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An Analysis of Agricultural and Horticultural Marketing in Jharkhand

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Abstract
Agriculture marketing system in developing countries including India can be understood to arrange of two most important sub–systems such as product marketing and input marketing. Jharkhand is one of the most important producers of vegetable in India. About 3.2% of the gross cropped area of the state is under vegetable crops. The most important vegetable crops grown in the state in order of area covered by them are potato, tomato, lady finger, peas, cauliflower, brinjal and cabbage. The purpose of the study the paper to study of the present situations of the agricultural and horticultural marketing in Jharkhand and the agriculture and horticulture marketing channels in Jharkhand.

Keywords: Agricultural Marketing, Horticultural Marketing, Efficient Marketing

Introduction

Agriculture is the science and performs of activities relating to production, processing & marketing, distribution utilization, trade of food, feed and fiber. This designation implies that agricultural development approach must address not only farmer's production but also those in marketing, processing and agri-business. From the very near the beginning stages of development of the human society, exchange has become an in surplus to requirements part of human civilization. Even before the introduction of the money economy termed as "barter system" based on straight exchange of goods for goods. With the preface of money as the medium of exchange, there came a change in the farming pattern from the self-sufficient village economy to the market economy of production for the market. Trade there was, both in ancient and medieval India as today; international & overseas and that practically on a huge scale. Agriculture marketing system in developing countries including India can be understood to arrange of two most important sub–systems such as product marketing and input marketing. Efficient marketing in turn brings enhanced pricing which regularly results in better income distribution among producers of agricultural produce. Agriculture marketing is the most important link between farm production sector on the one hand & urban non-farm sector, industry.

Thus, "agricultural marketing is a process which starts with a decision to produce a marketable farm commodity and it involves all the aspects of market structure or system, both functional and institutional, based on technical and economic considerations and includes pre & post harvest operations, assembling, grading, storage, transportation and distribution." (XII Report National Commission on Agriculture, 1976).

The factors in the product marketing sub–system include farmers, villagers/primary traders, wholesalers, processors & importers, exporters, marketing co-operatives, regulated market committees and retailers.

The inputs sub-systems includes input manufactures, distributors, related associations, importers, exporters and others, who make available different farm production inputs to the farmers.

Jharkhand is one of the most important producers of vegetable in India. About 3.2% of the gross cropped area of the state is under vegetable crops. The most important vegetable crops grown in the state in order of area covered by them are potato, tomato, lady finger, peas, cauliflower, brinjal and cabbage. The various agro-climate circumstances of Jharkhand are good natured for production of a variety of vegetables all the way through the year. The vegetables produced in this plateau region have special comparative advantage as these are of superior quality and ready for market when these are not produced in plains. Consequently, the off season vegetables produced in this region obtain far above the ground prices. This has made vegetable farming a highly productive and attractive business enterprise for the farmers. In view of the fact that there is limited scope of bringing more areas under cultivation on the plateau, vegetable farming offers great scope for multiple cropping and thus ensures economic changeability for even marginal and small farmers (Deogharia, 2014). Jharkhand is a traditional supplier of vegetables and the South Chotanagpur region has been supplying vegetables to large cities like Patna, Kolkata, Asansole, Rourkela, Jamshedpur, Bokaro and Dhanbad.

Objectives

- To study the present situations of the agricultural and horticultural marketing in Jharkhand.
- To study the agriculture and horticulture marketing channels in Jharkhand.

Review of Literature

"Vidyarthi (1962) reported that in villages near Ranchi, a shift was visible in the cropping pattern, particularly towards vegetables." Vegetables are produced and marketed basically by all size groups of farms. The 'Vegetable Village Clusters' schemes sponsored by nationalized banks and the 'Million Wells Scheme' have encouraged farmers of Jharkhand for vegetable cultivation (Sinha & Kumar, 1988).

But the vegetable marketing system has not received the needed concentration to handle better production. The problem is that better production does not raise the income level of the farmers unless marketing linkage is appropriately planned and implemented. It has been observed that production and marketing of vegetables for small farmers is a beneficial enterprise. Different studies such as Acharya (1994), Cummings (1976), Lele (1972), Subbha Rao (1989), Thakur (1974), Prasad (1996), Ekka and Deogharia (2005) and Deogharia (2006) have also highlighted the problems of marketing e.g. high commission charges, transport and packing cost. Therefore, if the farmers do not get straightforwardly accessible market outlet where they can sell their produce at a moderately reasonable price, they will have small inducement to regard vegetable cultivation as a profitable occupation. Role of agriculture marketing is so important that it has encouraged the government to place particular emphasis on it. Different aspects of vegetable marketing have also been studied by economists like Acharya (1999), Singh and Singh (1992), Srivastava (1993), Prasad (1997), Thakur, Sharma and Sahay (1994). These include marketing pattern, marketing systems, marketing margins and vegetables marketing in Jharkhand, channels, marketing efficiency etc. Marketing efficiency has been a subject matter of dominant concern for economists from time to time. There has been a little study which analyze marketable and marketed surplus.

A study conducted by Chauhan and Chhabra (2005), in the Hamirpur district of Himachal Pradesh on production, marketed surplus, disposal channels, margins and price increase for maize cultivation has explained that farm level marketable surplus is comprised of 53.21% of the total production. The

producer's contribute to in consumer's rupee has been estimated at 78.01% in this channel. A micro level study conducted in West Champaran district of Bihar to evaluate the marketable and marketed surplus of rice has observed that there were both marketable and marketed surplus on marginal farm households. It has increased with the increase in size of land holdings with respect to quantum and proportion to rice production (Dwivedi & Jha, 2011).

Dangi, B.P. (2021), in the hazaribag, Dumka and Ranchi district of Jharkhand on agricultural and horticultural productions, marketed surplus, different channels, price variation and margins have been explained.

The present paper denoted to the agriculture marketing and horticulture marketing in Jharkhand.

