegetables value chain could be important avenue for reducing the gap of marketing margin in Surkhet-Dailekh road corridor. Attempts such as selection of suitable varieties for production, implementation of improved production technology, adoption of appropriate time and methods of harvesting, smooth handling of products during harvesting, loading-unloading and transportation, discouraging heaping perishable products at collection point, removal of unmarketable material (i.e. diseased, damaged, too small etc.) and grading by maturity and/or size. Similarly, using product friendly packaging material and pack size, keeping perishable and light weight products on top of pile during transportation and storage, control in ripening and weight loss by

maintaining relative humidity and temperature in storage particularly at wholesale level and minimized risk due to microbial contamination are recommended in reducing post harvest loss in off-season vegetables value chain.

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