Chapter - 4

Marketing and Temporal Price Behaviour of Solanaceous Vegetables
Vegetables are so common in human diet that a meal without a vegetable is supposed to be incomplete in any part of the world. India is the second largest producer of vegetables in the world, next to China. A good number of vegetables in India are introductions from foreign countries. Therefore, a planned development in the field of vegetable production will not only improve the nutritional requirement for masses but can also meet the challenge of adequate food supply to the growing population in India. The limited cultivable area can be best utilized for growing vegetables which are known to give higher yields per unit area. Vegetable growing being labor intensive can substantially increase employment avenues too.

In India, more than 50 types of vegetable crops of varying significance are grown. For convenience, these vegetables may be classified into three categories, viz., Underground Vegetables, Herbage Vegetables and Fruit Vegetables.

**Underground vegetables:** In these vegetables, the food is stored in underground parts. The underground vegetables may be classified into two parts: roots and underground stems, *i.e.*, *Solanum tuberosum* (sweet potato), Yams, *Beta vulgaris* (beet root), *Daucus carota* (carrot), etc.
Herbage vegetables: They have the nutrient material stored in parts of the plant found above ground, i.e., Spinach, Cabbage, Lettuce, Cauliflower, etc.

Fruit vegetables: The edible portion of this group is the fruit and hence called the fruit vegetables. It includes tomato, brinjal, chilli, okra, melons and gourds, etc.

In recent years, keen interest has developed in vegetable cultivation on large farms that are distantly placed from consuming centres. Judicious soil-water-fertilizer-vegetable crop management techniques have been developed and vegetable crop calendars involving adjustment of new varieties in different cropping patterns have been formulated for better adoption and yield. Transplanting techniques of cucurbits for early and increased production and seed-plot-technique for producing virus-free seed of potato in the plains of north India have been developed. Thus, new advances in technology in this sector are leading to an increase in vegetable production in the country.

India is the second largest producer of vegetables in the world and accounts for about 13% of the world’s production of vegetables. Potato, tomato, onion, cabbage and cauliflower account for around 60% of the total vegetable production in the country. Vegetables including root and tuber crops occupy an important place in diversification of agriculture and have played pivotal role in food and
nutritional security of ever growing population of our country. In India, different kinds of vegetables belonging to different groups are being cultivated. These include solanaceous, cucurbitaceous, leguminous, cruciferous (cole crops), root crops and leafy vegetables. Major vegetable crops grown in the country are tomato, onion, brinjal, cabbage, cauliflower, okra and peas. Significant achievements have been obtained in terms of production, which has increased to 125.88 million tones from 93.9 million tones during 2000-01 and 58.5 million tones during 1991-92.

**Tomato**- The domestic consumption of tomatoes is 7409054 tones and the export for the same being 13588 tones in the year 2002. Andhra Pradesh was the largest grower of tomato in the country. The other major tomato growing states are Bihar, Karnataka, Maharashtra and Orissa.

**Brinjal**- It occupies the third position amongst vegetable crops. West Bengal is the largest producer of brinjal followed by Maharashtra and Bihar. The other important state growing brinjal are Karnataka, Maharashtra, Gujarat, Andhra Pradesh, Assam, Uttar Pradesh and Madhya Pradesh.

**Chilli** -India is the largest producer and consumer of chilli among other major producers in the world and is at the top in terms of international trade, exporting more than 20% of its total production.
In India, dry chilli production rose by nearly 43% from 8.7 lakh tons in 1997-98 to 12.5 lakh tons in 2007-08.

**Meaning of market**

A market means an open place or large building where actual buying and selling takes place. The market may extend to a locality, village, town, region or a country according to the demand of a commodity. Market includes both place and region in which buyers and sellers are in free for interaction with one another. Marketing includes those business activities that direct the flow of goods and services from producer to consumer.

Market is the social arrangement where exchange of goods and services takes place among the buyers and the sellers. According to absolute terms of economics, main market types are Perfect Competition, Monopoly, Monopolistic Competition and Oligopoly types. But in general, we can find varying types of markets. This is because, whenever a group of person has preference for goods or service that another group of person can supply, a new market emerges.

