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Conduct and Performance of Vegetable Marketing System in Kangra District of Himanchal Pradesh in India

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Abstract **– This paper describes the existing marketing practices followed by vegetable growers and market intermediaries in Kangra district Himanchal Pradesh of India. The study is based upon extensive data drawn from a sample of 80 vegetable growers selected randomly from 6 villages and 20 intermediaries from two markets within the study area. It has been found that farmers are still following the traditional practices for marketing of vegetable in study area. 100% producers sold their produce immediately after harvest due to unavailability of storage facility in village. Though there is government rule to determine the price of the produce through open auction, commission agents are the one who fix the price in the study market. Mostly, price information is collected from main market (70%) followed by local market (19%). From this study it has been revealed that marketing practices followed in the study area are not in accordance with the standards laid down in the market regulation act. The practices like open auction, grading, market charges and recording sale proceeds are not as per the ideal mechanism prescribed. Emphasis should be given to make New APMC Act 2005 fully operational in the markets.**

Keywords **– Market Functionaries, Market Information System, Marketing Practices, Price Determination.**

I. INTRODUCTION

India is second largest producer of vegetables in the world next to China [1]. With the gradual development of commercialized agriculture, marketing of farm products has assumed greater importance in recent years. Therefore, marketing is of outmost importance and demands special attention in case of perishable commodities like vegetables, which are being produced mainly for market. In the developing country like India, marketing of vegetable commodities has become important, bigger, complex and more advanced than the production for better performance and diversification of agriculture [2]. The farmers who are able to market their produce in right form at right time and place for the right price emerge successful while the rest compromise their due share to middlemen or traders. This shows that market reforms be associated with any policy for agricultural development in the country. However, in the past, the marketing of agricultural commodities remained neglected and it occupied a fairly low place in agricultural development policies of the country [3]. Lately, particularly after signing of WTO agreement in 1995, it has been recognized that the nation cannot afford to have a rapid pace of growth without reforming the agricultural marketing sector in all parts of the country [4]. There is no denying the fact that marketing of vegetable commodities has remained one of the major area of concern in hilly regions and Himachal Pradesh is no exception [5].

Himachal Pradesh is endowed with versatile agro-climatic conditions that favour the production of almost all types of vegetables, both of temperate and sub-tropical nature [6], [7]. Among various districts of Himachal Pradesh, Kangra is agriculturally the most predominant district in terms of cultivated area, irrigated area and number of cultivators. It has vast potential for diversification and commercialization of agriculture through vegetable crops that are highly remunerative and best suited to hills and to the labour abundant small sized land holdings in this district [8]. Being perishable in nature, vegetable commodities need efficient marketing system and supply chain management [9]. However, the present marketing system in the district continues to be inefficient offering no incentives to producers which further acts as a hindrance in the transformation of subsistence agriculture to commercialization [10]. Keeping this in view, the present study has been conducted to examine different marketing practices followed by market functionaries from production to sale of vegetable in vegetable market along with pertinent suggestions to improve marketing system for the benefit of farmers.

II. OBJECTIVES OF THE STUDY

The specific objectives of this study are;

- To study the marketing practices performed by different market functionaries in vegetable marketing in Kangra district, and
- To assess the arrivals and disposal pattern, price information and sale method of vegetable commodities in Kangra and Nagrota markets.

III. METHODOLOGY

The present study was carried out in Kangra district of Himachal Pradesh. Two blocks namely, Kangra and Nagrota Bagwan were selected purposively due to higher area and production of vegetables in these two blocks. Two-stage random sampling design was used to select sample villages and vegetable producers. In the first stage of sampling, 6 villages (3 from each block) were randomly

selected. In the second stage, a sample of 80 farmers was selected randomly from selected villages of two blocks through proportional allocation method. All the farmers were arranged in ascending order on the basis of their total land holdings. With the help of cube root cumulative frequency method, farmers were classified into two categories viz; small (less than 0.8 ha) and large (equal to or greater than 0.8 ha).

Besides this, two markets namely, Nagrota (submarket) and Kangra (principal market) were purposely selected to collect market related information for which a sample of 20 market intermediaries (10 from each market) was selected randomly. Major 10 vegetable crops 5 summer and 5 winter vegetables has been selected for this study. Both primary and secondary data were collected to meet out the objectives of the study. Primary data were collected through survey schedules and secondary data were taken from the market committees of the respective markets, internet/websites and published/unpublished reports. The study pertains to the year 2007-08. Collected data were analyzed quantitatively and qualitatively.