Agriculture Marketing

Agriculture marketing is defined by National Commission on Agriculture as 'a process which starts with a decision to produce a marketable farm commodity and it involves all the aspects of market structure or system. Both functional and institutional based on technical &economic consideration and includes before harvest and post harvest operation assembling, grading, storage, transportation and distribution.'

The concept agricultural marketing includes several activities starts from production process till its retailing. The activities involved are production planning, cropping & harvesting, warehousing, grading, transportation and final distribution. There are varieties of agro products which are produced with twofold purpose of domestic consumption as well as exporting. In the chain of agricultural marketing number connecting links such as farmers, suppliers, functionaries, importers, exporters, external beneficiaries and customers are involved.

Marketing of agriculture is more important today than it was sixty years ago when the farmers produced mostly for their own subsistence. In fact until green revolution in India in the seventies, the significance of agriculture marketing was not sufficiently acknowledged. The marketing of agricultural produce is significant as its production. Agriculture marketing is a service in reaching the produce from the point of production to the point of consumption. It encompasses all the activities and functionaries which are involved in reaching the produce from the farmers to consumer.

Horticulture Marketing

The word horticulture literally, means the culture of garden crops & plants and this implies cultivation within rather restricted areas. The word 'Horticulture' is derived from latin words 'Hortus' which means garden and 'colere' means to cultivate. The concept of culture of gardens as separate from culture of fields i.e. agriculture is a medieval concept, indicate of practices of that period. Now agriculture refers to the technology of raising plants and animals. Horticulture is that part of agriculture concerned with so called 'Garden Crops' as contrasted with 'agronomy' and 'forestry'. Horticulture is first mentioned in english by E. Philips, in the new world of english words london, in 1678. The first known use of the word 'Horticulture' is found in Peter Lauremberg's treatise of that name written in 1631.

Horticulture is an art as well as science. It deals with a combination of the botanical and agricultural aspects of plants. Therefore, one may define horticulture as the culture and biology of garden crops including both the aesthetic and the scientific dimensions. Basic principles of physics, chemistry and biology are used by horticulturists to understand and influence plant life. Biotechnology is now finding direct applications in horticulture.

The horticulture is subdivided according to the kinds of products and the uses to which they are put. There are three basic divisions of horticulture,

1. **Pomology:** It is concerned with the production of nutrition and fruit crops of varied types.
2. **Olericulture:** It refers to the production of vegetable crops.
3. **Floriculture and Landscape:** It is that division of horticulture which is devoted for the production of ornamental plants and crops.

Horticulture crops are classified into four categories,

1. **Food/Vitamins/Mineral** contents such as apple, sweet potato etc.
2. **Beverage Properties** such as tea, coffee, etc.
3. **Beautify Environment**, grass for show, roses and other decorating plants.
4. **Miscellaneous Groups** including crops grown for perfume or spices.

The word "market" is a derivative of the latin word 'Marcatus' meaning thereby merchandise, traffic or a place where business is conducted. In other words, the term "market" in its common usage is used to refer to the place where actual buying and selling take place and where buyers and sellers personally meet to affect these purchases and sales. Thus we refer to the vegetable market, the grains market, the fruit market, etc.

Markets have been classified in differently on the basis of different approaches such as,

On the basis of geographical or territorial area are: Local market, Regional market, National market and World or International market.

On the basis of the position of sellers are: Primary market, Secondary market and Terminal market.

On the basis of the volume of business transacted are: Wholesale market and Retail market.

On the basis of the nature of transaction are: Spot markets and Future markets.

Marketing Functions

Agriculture and horticulture marketing performs important function in Jharkhand such as Assembling, Grading and Packaging, Transportation, Storage, Financing, Wholesaling and Retailing, Processing, Concentration, Warehousing, Distribution, Risk Bearing and Market Information.

Clark and Clark divides the marketing functions under three major groups functions are:

- **Functions of Exchange**
- **Functions of Physical Supply**
- **Facilitating Functions or Agriculture and Horticulture Marketing Functions in Jharkhand**

Significance of Agricultural and Horticultural Marketing

• Break the vicious circle of poverty,
• Optimum utilization of agricultural resources,
• Increase the standard of living,
• Basis of employment opportunity,
• Basis of industrial development,
• Formation of utilization,
• Basis of foreign trade,
• Source of national revenue and
• Create the environment for investment.

Marketing Structure and Methods in Jharkhand

Marketing system depend upon the structure of the market. The word market structure explains economic set up in marketing system. It is related to the places where commodities are sold & purchased and different functionaries are involved in the system. The marketing structure consists of three functionaries;

1. Different Types of Market
2. Training Methods and
3. Market Functionaries.

Market Types

The agriculture markets can be classified into three categories:-

Primary Market (Farm level)

- ✓ Haat in Jharkhand
- ✓ Conditions of the Haat in Jharkhand and
- ✓ Market Charges

Secondary Markets (Wholesale Market)

- ✓ Regional Wholesalers Market and
- ✓ Extra Regional Wholesalers Market

Wholesale Market Functionaries

There are two main functionaries in the wholesale market in general a detailed analysis of their activities will show the dual role played and commission agent/wholesaler and traveling, trader by them and their size of activities. Broadly the classification is somewhat like this:-

- ✓ Large Wholesalers (Mahajans)
- ✓ Small Regional Wholesaler
- ✓ Commission Agent (Gaddidar)
- ✓ Wholesaler cum Itinerant Traders.

Functional characteristics of these functionaries in common have already been built with; on the other hand, their definite activities will be described when their marketing costs are projected.

Retail Market- A large number of retail markets operate in distributing the vegetables to the consumers in every consumption centers. The vegetables are the commodities of daily consumer requirements. The consumers purchase vegetables in small quantities normally for daily use. The vegetable retailers are more numerous operating in each muhalla. Some retailers sell vegetables from door to door. The women who bear the vegetables on head load do their door to door retailing usually. The males are also occupied in door to door retailing and the bear the vegetables on bicycles or even thela. But more commonly the retail market is held at a particular place serving the consumer of a particular area. These markets are in general held daily and the market starts in the evening time but some markets also take place in the morning as well as in the evening. Each retailer carries the business on a small scale. The retail markets do not have the facilities of market yard. They are held in the open space in general by the side of the road. There is no pucca structure. The retailers themselves to maintain the vegetables raise some earthen platform of half of one feet height. In the rainy season, these markets become muddy creating difficulty in movement for both the retailers and the consumer. The retail markets are also functioned by the District Development Authority/Municipal Corporation.