**Consumers and Produce**

Consumers judge the benefits of all food, including produce, not only on the above four broad factors, but in many instances on a set of criteria which changes over time and differs among individuals. The
following list, though not intended as definitive, is reflective of the words and phrases being used in today's marketplace by consumers to assess and describe produce.

- Appearance
- Quality
- Consistency
- Safety
- Convenience
- Taste
- Freshness
- Uniqueness
- Nutrition
- Variety
- Price / Value

With the above consumer-produce criteria in mind, a marketing litmus test for produce products is suggested: *Does the product respond to a perceived consumer desire* – one or more of the above criteria? No produce product can succeed unless it meets this fundamental test of true marketing.

One means of determining whether a produce product meets this litmus test of serving consumers' desires is to consider the following consumer purchase decision criterion that applied to all food products:

<table>
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<th>Consumer Purchase Value Perception</th>
<th>Perceived benefits</th>
<th>Appearance</th>
<th>Quality</th>
<th>Consistency</th>
<th>Safety</th>
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Price

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Types of agricultural markets in India and their classification

Market for agricultural produce may broadly be divided into three categories-

1. Wholesale market
2. Retail market
3. Fairs

1. Wholesale markets: These markets are subdivided into -

I. Primary wholesale markets: These markets are periodically held, either ones or twice a week. Agricultural produce comes from neighboring villages. These markets deal with the sale of fruits, vegetables, food grains, and all household requisites etc. for example, a village market.

II. Secondary wholesale market: These are also known as mandis. Small merchants purchase from primary wholesale market and sale in this markets. Some cultivators directly sell their produce in these markets, e.g. taluka market.

The share in vegetable marketing of different categories of farmers in Raipur District of Madhya Pradesh was examined where 60 vegetable producers were interviewed during 1995-96. The share in vegetable marketing was found to be about 60% in the case of large farmers. However, the price received with respect to all vegetables was observed maximum in the case of small and medium farmers. The
sale of vegetables to consumers directly was most popular among marginal farmers while large farmers had chosen commission agent/wholesalers to dispose their produce. Commission and transportation charges were found to be higher in vegetable marketing, which constituted about 85-88% of total marketing cost. Regulation and the establishment of vegetable marketing cooperative societies were suggested to address constraints in production and marketing of vegetables.

III. Terminal markets: These are the markets in which the produce is either finally disposed off directly to the consumer or processors or assembled for shipment to foreign countries. These markets are the parts where warehouses and storages are available and may cover a wide area, may be state.

2. Retail markets: These markets are spread all over the city or town subject to municipal control. They generally deal in all types of produce and serve the needs of the city people as well as of the surrounding villages. Specific type of market is located in particular locality. Cloth market is one locality and grain, vegetable are in different localities. There is direct selling to consumer.

3. Fairs: These are held on religious occasions, at pilgrim centre. These markets deal in livestock, agricultural produce, e.g. Magh Mela at Allahabad.
The vegetable industry development is constrained by poor marketing arrangements, and there is a large gap between farmer and retail prices. There are 3 main types of market\(^2\)

(i) **Rural periodic market** - The farmers’ market, a village ‘haat’ which operates on a specific day or days in each week, with farmers selling direct to consumers (from a shelter/building, or the open air). Quantities are small, but sales go direct from farmer to customer, so profit share can be reasonable.

(ii) **Assembly markets** – These are similar to farmers’ markets, except that produce is sold to traders who assemble, consolidate and transport for sales elsewhere in the city or market. They are especially important in eastern India and in areas of concentrated production. Operations can be informal and involve the use of temporary ‘collection centres’ in production areas by traders/transporters. Farmers’ produce is assembled for transport to a city market, with the payment to farmer depending on the sale price at the regulated market.

(iii) **Terminal markets** - At these markets, produce is sold to consumers or processors, or assembled further for a distant market or export. These markets involve well-organized merchants, and are located in major cities (Bangalore, Delhi, Mumbai, Chennai and Kolkata).
The Indian Government has aimed to control produce marketing through 'regulated' markets to encourage greater transparency and fair business, and there are more than 7000 of them, with State Government enacted Agricultural Produce Marketing Regulation legislation regulating competition and transactions and market charges.

