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Analysis the Producer's Share in Consumer's Rupees and Price Spread of Selected Vegetable and Spice Crops in West Bengal

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ABSTRACT

India is the leading producer of vegetable and spice crops in the world. The vegetables and spices sectors are known for high productivity, higher returns, higher value addition prospects, scope for employment generation, opportunities for exports, and adaptability to diverse climatic conditions. But it was found from the different studies that the producers' share in consumers' rupee is comparatively lower for vegetables and spice crops. Keeping these points in view, the present study was conducted to analyze the producers' share in consumers' rupees and the price spread of some selected vegetable and spice crops of Dakshin Dinajpur Districts of West Bengal during 2019-2020. A descriptive research design was used, and a simple random sampling technique was followed to select the sample respondent. It is found from the study that producers' share in consumers' rupees of Potato was 41.59% to 60.00%, Cabbage was 26.76% to 45.93%, Cauliflower 31.11% to 71.43%, Ginger, 39.41% to 59.94%, Garlic 50.00% to 81.25%. Price spread was highest in the case of garlic followed by Ginger, Cauliflower, Cabbage, and Potato.

Keywords: Vegetable and spice crops, employment generation, exports, producers' share in consumers' rupee, price spread

Vegetables and spices are an essential component of a healthy balanced diet. Vegetables and spices are the primary sources of nutrients. Besides the nutritional benefits, the production of vegetables and spice crops improves the economy of the farmers as these are excellent sources of income and employment. India is a leading producer of spices and vegetables. India ranks first in spice production and second in the production of vegetables globally, next only to China.

Agriculture is the backbone of the Indian economy as three fourth of the Indian population depends on it for their livelihood. The horticulture crops were found to have a much higher input-output ratio
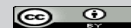
than field crops (Baba *et al.* 2010; Sharma and Singh, 2011). Globalization of production and consumption due to economic reforms and liberalization in the Indian agriculture sector has reiterated the need for designing a comprehensive supply chain model covering innovations at the farm level that ensures sustainable profits under dynamic conditions (Rao and Punwar, 2004; Parwez, 2014). Agriculture supply chain is broadly categorized into these subsystems; input supply, production, processing, sales and distribution to consumers, and quality and safety measures. Integration between these components is negligible throughout the agriculture sector in the country. In practice, most components act independently, and the flow of information between different components is missing or very poor. Due to a lack of coordination between various sub-systems, the agriculture system operates inefficiently at each stage of the supply chain (Parwez, 2014). The major challenge is to reduce post-harvest losses to enhance the producer's share in the consumer rupee by adopting improved supply chain practices. The post-harvest losses can be reduced by designing effective supply chain which assists farmers by providing cost-effective cold storage facilities in markets and at farm levels, which increases the shelf life of horticulture produces. The value addition to horticultural crops is a thrust area to maximize their returns. The wastage of fruits and vegetables is reduced significantly by practicing advanced supply chain management in agriculture. This increase returns for producers on the one hand and consumers by decrease in prices on the other hand (Parwez, 2014). Negi and Anand (2015) concluded from the study that the problems about post-harvest losses and wastages were due to lengthier and disintegrated supply chain, lack of proper transportation, inadequate cold chain facilities, dependency on intermediaries, poor marketing and distribution network, the weak linkage between supply chain partners, inefficient *mandi* system, high cost of packaging, etc. due to which producers realize poor price and consumers pay unreasonable prices. Bisen (2015) found that the producers benefitted from the modern supply chain. Still, they faced major challenges such as lack of contracting agencies, inadequate standardization and grading facilities, unethical practices followed by intermediaries and non-availability of proper packaging materials, and inadequate cold storage

facilities in the traditional supply chain. Thus, the development of market infrastructure to curtail the existing market' inefficiency, the government should promote contract farming, and direct marketing channels to minimize the gap between producer and consumer were some recommendations of the study. Shilpa (2008) indicated from her study that the farmers were advised to transact through the modern supply chain and cooperative supply chain as they found to be efficient with less operational expenses and reduced wastages due to mechanical losses in the supply chain. As a result, producers gain more prices to total gross marketing margins increasing share of high-value commodities in the consumption basket of households, higher incomes and urbanization, changing lifestyles, market integration, and trade liberalization at a global level have led to an increase in the demand for horticulture products in India (Mittal, 2007). Marketing vegetable crops is complex especially because of perishability, seasonality, and bulkiness. Their bulkiness makes the handling and transportation a difficult task, leading to huge post-harvest loss which is estimated at around ₹ 23,000 crores or nearly 35% of the total annual production (CII, Mckinsey, 1997; Sankerlalguru 2001). Inadequate market infrastructure and too many intermediaries between the producers and consumers lead to high marketing costs, resulting in a lower share of producers in the consumer's rupee. The price spread along the marketing channel is directly proportional to the number of market intermediaries involved along the channel (Gupta and Rathore, 1998). Vegetables, barring cabbage and cauliflower, are mainly sold through the commission agents at the market, who intern transport the produce to the distant markets and makes his margin; traditional flowers are self-marketed at the wholesale auction centers (Subrahmanyam, 1989). Some studies have shown that producers' share in consumers' rupee is comparatively lower for perishable crops (Saikia, 1985; Ashturker and Deole, 1985). Keeping these points in view the study was conducted "to analyze the producers' share in consumers' rupees and price spread of some selected vegetable and spice crops of Dakshin Dinajpur Districts of West Bengal.

MATERIALS AND METHODS

The present study was carried out in Dakshin Dinajpur District of West Bengal during 2019-2020.