The vegetables are transported by the trucks and sold in the mandis with the help of the commission agent who as a link between sellers and buyers in smooth perform of trading through action. The commission agent change commission at the rate of 5% to 6% of the value of the produce sold. This is the standard rate of commission charge by the commission agent in mainly of the mandis. But in some mandis such as Jamshedpur the commission charged is 7% to 8%. The assembler expressed satisfaction with the equality of the commission agent in the dealing. The commission agent paid them the price after inference of the commission properly. They hold that the business demands the commission agent to perform with fairness to get their business run at ease in the future as they are aware that if they are not fair they will not receive the dispatch from the assembler in future. The vegetables are also dispatched by the farmer co-operatives. In Pithoria haat at Kanke block of the Ranchi district, Ichak haat at Ichak block of the Hazaribag district and Dumka haat at Dumka block of the Dumka district a farmers co-operative is in detachment over post numerous years.

Retailers are the last link in the chain of sharing of horticultural crops (vegetables) from producer to consumer. Retailers are among most under a studied applicant in the marketing chain connecting producers and consumers. More accurate types of retailers are categories, Direct Sale/Permanent Shop Owners, Institutional Outlets (VEGFED), Hawkers with Permanent Location, Mobile Street Vendors, Mobile Push-Cart Vendors, Retailers in the Periodical Markets and Itinerant Retailers.

Women control retailers to the periodical markets in both rural and urban sectors. They come under dissimilar categories are: Producer-cum-Retailer, Itinerant Retailers and Retailers.

Malpractices and Imperfection in the Market

Under-weighting of the farmer's produce and the unfair implicit understanding among the traders prevail at haats. But there are several cases of the existence of deficiency and malpractices in the haat and the mandis. Both at the haat and mandi level, it was served that the traders, buying the produce from the farmers act in agreement. They enter into some implicit agreement to decide the purchase price of the vegetables in Jharkhand. There is surplus market arrival of the vegetables; they force the farmers/sellers to lower the price. Horticultural crops (vegetables) are perishable commodity and there is no storage facility at the market places, Haat or Mandi in the state, so traders take advantage and force the farmers to sell their produce low price. Potato is relatively smaller quantity perishable vegetable but farmers do not want to go through or deal of a taking the produce back to their villages.

An essential situation for perfectly competitive market is perfect knowledge about the market prices on the part of both buyers and sellers. The farmers do not have perfect knowledge about the prices of their produce in the haat or mandi. The traders always try to encourage that the produce is available in the market at a lower price. Because of the lack of perfect knowledge, the farmers are in disadvantage position to get fair price of the produce.

Price Variation

There prevails a seasonal variation of prices of vegetables. When the harvesting season starts the consumers demand for the produce is far above the ground because the consumer's favorite of the new product. This gives increase to very high price of the vegetable in the beginning of the harvesting season. But as the supply increases, gradually the price begins to fall. In the first one of two quarter, the price stay behind at a high level but in the middle of the peak season, the price gets lower and reaches the bottom. Price variations of vegetables of selected vegetables under our study are:

Potato- Potato is a winter seasonal crop. However, with the support of small irrigation, it is being cultivated all through the year. Potato has a high quality marketing value so it is preferred by the farmers. It is grown with the beginning of rainy season and the harvesting beginning in the month of september in the beginning of the harvesting season. The retail price of new potato is as high Rs.40/- to Rs.50/- per kg when the price of old potato is Rs.35/- to Rs.36/- per kg the price remainder almost sustained at Rs.25/- with insignificant variation for the first fortnight then it comes down to Rs.25/- and finally in Rs.20/- in the month of mid november, before its supply finally exhausts. Then the appearance of winter potato starts with a price of Rs.20/-. The potato grown in the area is not in huge quantity and there is in general no practice of farmers keeping the produce in cold storage, except for the seed purposes.

Tomato- The cultivation of tomato beginning in the month of september and the market appearance of the producer beginning from the november. In the beginning the retail price opens at Rs.60/- per kg., which may continue for the first ten days then it falls to Rs.40/- per kg and remainder at Rs.30/- per kg for a different month. The price regularly comes down from Rs.20/- to Rs.25/- per kg in the month of january and it reaches the floor in the month of february to march, when the prices is Rs.20/- to Rs.25/- per kg. The price remains at this level till april and then it begins to set-up reaching Rs.30/- per kg in the month of july. It remains at this level till the next harvesting.

Brinjal- The cultivation of brinjal is done by greater part of farmers who are occupied in vegetable cultivation. Brinjal is a winter crop, but it is cultivated all the way through the year. In the beginning the retail price opens at Rs.50/- per kg., which may continue for the first ten days then it falls to Rs.40/- per kg and remainder at Rs.25/- per kg for a different month. The price regularly comes down from Rs.20/- to Rs.25/- per kg in the month of january and it reaches the floor in the month of february to march, when the prices is Rs.20/- to Rs.25/- per kg. The price remains at this level till april and then it begins to set-up reaching Rs.30/- per kg in the month of july. It remains at this level till the next harvesting. Area enclosed and production of vegetable crops in Jharkhand can be observed from the table. The table shows that apart from potato, tomato, cabbage, brinjal is also one of the most important vegetable in Jharkhand.