IV. Results and Discussion

The marketing of vegetable commodities is a complex process and is comprised of various practices carried out by different functionaries involved in marketing process. It includes all the functions and processes involved in the movement of vegetable commodities from the producers to the ultimate consumers [11]. Any single activity performed in carrying a product from the point of its production to the consumer is known as marketing function/practice. These marketing practices are indispensable, helping in creation of one or combination of time, place, form and possession utilities. In fact, the nature and type of functions performed also reveal the advancement achieved in marketing of agricultural commodities [12]. It is also true that these functions add to the cost but at the same time also enhance the value of the produce in the value chain benefiting both the producers and consumers [13]. Keeping this in view, the marketing functions performed in the disposal of vegetable commodities in the study area have been elaborated below.

4.1 Marketing functions in study area

a. Assembling

Assembling of the produce at one place was the foremost marketing practice performed by the vegetable growers in the study area. The mode and place of assembling patronized in the study area has been displayed in Table 1. Generally, the harvested produce was assembled in field by 38.75 per cent producers and at farm place by 61.25 per cent producers in overall situation. However, mostly small farmers (65.08 per cent) assembled their produce at residential place while majority of large farmers (52.94 per cent) preferred to assemble their harvested produce in the fields due to bulk output that might take more time to carry the produce to home place. Majority of the producers assembled their produce manually with the help of their family members. Mostly of large farmers assembled produce in the fields to save time and labour in carrying the produce to home place. Generally, the produce was assembled manually with the help of family members as farmers did not hire labour for assembling. Some study [14] also revealed that owners of the produce assembled their commodities at farm level themselves.

Table 1: Place of assembling

Place	Farmers (per cent)		
	Small	Large	Overall
At field	34.92	52.94	38.75
At farms home	-	-	-
In home place	65.08	47.06	61.25

b. Cleaning

Assembling was followed by the cleaning operation. Generally, producers performed cleaning operation to make these attractive and give fresh look. In case of tomato, about 74 per cent producers performed cleaning operation by dipping into water (Table 2). For brinjal, about 64 per cent producers performed cleaning operation whereas in case of frenchbean and bottle gourd about 20 and 43 per cent producers washed their produce with water. However, cleaning operation was not performed in case of lady finger. It was also noticed that small farmers gave more emphasis for cleaning operations as compared to large farmers which may be due to less bulk and more labour availability. On the contrary, large producers could not afford more time for cleaning unless it required to remove the soil, dust and dirt from certain commodities especially radish and other root crops. Among different winter vegetables, cleaning operation was performed in case of radish, cauliflower and cabbage. In case of radish, farmers did not remove the foliage and only washing was done to remove soil from roots. However, in case of pea, nobody performed washing operation. In case of cauliflower and cabbage, about 75 and 68 per cent producers followed cleaning operation, respectively.

Table 2: Proportion of farmers following washing and cleaning of vegetable commodities (Per cent)

Vegetables	Small	Large	Overall
Summer vegetables			
Tomato	74.60	70.58	73.75
Brinjal	68.25	47.06	63.75
Frenchbean	19.05	23.53	20.00
Lady finger	-	-	-
Bottle gourd	44.44	35.29	42.50
Winter vegetables			
Radish	100.00	100.00	100.00
Pea	-	-	-
Potato	100.00	100.00	100.00
Cauliflower	76.19	70.38	75.00
Cabbage	68.25	58.82	67.50

In case of cauliflower, producers kept inner green leaves in order to protect the curd of cauliflower from damages and to give it fresh look. They also kept some portion of stalk in case of cauliflower and cabbage to handle them

easily. Washing with water, in a way, also promoted pre-cooling operation indirectly. There were no special pre-cooling efforts and producers were not aware of this operation to maintain freshness of vegetable commodities.