Both purposive and simple random samplings were used for the selection of the sample respondents. Dakshin Dinajpur District was selected purposively due to the production of vegetable and spice crops scenario was more or less similar to the other district of West Bengal. From Dakshin Dinajpur District, three blocks were selected randomly. From each block, three gram *panchayat* were selected randomly. In this way total of nine random gram panchayat areas were selected. From the selected nine-gram *panchayat* area, 50 numbers of farmers and 500 numbers of consumers were selected randomly. Structure and pre-tested interview schedule were used for the collection of the data. The data have been analyzed using statistical techniques. Descriptive research design was used for conducting the study. Price spread and Producers' Share (PS) estimation have been analyzed using the given following methods;

Price Spread (PS) = Price paid by the consumer (PC) – Price received by the farmer (PF);

Producers' Share (PS) = (PR/PC) × 100;

Where PS = producers' share in consumer rupee (₹/q); PR = price received by the producer (₹/q); PC = price paid by a consumer (₹/q)

RESULTS AND DISCUSSION

It is observed from table 1 that the producer price of potato, cabbage, cauliflower, and garlic was highest during *Kharif* season, followed by pre *Kharif* and *rabi* season. Producer price of ginger was highest during Kharif season. It is found in table 2 that consumer prices on potato, cabbage, cauliflower, were highest during *Kharif* season, followed by pre *Kharif* and *rabi* season. Consumer price of ginger was highest during Kharif season, followed by rabi and pre Kharif season. Consumer price of garlic was highest during pre-*Kharif* season, followed by *kharif* and *rabi* season. It is found from table 3 that price spread of potato was highest during pre-*Kharif* season, closely followed by *Kharif* season and *rabi* season. Price spread of cabbage was highest during *Kharif* season, followed by *rabi* season and pre-*Kharif* season. Price spread of cauliflower was highest during *rabi* season, followed by pre *Kharif* season and *Kharif* season. Price spread of ginger was highest during *rabi* season followed by *Kharif* season and pre *Kharif* season.

Price spread of garlic was highest during pre-*Kharif* season, followed by *rabi* season and *Kharif* season. It is observed from table 3 that producer share in consumer rupees of potato, cabbage, and cauliflower crops was highest during *Kharif* season, followed by pre *Kharif* season and *rabi* season. Producer share in consumer rupees of ginger was highest during pre-*Kharif* season followed by *Kharif* season and *rabi* season. Producer share in consumer rupees of garlic was highest during *Kharif* season followed by *rabi* season and pre *Kharif* season.

Table 1: Producer Price of different vegetable crops

Crops	Pre *Kharif* (₹/quintal)	*Kharif* (₹/quintal)	*Rabi* (₹/quintal)
Potato	1200	1500	700
Cabbage	1200	2200	800
Cauliflower	1500	5000	1200
Ginger	6000	10000	6000
Garlic	10000	13000	7000

Table 2: Consumer Price on different vegetable crops

Crops	Pre *Kharif* (₹/quintal)	*Kharif* (₹/quintal)	*Rabi* (₹/quintal)
Potato	2203	2500	1683
Cabbage	3098	4790	2990
Cauliflower	4095	7000	3857
Ginger	10010	18730	15226
Garlic	20000	16000	12000

Table 3: Price Spread and producers' share in consumer rupees of vegetable and spices

Crops	PC	PF	Price Spread	*PSCR
Pre *kharif* season				
Potato	2203	1200	1003	54.47
Cabbage	3098	1200	1898	38.73
Cauliflower	4095	1500	2595	36.63
Ginger	10010	6000	4010	59.94
Garlic	20000	10000	10000	50.00
***Kharif* season**				
Potato	2500	1500	1000	60.00
Cabbage	4790	2200	2590	45.93

Cauliflower	7000	5000	2000	71.43
Ginger	18730	10000	8730	53.39
Garlic	16000	13000	3000	81.25
Rabi season				
Potato	1683	700	983	41.59
Cabbage	2990	800	2190	26.76
Cauliflower	3857	1200	2657	31.11
Ginger	15226	6000	9226	39.41
Garlic	12000	7000	5000	58.33

*PC: Consumer Price, PF: Farmers/Producer Price, *PSCR: Producer share in consumer rupees * Price in rupees.

CONCLUSION

It is concluded from the study that producer price of potato, cauliflower, and cabbage was highest during *Kharif* season followed by pre *Kharif* and *rabi* season, It is due to the majority of the vegetable crops were cultivated during rabi season in a larger area and problem of proper marketing and storage the price of vegetable crops were reduced. A similar figure was observed in the case of the consumer price of potato, cauliflower, and cabbage. It is due to high post-harvest losses of vegetable crops during *Kharif* season followed by pre *Kharif* and *rabi* season. But in the case of ginger and garlic, the results were different. It is due to a smaller number of farmers cultivated ginger and garlic in this area, and the majority of the garlic and ginger was imported from the nearby district. The price spread of the potato, cabbage, and cauliflower was low due to less number of the marketing chain, the majority of the farmers cultivated of these crops in Dakshin Dinajpur district, post-harvest losses were highest, and other factors. Price spread of ginger and garlic were highest due to the long marketing chain, the post-harvest loss was low, and the ginger and garlic were imported from long-distance area. Producer share in consumer rupees of potato crops was more or less similar during *Kharif* and *pre-Kharif* season due to availability of potato storage facility and low during *rabi* season due to large volume of potato in the market. But in the case of cabbage and cauliflower, it is low all the seasons, especially in rabi season, due to the large production volume and the non-availability of the minimum storage facility. Producer share of consumer rupees of ginger was highest during *Kharif* and *pre* K*harif* season due to the

availability of ginger from the nearest district. It was low during *rabi* season due to the non-availability of the storage facility and low production. Producer share of consumer rupees of garlic was highest in the *rabi* season due to market availability and high production volume in the nearest district.

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