Year-wise Area and Production of Different Types of Vegetables (Area in '000 Hectares & Production in '000 Tonnes)

Vegetables /Year	2020-21		2019-20		2018-19		2017-18	
	Area	Production	Area	Production	Area	Production	Area	Production
Beans	13.50	199.88	13.31	199.03	13.03	193.32	12.91	191.18
Bitter Gourd	2.34	22.02	2.05	15.82	1.65	13.66	1.60	13.26
Bottle Gourd	2.06	28.29	1.45	20.72	1.17	17.96	1.01	15.43
Brinjal	80.70	270.19	80.78	268.69	80.35	256.72	80.09	252.60
Cabbage	19.43	325.34	19.25	328.19	19.10	321.74	19.06	326.22

Capsicum	3.60	56.80	3.04	33.68	2.10	33.10	2.99	33.03
Carrot	1.80	23.38	1.09	11.70	1.14	11.3	1.05	10.01
Cauliflower	22.28	308.63	22.14	309.76	21.99	302.42	21.93	299.64
Green Chili	15.83	255.13	15.32	253.26	15.04	245.08	14.55	253.30
Cucumber	4.63	41.39	4.26	26.023	1.52	23.61	1.41	19.01
Pumpkin	1.68	33.11	1.80	26.63	1.29	26.87	0.99	23.51
Okra	7.47	109.74	6.07	100.53	5.63	94.51	5.39	92.15
Onion	17.59	295.57	19.77	293.27	17.99	289.66	17.16	289.04
Pea(Green)	16.35	355.72	15.93	354.35	15.93	349.68	15.73	347.14
Potato	49.13	767.19	48.88	705.63	49.03	695.46	48.21	690.23
Radish	4.41	85.98	3.45	50.22	3.12	50.10	2.83	46.92
Tomato	22.28	276.05	21.25	277.19	20.52	271.04	20.11	265.26
Other vegetables	20.61	286.99	22.72	317.15	22.39	311.09	22.20	307.28
Total	**305.88**	**3741.38**	**302.57**	**3592.03**	**293.88**	**3507.32**	**289.21**	**3475.20**

Source: Department of Agriculture, Animal Husbandry & Co-operative, Government of Jharkhand

From the above table, vegetables are grown, has increased from 264.2 thousand hectares in 2015-16 to 305.7 thousand hectares in 2020-21. Although this increase has not been steady but an overall increased area of production is an indicator of the diversification in agriculture. There has been a steady increase in the production of vegetables in the State since 2016-17. The production of vegetables has increased from 3373.8 thousand tonnes in 2015-16 to 3741.4 thousand tonnes in 2020-21. However, there was a slight decline in the production in 2017-18 but thereafter the production has increased steadily.

According to Jharkhand Economic survey 2021-22 the major vegetables on the basis of production in Jharkhand are Cabbage, Cauliflower, Brinjal, Potato, Tomato, Pea and Radish.

Cabbage, Cauliflower, Brinjal, Tomato and Radish are produces under every season in Jharkhand. These are available vegetable market, but Ranchi district has mainly producers of Cabbage, Cauliflower, Tomato and Radish, so I take these from vegetables in our study.

Functionaries in Agricultural Marketing

Functionaries contribution in agricultural marketing has categorized under three market stages. **(I) Primary Market Functionaries:** under this functionaries the producer/farmer/cultivator, pre-harvest contractor, itinerary merchants, transport agents are included.

(II) Secondary Market Functionaries: Financial agents and processing agents are concerned in secondary market in addition to primary market functionaries.

(III) Terminal or Export Market Functionaries: in addition to primary and secondary market functionaries commercial analyst and shipping agents are also concerned in this market stage.

Vegetable Marketing Channels

The path all the way through which a commodity passes from producer to the consumer is called marketing channel. It is route, which a product takes after being produced to reach the consumer. On the basis of obtainable marketing a structure, more than seven marketing channels have been identified for all the six intention crops (potato, peas, cabbage, cauliflower, tomato and brinjal). There is minor variation in distribution channel from one crop to another crop. It can be observed marketing channels for horticultural crops in the state of Jharkhand are as shown in chart-01, where the fresh horticultural crops flow all the way through two sets of marketing channels such as:

(a) Local daily and periodical markets and

(b) Channels leading the number of industrial towns and urban accumulation in the region and neighboring states.

Out of the seven channels are identified, the first channel starts from the farm get it and ends at the extra-regional markets. Channel-II and III through end at the extra- regional for far-away regional markets, their starting point is from the periodical market. Channels - IV and VI start off from the village 'haat' and carry the production to consumption centers within the region. In channel-VII, the producer in a straight line sells producer to a consumer in a periodical market or daily market in Jharkhand

Chart - 01: Marketing Channels

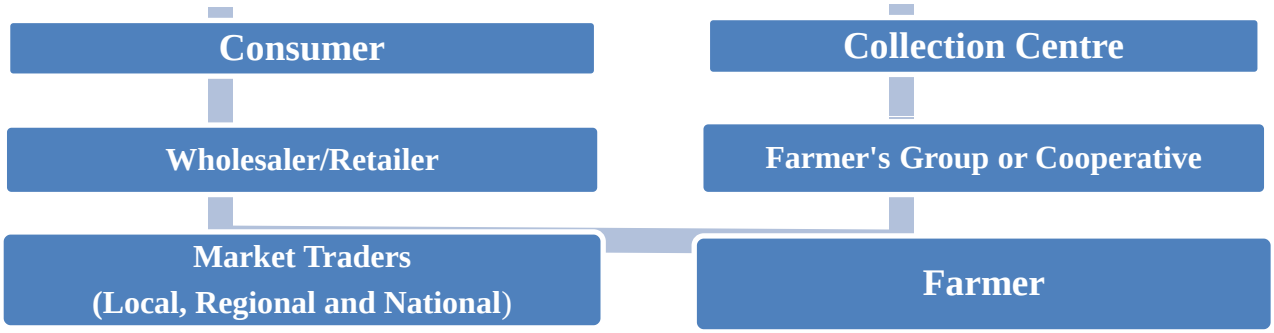


Chart-02

An Illustration of the Spatial Network of Vegetable Production-Distribution System in Jharkhand