c. Grading and sorting

Grading is one of the most important market functions from the market point of view as it helps to fetch higher prices of produce [15]. However, grading operation, as such, was not common in almost all vegetable commodities in the study area and they were not aware of standard grades as well. It was also reported that there was no premium price for graded produce in the study markets and, thus, producers gave less emphasis on grading of vegetable commodities. Instead of grading, sorting of different vegetables was carried out by the producer. In the absence of proper scientific grading in study area, the grading done at farmers and traders level was not uniform and had an individual bias. In order to minimize this practice, there should be produce quality certification agency in market. A detailed study on mode and characteristics considered during sorting operation for different vegetable commodities have been displayed in Table 3. Generally, sorting was done manually in almost all vegetable commodities. In case of tomato, size, colour and ripeness was considered while sorting the produce. Size, shape and insect/disease infections were the major characters considered for sorting of brinjal. In case of frenchbean, length and maturity of the produce were considered while size and maturity were considered for sorting lady finger. Maturity and smoothness of the produce were considered to be the major characters for sorting in case of bottle gourd. Among different winter vegetables, length, shape and maturity were the major traits for sorting of radish whereas maturity, disease/insect infections and pod size were the major characters considered for sorting pea. Similarly, curd colour, compactness and mould growth in curd were considered for cauliflower. Moreover, compactness of head was the main character for sorting of cabbage. During sorting operation, diseased and damaged produce were separated and used for home consumption, gift to relatives and neighbours and sometimes used as kind payment to labours.

d. Storage

Scientific storage facilities in the study area were not available. All the producers have to sell their produce immediately after harvesting as there were no storage facilities in the study area. The farm level storage operation was nonexistent. Other studies [10], [16], [17], also confirmed lack of scientific storage at farm level compelling the vegetable growers to sell perishable commodities immediately after harvest. In case of sale to commission agents or direct to consumers, they harvested their produce on previous day and stored in farm house. In the sale to retailer's shop or to local trader, they harvested their produce on the same day and there was no need of storage.

Table 3: Major characters for grading/sorting of different vegetables

Vegetables	Characters considered
Summer vegetables	
Tomato	Size, colour, ripeness
Brinjal	Size, shape, insect/disease infection
Frenchbean	Length, maturity
Lady finger	Size, maturity
Bottle gourd	Maturity, smoothness
Winter vegetables	
Radish	Length, shape, maturity
Pea	Maturity, disease/insect infections, pod size
Cauliflower	Curd colour, compactness, mould growth
Cabbage	Compactness of head

e. Packaging

Packaging is one of the important and necessary functions performed in the marketing process of vegetable commodities [18]. This is done just after sorting. The mode and type of material used for packaging of produce play an important role in determining the marketing cost (Table 4). Packaging was done manually for all summer and winter vegetable commodities in study area. Generally, bamboo baskets, plastic crates and gunny bags were used as packaging material for most of the commodities. Bamboo baskets and plastic crates were reused and durability of these was of 6 months and 2 to 3 years, respectively. Tomatoes were mostly put into bamboo baskets and plastic crates for the transportation of produce to local as well as main markets as they were delicate in nature. Whereas, all other summer and winter vegetable commodities were carried in baskets, plastic crates and gunny bags to local as well as main markets as they were less delicate as compared to tomato. The capacity of most of the packaging materials was of 40 kg in case of bottle gourd, tomato, cauliflower and cabbage whereas, it was of 30 kg for brinjal and 25 kg for frenchbean, lady finger and pea. The size of gunny bag varied from 30 kg to 100 kg and their uses depended upon the quantity of produce for sale.

f. Transportation

Quick and efficient transportation is the main step towards good marketing systems. Vegetable commodities being highly perishable in nature require quick disposal to avoid spoilage and loss in quality which need efficient network of transportation [19]. The means of transportation adopted by producers for marketing of different vegetable commodities in the study area have been displayed in Table 5. Most of vegetable growing villages in Kangra and Nagrota were well connected with motorable roads which enabled the producers/farmers to transport the produce in jeeps and tampoo out rightly from the villages. However, there were some villages where link roads were not there. Jeep was found to be the commonly used mode of transportation. Most of small farmers (54 per cent) used jeep to carry their produce up to main market.