Although the laws have improved market function and reduced costs for producers/sellers, and provide frameworks for regulation and consultation, the agricultural marketing system is very inefficient. The Government regulated monopoly on wholesale markets has prevented development of competitive marketing, failed to help farmers in direct marketing, retailing or the supply of produce for processing, and prevented innovation in marketing and technology use³.

Currently, the wholesale markets are dominated by a small number of traders and transactions lack transparency. Grading and handling facilities are poor, and wastage is high due to poor logistics and lack of cool chain facilities. While upgrading of government regulated markets in the fresh produce sector has been proposed by Government, it will be critical to implement cost efficient systems that optimize delivery of fresh produce to consumers and exporters through supermarkets and other retail outlets.
To assess benefit flows to farmers, the wholesaling marketing of fruit and vegetables in Ahmedabad (zone VI), Chennai (zone VIII) and Kolkata (zone II) markets was examined. In vegetable marketing, direct contact between market commission agents and farmers was very low (< 50 %) and secret bidding and simple transactions dominated. Farmer-share of the consumer rupee for vegetables varied from 40-69 % in the main wholesale markets of Ahmedabad, Kolkata and Chennai, but was as high as 85-95 % at a smaller market in Chennai. They considered that regulation and supervision of an equitably represented market committee, and perhaps the enforcement of open auctions would improve benefit flows, as could opening up the markets to more traders and buyers. Market infrastructure also needed attention - cool storage, loading and weighing facilities, and provision of up-to-date information, internet and telecommunications at the markets.

There are various dimensions of marketing for produce and their various products. Such markets may be classified on the basis of various dimensions -

I. **On the basis of free intercourse or degree of competition**

a. **Perfect market:** A market said to be perfect, when all potential sellers and buyers are promptly aware of the prices at which transaction takes place, any buyers can purchase from any sellers. The principle underlying a perfect market expects that there must be
a uniform price for any one standardized commodity at a particular
time at any place, there should not be restriction on the movement of
a commodity, there must be a good number of buyers and sellers.

b. Imperfect market: Such markets where some buyers or sellers
or both are not aware of the prices at which transactions takes place
are called as imperfect markets. There is restriction for movement of
goods. Imperfect markets are -

a. Monopoly market: There is only one seller of the commodity.
b. Duopoly market: It has two sellers of a commodity.
c. Oligopoly market: There are more than two but a still a few
sellers of commodity.
d. Monopolistic competition: A large number of sellers will deal in
heterogeneous and differentiated form of a commodity.

II. On the basis of time

a. Very short period markets: These are for few hours and are
mostly for highly perishable commodities like fruits, vegetables,
fish, milk, etc.

b. Short period market: In these markets commodities are
perishable and can be traded for some time. These commodities
are like food grains and oilseeds.
c. **Long period markets**: Time span available is long to adjust supply to meet demand even by managing production. These markets can be for machinery and manufactured goods.

III. **On the basis of commodities (type of goods transacted)**

i. **Commodity markets**: These markets are especially for the commodity items, e.g. cotton, etc.

ii. **Produce exchange**: Commodities are produced and not manufactured. Generally one market in one commodity, e.g. cotton exchange Mumbai.

iii. **Manufactured goods markets**: These are markets of manufacture and semi manufactured goods. For e.g. Leather exchange of Kanpur.

iv. **Precious stones**: These are highly specialized and well organized markets of world for e.g. bullion market of Mumbai.

IV. **On the basis of area of coverage**

i. **Village Markets**: Buying and selling activities are confined among buyers and sellers of the village or nearby villages mostly for perishable commodities. In such markets mostly there is a direct channel between the producer and consumer.
ii. Regional markets: (District/ State) Buyers and sellers for among commodity are drawn from larger area than the local markets, in India these generally exist for food grains.

iii. National Markets: In such kind of markets buyers and sellers are drawn at a wider range i.e. at National level e.g. durable goods such as jute, tea, etc.

iv. World Markets: Buyers and sellers drawn from the world biggest markets form area point of view and exist for commodities having world wide demand e.g., coffee, gold, silver, etc.