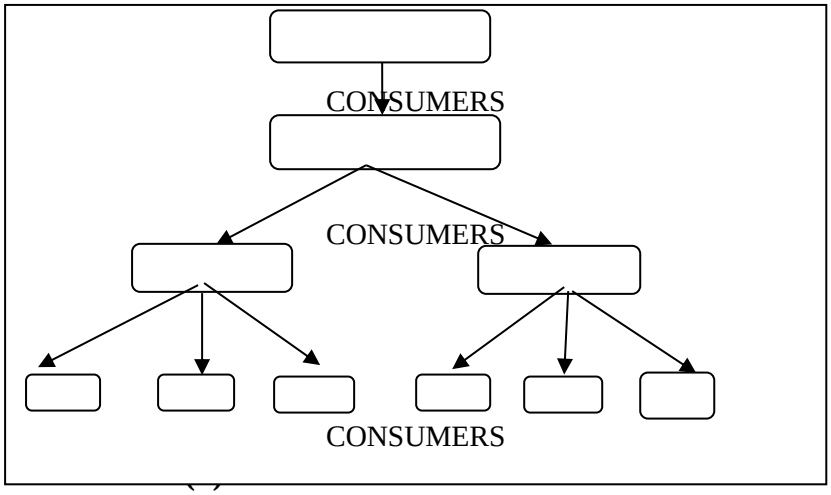
(I) SPATIAL NETWORK

DISTANCE (in KMS)	POPULATION CENTRES
UPTO 500	CENTRAL MARKETS (Extra – Regional) Calcutta/Bhuwaneshwar/Asansol
UPTO 100	WHOLESALE MARKETS (Regional & Extra-Regional) Ranchi/Tata/Daltanganj
UPTO 75	REGIONAL CONSUMPTION CENTRES Ramgarh
UPTO 35	HAATS Brombay/Mandar

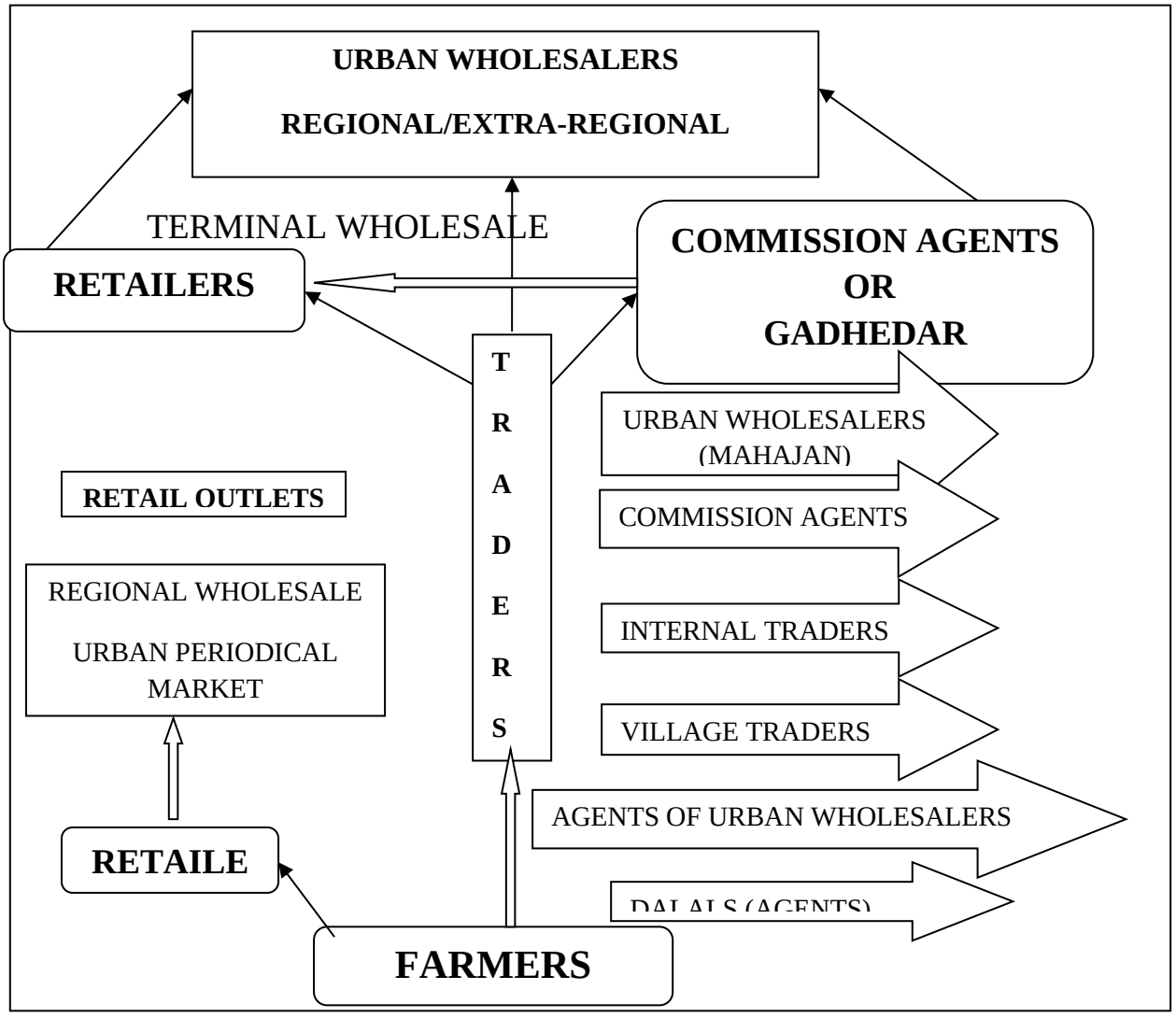
(I) MARKET PARTICIPANTS

Chart-02 (a)

(a)MARKET LINKAGES



(b)TYPES OF MARKETS AND MARKET PARTICIPANTS



Factors Affecting Marketing of Agricultural and Horticultural Crops in Jharkhand

Marketing of vegetables depends ahead the producer's surplus. There are two types of producer surplus, first is marketable surplus and second is marketed surplus. Marketable surplus is the remaining left with the producer after meeting his requirements for family consumption, farm needs, payments in kind to informal, permanent labor, the land lord artisans and on the other side, marketed surplus is the quantity of produce the producer in reality sales irrespective of one's needs for home consumption and other requirements.