Table 4: Packaging of different vegetable commodities

Vegetables	Material used	Capacity(kg)	Cost of packaging material (Rs/unit)	Extent of recycling (years)
Summer vegetables				
Tomato	Bamboo basket	40	40-50	½
	Plastic crate	40	200	2-3
Brinjal	Bamboo basket	30	40-50	½
	Plastic crate	30	200	2-3
	Gunny bag	30 -100	3	-
French bean	Bamboo basket	25	40-50	½
	Plastic crate	25	200	2-3
	Gunny bag	30 -100	3	-
Lady finger	Bamboo basket	25	40-50	½
	Plastic crate	25	200	2-3
	Gunny bag	30 -100	3	-
Bottle gourd	Bamboo basket	40	40-50	½
	Plastic crate	40	200	2-3
	Gunny bag	30 -100	3	-
Winter vegetables				
Radish	Make a bundle and tie with jute rope	40	-	-
Pea	Bamboo basket	25	40-50	½
	Plastic crate	25	200	2-3
	Gunny bag	30-100	3	-
Cauliflower	Bamboo basket	40	40-50	½
	Plastic crate	40	200	2-3
	Gunny bag	30 -100	3	-
Cabbage	Bamboo basket	40	40-50	½
	Plastic crate	40	200	2-3
	Gunny bag	30 -100	3	-

Table 5: Means of transportation for different vegetable commodities

Means of transportation	Farmers (per cent)			Cost of transportation (Rs/q)		
	Small	Large	Overall	0-5 km	5-20 km	>20 km
Manual	9.52	-	7.50	As per distance	-	-
Wheel cart	17.46	-	13.75	100/day	-	-
Jeep	61.90	23.53	53.75	10.00	25.00	35.00
Tampoo	7.94	58.82	18.75	7.00	18.00	25.00
Truck	3.18	17.65	6.25	5.00	15.00	20.00

Jeep was found to be most convenient mode of transportation for those having small quantities and group of small farmers collectively hired this mode of transportation. Large farmers hired tampoo (19 per cent) and truck (6 per cent) to dispose of their produce in main market because they had large quantity of produce to transport. The producers who directly sold their produce to consumers through door to door sale method used wheel cart (14 per cent) as means of transportation. Few small growers (8 per cent) also carried produce on head loads up to nearby retailer's shop for sale.

g. Loading/unloading

The producers themselves loaded their produce from their fields/ farm houses. However, in the Sabji Mandi, the workers of the commission agents helped them to unload their produce. The extra charge for loading/ unloading was not charged.

h. Sale method

After unloading the produce, producers/ sellers kept their lots in queues in front of commission agent's shop for sale in study area. Most of them had personal contact with commission agents. Government has made a rule to determine the price through open auction in the market. However, this system was not followed in the market and prices were fixed by the commission agents based on the quantum of arrivals, previous day prices, price trends in main wholesale markets (mainly Delhi), quality of produce and number of bidders. The commission agents generally fix the price of produce little above or below average price of previous day. Then, buyers judge the quality and prices of produce at the stalls of different commission agents before buying the produce and settle the deal where they got quality produce in less price. However, most of the buyers had personal contacts with commission agents and they prefer to buy from their stalls. he auctioning time was in morning hours from 5.30 a.m. in

summer and 6.30 a.m. in winter. Generally, commission agents charged double commission both from producer/sellers and buyers/retailers for the sale of commodities. The mode of payment to the farmers was cash and payment, which was made after completion of the auctioning procedure for local while it was paid within a week to distant sellers from other markets. The sale proceeds were not recorded on the prescribed forms as envisaged in the market regulation act. No sample respondent was aware of such procedures and did not possess any such receipt with them.

i. Weighing system

After the agreement between the buyer and commission agents, the produce is weighed in study sites. Each commission agent has weighing machine kept in front of their shop and weighing was done by the weighmen attached to commission agents. Moreover, weighing was done in all vegetable commodities except in case of vegetables packed in standard boxes or crates. There was manual weighing system for which producers did not pay extra charges. However, this practice was too much time consuming. There was no mechanical grading and storage facilities in the market yard. Generally, vegetable commodities were graded on visual basis on shape, size, colour and fresh look of the produce.

j. Time spent in market by producers

In study sites, producers who sold their produce through commission agents in Sabji Mandi, spent at least four hours from 4 a.m. to 8 a.m. while producers who sold their produce directly to consumers through door to door sale method in local market spent about seven hours from 7 a.m. to 2 p.m. Producers (farmer/trader) who sold their produce directly to the consumers in the main market through their own stalls, spent whole day. However, producers who sold their produce to pre-harvest contractors and local traders could save their time in marketing.