Farmer's marketed surplus can be either more or less or the same as his marketable surplus. It is more when the farmer retains less of the crop than is compulsory on his far and by his family. This happens under force of immediate cash needs. He may have to later repurchase some of the same products from the market to meet his needs. The marketed surplus is less than the marketable surplus when a farmer holds some of his surplus produces on the farm or consumes more than ordinary amounts of it in substitution for other commodities. The size of marketed surplus is not only a key factor to industrial development and improvement in the nutritional status of the population of a country but also determines the income and earning received by producer depending upon his choice of the market and the time of sale. A difference is often made between the concepts of marketable and marketed surplus. The marketable surplus refers to that quantity of produce, which is left farmer after meeting his requirements of family consumption, seeds, animal feed, wage paid and contractual payment to landlord, artisans and wastages etc.

Marketed surplus was predictable by deducting the requirement for family consumption, for seeds and other payment from the farm produce of the sample farmers. On the other hand, is the actual quantity of the produce, which the producer farmer essentially sold in the market irrespective of his requirements for family consumption, farm seeds and other payments. The factors affecting the marketed surplus of vegetables were analysed by applying multiple regression analysis. The marketed surplus of vegetable (Y) was taken to depend on the following factors:

The multiple regression analysis used in,

$$\mathbf{Y = f(X_1, X_2, X_3, X_4, \ldots\ldots\ldots\ldots\ldots, X_7)}$$

Where, Y - Marketed surplus of vegetables, X_1 - Family size of the farmers, X_2 - Area under vegetable crops, X_3 - Total production of vegetable, X_4 - Income from vegetable, X_5 - Family consumption, X_6 - Total non market transaction and X_7 -Price of vegetable.

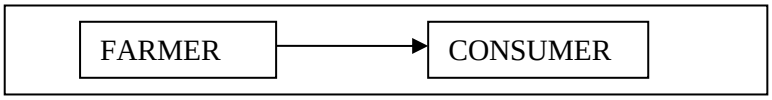
Determinant of Marketed Surplus- There are many factors, which settle on the marketed surplus of agricultural and horticultural crops (vegetables). The factors in our study were regressed to find the impact of every factor on marketed surplus of sample agricultural and horticultural crops (vegetable). With respect to weighted price of cabbage and the regression co-efficient is found negative and non-significant in farm and negatively highly significant in overall size of arms. The regression co-efficient of the total production in tomato were found significant with respect to family size, if found negatively significant in small and large farms, where as gross income of marginal farm is found negatively related to marketed surplus in Jharkhand.

Our study observed that total production plays a significant role in the marketed surplus but the variables, family size, gross income, total consumption, non-market transaction are also observed to affect the marketed surplus. Raise in area under cultivation of the crop has significant impact on marketed surplus. Unpredictably, we found that the farmers were not found price responsive. This may be recognized to the fact that the farmers are bound to sell their product at low price just after the harvest under poor economic

conditions. Farmers sell their marketed surplus of vegetables all the way through different marketing channels. The following channels were utilized by the sample farmers for selling their marketed surplus.

Chart-03 Marketed Surplus of Vegetables through Different Marketing Channels

Channel –I

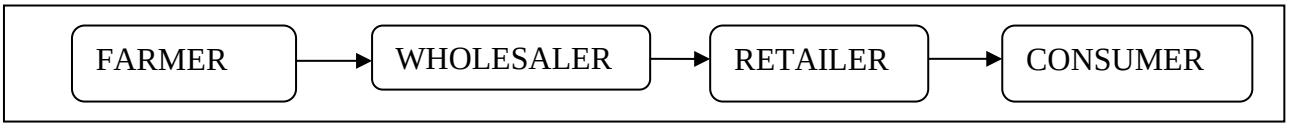


Channel –II

Channel-III

Channel-IV

Channel-V



There are so many factors, which manipulate the selection of different channels by the farmers and one such factor is the quantity of marketable surplus with the farmers. Therefore, it is advantageous to analyze the marketable surplus and its distribution in different marketing channels. Actually the farmers accept different marketing channels not only for convenience but to extract higher net price.

Table-02:Marketed Surplus of Selected Vegetables Sold in Different Marketing Channels

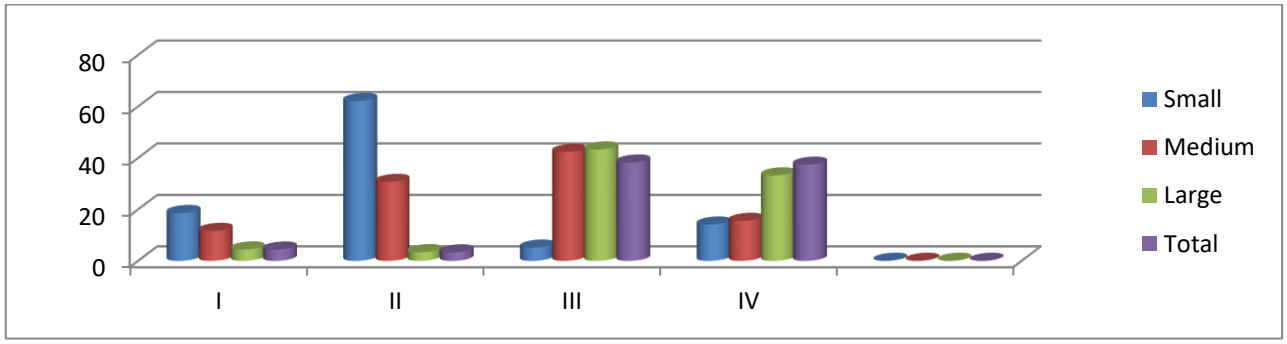
Vegetables	Marketing Channel	Farm Category			
		Small	Medium	Large	Total
A. Potato	**I**	18.56	11.63	4.41	4.36
	II	62.11	30.65	3.35	3.27
	III	5.13	42.34	43.27	38.18
	IV	14.1	15.52	33.18	37.35
	V	-	-	6.36	16.74
B. Tomato	**I**	41.16	20.36	5.21	10.28
	II	25.42	21.18	16.03	18.64
	III	27.57	33.13	38.28	44.74
	IV	05.85	16.59	21.64	18.03
	V	-	8.74	18.74	8.31
C. Brinjal	**I**	68.34	42.82	12.48	20.36
	II	14.56	16.36	6.35	21.13