k. Market information system

Without reliable and timely information, the marketing system cannot achieve efficiency [15], [22]. Government of Himachal Pradesh has already promulgated model Agricultural and Horticultural Produce Marketing Development Act (known as APMC Act 2005) in November, 2005 to reform the marketing system in the state. In addition there is a website www.agmarknet.nic.in where all the information related to marketing such as arrivals and prices of all commodities in different markets of country was provided. Similarly, the Market Committees also disseminate price and arrival information through the medium of radio and newspapers [6]. Different sources of information used by producers in the study area are presented in Table 6. About 44 per cent producers got information on prices directly from Sabji Mandi whereas about 26 per cent producers got information in the interval of 2 to 3 days. Most of the large producers (58.82 per cent) used the market as the source of price information as compared to small producers (39.68 per cent). Similarly, producers got price information through local market (18.75 per cent), neighbours (7.50 per cent) and news papers (3.75 per cent). These three above mentioned sources of information were more common in small producers while large producers got information from main market and local market. However, information related to quantity of arrival in study markets were difficult to get by producers. Non availability of sufficient market information also affects operational efficiency of the agricultural market [19].There was not any fixed trend in arrivals. Thus, there was too much variation in the price of produce as the price mainly depends on arrivals in the market.

Table 6: Sources of price information used by sampled producers

Sources	Size of farms						Total	
	Small		Large		Overall			
	Daily	2-3 days interval	Daily	2-3 days interval	Daily	2-3 days interval	No.	Per cent
Main market (Sabji Mandi)	39.68	26.98	58.82	23.53	43.75	26.25	56	70.00
Local market	19.06	-	17.65	-	18.75	-	15	18.75
Neighbours	9.52	-	-	-	7.50	-	6	7.50
Newspaper	4.76	-	-	-	3.75	-	3	3.75
Total (No.)	46	17	13	4	59	21	80	100.00

4.2 Arrival and disposal of produce in study markets

The season of supply of different vegetable commodities produced in the study area has been displayed in Table 8. The local producers from Kangra and Nagrota brought vegetable commodities for sale in principal market Kangra and sub-market Nagrota. The arrival was also from Solan, Kullu, Mandi and Una during off season. The substantial arrival also came from Punjab and Delhi during main season. The disposal of commodities was mainly in local markets within the district. Details are provided in Table 7.

Table 7: Arrivals and disposal of vegetable commodities in Kangra and Nagrota markets

Pattern of arrival			Pattern of disposal
Local area	Within H. P.	Outside state	Local markets
Different villages of Kangra and Nagrota Blocks	Solan, Kullu, Mandi, Una	Punjab (Hoshiarpur), Haryana, Delhi	Kangra, Nagrota, Dehra, Jwalaji, Ranital, Nadaun, Dharamshala, Paprola, Palampur, Baijnath, Jogindranagar

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Table 8: Supply season of summer and winter vegetable commodities in Kangra district

Vegetables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Summer vegetables												
Tomato												
Brinjal												
Frenchbean												
Ladyfinger												
Bottle gourd												
Winter vegetables												
Radish (normal)												
Radish (mid season)												
Radish (late season)												
Pea												
Potato												
Cauliflower (normal)												
Cauliflower(mid)												
Cauliflower (late)												
Cabbage(normal)												
Cabbage(mid)												
Cabbage (late)												

Note: ■ Indicates the supply season of vegetables in market.

4.3 Market functionaries

The role played by market functionaries in the marketing system is quite indispensable as they perform important marketing functions. They also help in expanding the markets for farm products and add value to the products. But sometimes long chain of functionaries may also add to marketing cost reducing producer's share [20]. The main market functionaries in study area include producers, pre-harvest contractors, local traders, commission agents, retailers and consumers. The role played by each of them along with marketing practices has been shown in Table 9 in detail.

a. Producers

Producers are the foremost and basic functionary in marketing process. They perform one or more marketing functions which mainly depend on the selling method [21]. In the study area, producers did not perform any marketing function if they sold their produce directly to pre-harvest contractors. When sale was to local trader, they performed only assembling, cleaning and sorting operations while in the sale to commission agents and retailers, they performed assembling, cleaning, sorting, packaging, transportation and loading/unloading operations. Producers performed all the marketing functions when they sold produce directly to the consumers in the study area.

b. Pre-harvest contractors

This functionary brought produce directly from the farmers before harvesting. They made contracts with the farmers and then performed all marketing functions required to sell the produce [21].