	III	11.83	17.08	36.71	36.18
	IV	5.27	15.41	27.69	13.54
	V	-	8.33	16.77	8.79

Source: Primary Data

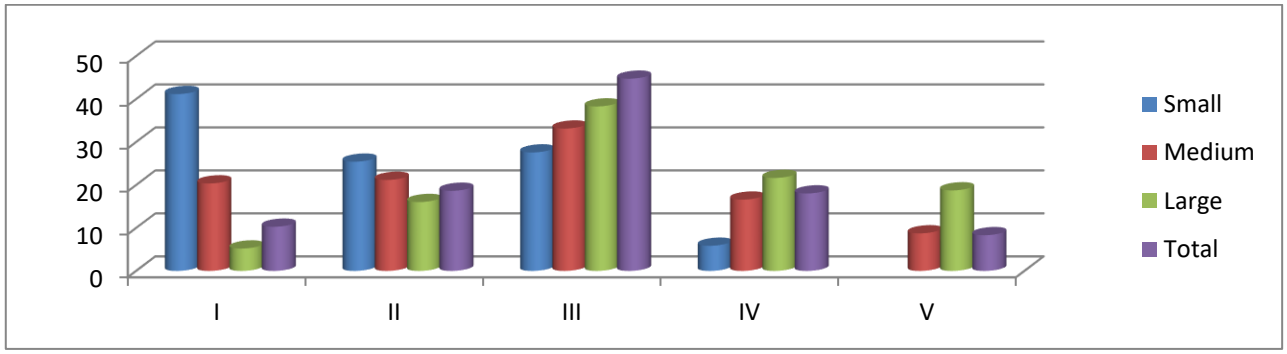
The ab6ve table shows the distribution of sample vegetables by the farmers in different marketing channels.

Figure-01: Marketed Surplus of Cabbage Sold in Different Marketing Channels



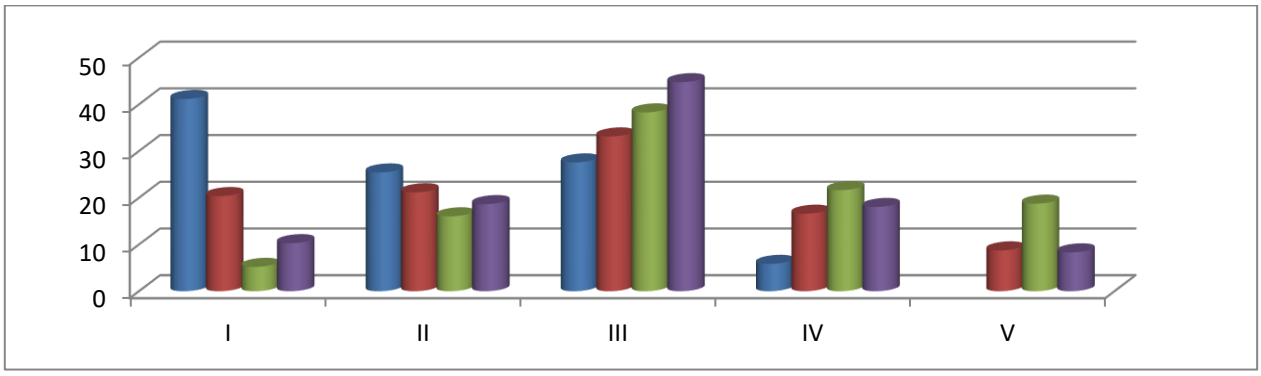
Source: Primary Data

Figure-02: Marketed Surplus of Tomato Sold in Different Marketing Channels



Source: Primary Data

Figure-03: Marketed Surplus of Brinjal Sold in Different Marketing Channels



Source: Primary Data

It can be observed from the table-02 that the farmers in general sell their cabbage in first four marketing channels, only 16.74% of the produce of the huge farmers are sold in channel-V. It has been observed that majority of small farmers (62.11%) select channel-II that is sells directly to the retailers at 'Haat'. But overall channel-III is the most popular channel. Maturity of sample farmers sells their vegetable product

of cabbage (43.27%), tomato (44.74%) and brinjal (36.18%) in this channel. Therefore, the farmers prefer to sell their marketable surplus to assemblers at 'Haat'.

However, it is interesting to see that in case of tomato and cabbage the majority of small farmers prefer to sells their product in channel-I, where they sell it directly to the consumer. It was informed that in these vegetables, they get a higher margin for this surplus then cabbage, which is comparatively a smaller amount perishable. Distribution of vegetable product to different market channel depends upon the lot of sale. If the quantity for sale is a smaller amount, the farmers prefer to sell the produce directly to the consumer.

The overall picture that emerges from the study of marketing pattern is that the bulk of the marketed surplus of almost all vegetables are sold by all the categories of farmers in the 'Haat' and the proportion of sales made in the other regional and extra-regional markets was near to the ground. The large farmers nevertheless made the sale of off season tomato and the near the beginning season cabbage in the far away markets like Calcutta, Bhuwneshwar, Rourkela, etc., which offered them much higher price. The small farmers having a little area under vegetable crops did not grow the off season tomato and near the beginning cabbage. There quantity of marketed surplus being a little they were not contacted by the village agents for the sale of their crops nor given advances for growing of these vegetables.