c. Local traders

Local traders are small traders operating in same village or few surrounding villages [21]. In the study area, local traders were residing in the same village or were producers themselves. They purchased produce from the producers on their farm land. They further sold either to the consumer in the market or to the retailer's shop.

d. Commission agents

Commission agents are those who are operating in the wholesale markets and act as representative of either a seller or a buyer [21]. In the study area, they were the most predominant functionaries. As the produce arrived in the market, they arranged for weighing and selling in the market yard. They charged about 5-7 per cent commission from both producers and traders for selling or buying produce in the market. However, government has fixed 6 per cent commission to be charged from traders/ retailers not from producers. This practices needs to check for the benefit of producers.

e. Retailers

Retailers are the most important functionary in the marketing system [21]. In the study area, there were two types of retailers. One who brought produce directly from Sabji Mandi and other who got produce in their own shop through producers, pre-harvest contractors and local traders. In former case, they performed packaging, transportation, loading/ unloading, storage and retailing functions while in latter cases, they performed only storage and retailing functions for the marketing of vegetable commodities.

Table 9: Marketing practices performed by different functionaries

Functionaries	Sale to Pre-harvest contractor	Sale to local trader	Sale to commission agents	Sale to retailers/ others	Sale to retailer's shop	Sale to consumer
Producers	-	Assembling cleaning and sorting	Assembling, cleaning, sorting, packaging, transport-tation and loading/ unloading	-	Assembling, cleaning, sorting, packaging, transportation and loading/ unloading	Assembling, cleaning, sorting, packaging, transportation loading/unloading and retailing.
Pre-harvest contractor	-	-	-	-	Assembling, cleaning, sorting, packaging, transportation and loading/ unloading	Assembling, cleaning, sorting, packaging, transportation, loading/ unloading and retailing
Local traders	-	-	-	-	Packaging, transportation and loading/ unloading	Assembling, cleaning, sorting, packaging, transportation loading/ unloading and retailing.
Commission agents	-	-	-	Auctioni ng and weighing	-	-
Retailers	-	-	-	-	-	Packaging, trans-portation, storage, loading/unloading and retailing.

V. Conclusion and Recommendation

Vegetable growers are following the traditional practices for marketing of their produce from farm to market. Though there is market regulation act, marketing practices followed are not in accordance with the standards laid down in the market regulation act. The objective of the regulated markets established by the government was to regulate trade practices, increase marketing efficiency by reducing marketing charges, eliminate intermediaries and protect the interests of the producer seller. But, the system failed to check trade malpractices, making such markets highly restrictive, inefficient and dominated by traders. The practices like open auction, grading, market charges and recording sale proceeds lacked transparency. Commission agents are taking major role to fix the price of produce in the market. In this condition, producers should be encouraged to form their own marketing co-operative societies in order to reap the benefit of scale economies (low cost of handling, transportation, packaging and storage) and better bargaining and collective strength. There is need to explore new market outlets within and outside the state as well as export to other countries particularly lady finger, frenchbean and potato having good quality and production potential in this district. In this context, organic farming should be promoted to improve quality for exports. The malpractices like arbitrary auction, double charging of commission and arbitrary deduction for moisture etc., should be checked. The recording of sale proceeds on prescribed forms should be strictly enforced so that the producers get a transparent and fair deal. The latest and updated local, state and national level market information should be made available to producers by Market Committees and Marketing Board through Large Display Boards for developing marketing intelligence among the farmers. This will also increase the co-integration among different markets of the region. The innovative provisions envisaged in APMC Act 2005 like promotion of farmers'/private Mandies, contract farming, setting of market extension cell and Standard Grading Bureau in the principal market (Kangra) may be implemented to bring overall transformation in vegetable production and marketing in Kangra district.

References

[1] George, S. and Singh, A. 2002. Vegetables for health and nutrition security. Yojana 46(April): 36-40.

[2] Basu, J.P. 2002. Is potato market efficient: An analysis of village survey data for Hooghly district, West Bengal. Indian Journal of Agricultural Marketing 16(3): 147-158.

[3] Gurung, H. B., Subedi, P. P., Gurung, T. B., Acharya, U., and Gurung, H. P.1996. Production and marketing constraints to fresh fruits and vegetables in the western hills of Nepal: a rapid marketing appraisal. Occasional Paper Lumle Agricultural Centre 96 (4): 35.
[4] Lal, H., Sharma, K. D. and Thakur, D.S.2000. Vegetable marketing in Himachal Pradesh: constraints and opportunities. The Bihar Journal of Agricultural Marketing 8 (4): 416-415.
[5] Thakur, D.S. 1994. High stakes for banks in off-season vegetable production and marketing. The Bihar Journal of Agricultural Marketing 2(1): 89-95.
[6] Chauhan, S.K. 2004. Infrastructural development and constraints in vegetable marketing: a study of regulated markets in Himachal Pradesh. Indian Journal of Agricultural Marketing (conf. Spl.) 18(3): 273.
[7] Chauhan, S.K. and Mehta, P. (2002). Problems and constraints in vegetable marketing: a case study of Himachal Pradesh. The Bihar Journal of Agricultural Marketing 10 (1): 25-30.
[8] Lal, H. and Sharma, K. D. 2004. Economics of production and marketing of off-season garden peas in Lahaul valley of Himachal Pradesh. Indian Journal of Agricultural Marketing (Conf. Spl.) 18 (3): 277-278.
[9] Kumar, A.K., Atteri, R.B. and Kumar, P. 2004. Marketing infrastructure in Himachal Pradesh and integration of the Indian apple markets Indian Journal of Agricultural Marketing (Conf. Spl.) 18 (3): 243-252.
[10] Sharma, K.D. and Thakur, D.R. 2004. Market infrastructure for increasing agricultural production and prosperity of hill farmers in Himachal Pradesh. Indian Journal of agricultural Marketing (conf. Spl.)18 (3): 227.
[11] Ganesh Kumar B. Pramanik S.C. Shakila N. 2004. Economics of Production & Marketing of vegetables in the Andaman & Nicobar Islands. Indian Journal of Agricultural Marketing, 18:2, 16-22.
[12] Bhardwaj, S.R., and Kaul, S. 1999. Marketing of fruits and vegetables in India. Indian Journal of Agricultural Marketing (Conf. Spl.) 13(2): 45.
[13] Dastagiri, M.B. Ramesh Chand, T. K. Immanuelraj, C.V. Hanumanthaiah, P. Paramsivam, R. S. Sidhu, M. Sudha, Subhasis Mandal, Basantha Singh, Khem Chand, B. Ganesh Kumar. 2013. Indian Vegetables: Production Trends, Marketing Efficiency and Export Competitiveness. American Journal of Agriculture and Forestry. 1(1):1-11. doi: 10.11648/j.ajaf.20130101.11
[14] Kumar, R. 1991. Marketing of vegetables in Solan district of Himchal Pradesh. M.Sc. Thesis (unpublished). Submitted to Himachal Pradesh Krishi Vishvavidyalaya, Palampur.
[15] Shandil, K. and Singh, R. 2004. Marketing of vegetables in Himachal Pradesh: a study of market structure and marketing efficiency. Indian Journal of Agricultural Marketing (conf. Spl.) 18 (3): 278-279.
[16] Lal, H. 1993. Economic analysis of marketing problems of agricultural produce in Himachal Pradesh. P.hD. Thesis. Submitted to Himachal Pradesh Krishi Vishvavidyalaya, Palampur.
[17] Kumar, S. 1994. Marketing of vegetables in Kullu valley of Himachal Pradesh. M.Sc. Thesis (unpublished. Submitted to Himachal Pradesh Krishi Vishvavidyalaya, Palampur.
[18] Elenchezhian, T. and Kombairaju, S. 2003. Comparing the marketing efficiency of farmer market with central vegetable market. Indian Journal of Agricultural Marketing 17(1): 45-51.
[19] Verma, L.R. 2004. Marketing of fruits and vegetables in Himachal Pradesh: strategies for sustainable development. Indian Journal of Agricultural Marketing (Conf. Spl.) 18 (3): 202-226.
[20] Gandhi Vasant P and N V Namboodiri. 2002. Marketing of Fruits and Vegetables in India: A Study of the Wholesale Markets in Ahmedabad Area, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad. Research Report.
[21] Acharya, S.S. and Agarwal, N.L. 2004. Agricultural marketing in India, Oxford and IBH Publications, pp. 493
[22] Sharma, A., Kumar, A. and Sharma, S.K. 2004. Marketing channels, production problems and constraints in vegetable cultivation: a case study in Himachal Pradesh. The Bihar Journal of Agricultural Marketing 12(1): 47-51.

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