Prices Received by Different Size-Group of Farmers- We do not find any difference in the prices received by different size group of farmers from the sale of tomato and brinjal in the haats and secondary markets. However, the average price received by the small farmers for cabbage and tomato from sale in the haat was lower than the price received by the medium and large farmers. The price received by the small farmers was rather lower raise many little farmers sold their produce in the haat through dalal acting on behalf of mahajan who quitted them lower price. The medium and large farmers sold their produce directly to 'mahajan' without dalals and received to some extent higher price.

Time Pattern for Sale- Disposal of vegetables by different size group of farmers for the duration of different harvesting seasons is presented in table-03. This table reveals that the bulk of the marketed surplus of small farmers was sold during the peak-harvesting season when the prices ruled low down. But the medium and large farmers distributed their sale in all the three harvesting season such that they had some sales during all the season. Compared to small farmers, they sold a relatively higher proportion of produce above all tomato and cabbage during early harvesting season when price ruled high. Again they are sale out in a significant quantity of proportion for these crops during the lean season when prices were relatively higher than peak season. Unlike small farmers, the medium and large farmers had more area under vegetables and as such were in a better situation allocate some areas to early maturing verities and some areas to late maturing verities. The small farmers could have grown more of early maturing verities and receive higher price, but the yields for the duration of the early season are not only low but also involved greater risk and uncertainty, which bigger farmers could afford to bear more than the small farmers.

Table-03: Season-wise Pattern of Disposal of Vegetables by the Sample Farmers

Farm Size	Season-wise Pattern of Disposal of Vegetables in %								
	Potato			Tomato			Brinjal		
	Early	Peak	Lean	Early	Peak	Lean	Early	Peak	Lean
Small	13.15	65.32	21.53	23.25	55.79	20.96	22.25	52.5	25.25

(< 2 ha.)									
Medium	30.36	45.17	24.47	28.45	40.83	30.72	14.15	60.33	25.52
(2-4 ha.)									
Large	24.25	45.49	30.26	35.45	40.57	23.98	18.2	65.92	15.88
(> 4 ha.)									
Total	**22.59**	**51.99**	**25.42**	**29.05**	**45.73**	**25.22**	**18.2**	**59.58**	**22.21**
Average Price Received	12.5	3.5	5.5	6.15	4	12.5	5	4	7.75

Sources: Primary Data

Our study observed that marketing of vegetables in Jharkhand involves different marketing channels consisting of growers, assemblers, commission agents, wholesalers and retailers. Vegetable growers sell their product instantaneously after harvest due to the perishability of the product, lack of cold storage, poor economic circumstance of the farmers and other factor.

Conclusion

An essential situation for perfectly competitive market is perfect knowledge about the market prices on the part of both buyers and sellers. The farmers do not have perfect knowledge about the prices of their produce in the haat or mandi. The traders always try to encourage that the produce is available in the market at a lower price. Because of the lack of perfect knowledge, the farmers are in disadvantage position to get fair price of the produce. Out of the seven channels are identified, the first channel starts from the farm get it and ends at the extra-regional markets. Channel-II and III through end at the extra- regional for far-away regional markets, their starting point is from the periodical market. Channels - IV and VI start off from the village 'haat' and carry the production to consumption centers within the region. In channel-VII, the producer in a straight line sells producer to a consumer in a periodical market or daily market in Jharkhand. The farmers in general sell their cabbage in first four marketing channels, only 16.74% of the produce of the huge farmers are sold in channel-V. It has been observed that majority of small farmers (62.11%) select channel-II that is sells directly to the retailers at 'Haat'. But overall channel-III is the most popular channel. Maturity of sample farmers sells their vegetable product of cabbage (43.27%), tomato (44.74%) and brinjal (36.18%) in this channel. Therefore, the farmers prefer to sell their marketable surplus to assemblers at 'Haat'.

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References

1. Acharya, S. S. (1994): "Marketing Environment for Farm Product: Emerging Issues and Challenges", JAM, 8(2)
2. Acharya, S.S. (1999): "Fruit Production, Indian Journal of Marketing, Vol.6, No. 5.
3. Cummings, Jr. R. W. (1976): "Pricing Efficiency in the Indian Wheat Market", Impex India, New Delhi.
4. Dangi, B.P. (2021): "Dynamics of Productivity and Marketing of Agricultural and Horticultural Products in Jharkhand", Department of Economics, Vinoba Bhave University, Hazaribag (Jharkhand).

5. Deogharia, P. C. (2006): Efficiency of vegetable co-operative societies in Jharkhand. Jharkhand Journal of Development & Management Studies, XISS, Ranchi, 4(1).
6. Deogharia, P.C. (2014): 'Vegetable Marketing in Jharkhand: Problems & Issues", Report submitted to ICSSR, New Delhi.
7. Ekka,V. , Deogharia, P.C. (2005): Marketed Surplus of Vegetables in South Chotanagpur Division of Jharkhand, Journal of Economic and Social Development, VBU, Hazaribagh, Jharkhand.
8. Mellor, John W. & Lele, Uma J., (1972): "Growth Linkages of the New Foodgrain Technologies", Comell University, Department of Applied Economics and Mangement.
9. Prasad, J. (1996): "Co operatives Institutions in Bihar for Marketing Vegetables", in Rajagopalan (Ed) Rediscovering Co-operation. Vol. Ill, Institute of Rural Management Anand.
10. Singh. A. J and Singh, A. (1992): 'An Analysis of Marketing Pattern and Factors Affecting Marketed Surplus in Punjab – A Size wise Analysis', Indian Journal of Agriculture Marketing. 6(1), 12-30.
11. Srivastava G.C. (1993): 'Vegetable Economy on Small Farms around Bhagalpur Town in Bihar', Journal of Research, Vol. III, No. 3.
12. Subbha, Rao K. (1989): Agriculture Marketing and Credit, ICSSR, New Delhi.
13. Thakur, D.S. (1974): "Food grain Marketing Efficiency: A Case Study of Gujarat", IJAE, 29(4).
14. Vidyarthi. L.P. (1962): Economic changes in typical tribal villages of Bihar. Journal of Ranchi University, 1(1).