V. On the basis of nature of transaction

i. Spot or cash markets: Here goods are exchanged for money immediately after sale within reasonable short period of time.

ii. Forward or future markets: Here a transaction takes place for a standardized commodity with a promise to pay and deliver a commodity at some future date.

VI. On the basis of volume of transaction

i. Wholesale markets: Here commodities are brought by and sold in large lots or in bulks. Transaction takes place generally between traders.

ii. Retail markets: Here commodities are brought by and sold to the consumers as per their requirement.
VII. On the basis of number of commodities in which transactions take place

i. General market: In these markets almost all the types of commodities, such as food grains, oilseeds, gut fiber crops etc. are brought and sold.

ii. Specialized markets: In such markets, transaction takes place only in one or two commodities. For every group of commodities, separate market exists e.g. food grain markets, cotton markets, etc.

VIII. On the basis of stage of marketing

i. Producing markets: These markets mainly assemble goods for further distribution to other markets for production purpose. They are located in producing areas.

ii. Consuming markets: Here produce is collected for final disposal to the consuming population. These are located generally in thickly populated areas, where production is adequate.

IX. On the basis of extent of public intervention

i. Regulated markets: Here business is done as per the rules and regulated by statutory market organization. Market charges are standardized and fixed and practices regulated by Agricultural Produce Market committee.
ii. Unregulated markets: Here business is conducted without any set of rules and regulations. Traders frame rules and conduct business. These markets suffer from various defects in functioning.

Channels of distribution for vegetable produce

A channel of distribution or trade channel is the path or route along which goods move from producers to ultimate consumers or users. In other words, it is the distribution network through which a producer puts his product in the hands of actual users. The channel of distribution includes the original producer, final buyer and any middlemen—either wholesaler or retailer.

Fig. 4.1 Channel of distribution existing in the market

The term middleman refers to any institution or individual in the channel which either acquires title to the goods or negotiates or sells in the capacity of an agent or broker. But facilitating agencies that
perform or assist in marketing function are not included as middlemen in the channel of distribution. This is because they neither acquire title to the goods nor negotiate purchase or sale. Such facilitating agencies include banks, railways, roadways, warehouses, insurance companies, advertising agencies, etc. The channel of distribution which exists in a market has been illustrated in Fig. 4.1.

Due to high perishability and seasonality, efficiency of marketing operations in vegetables is crucial in determining the profit of the produce on one hand and level of satisfaction of consumers on the other. It is essential to be very careful about the marketing of vegetables in which the negligence may cause not only wastage of resources but also dissatisfaction to the producers and consumers. In India two aspects related to the movement of the vegetable from the farm to the consumers require consideration. The first concerns the channel through which the produce moves to the participating agencies and the costs. The second concerns the flow patterns, the volume of such flows and the seasonality of such movements. In case of vegetables, the typical marketing channels found in India are:

- Grower – Consumer
- Grower – Retailer – Consumer
- Grower – Growers cooperative – Consumer
- Grower – Growers cooperative – Commission Agent – Retailer – Consumer
Thus, there is a multiplicity of interaction and involvement of a large number of market functionaries/intermediaries with consulting interests. The traders traditionally dominate the prevailing market systems. The presence of many intermediaries and concentration of vegetable trade in few hands have resulted in exploitation of the growers and sellers; the producer's share in consumer rupee being low. To motivate cultivators for producing more, it is imperative that growers should get a reasonably good price for their produce. It is also essential to identify the best channel of vegetable marketing as the grower – consumer channel continuous to be the weakest link in the chain. Absence of infrastructure and improper management coupled with lack of market intelligence, credit etc. has made the system unfavourable to the growers. The marketing system in India by and large, operates under the normal forms of supply and demand.
The trade of vegetable is still mainly in the hands of private enterprises.

**Price spread of solanaceous vegetables in different zones**

Since land is a limiting factor, therefore, to meet the basic requirement of vegetables of the rapid growing population of India, it is necessary to increase the productivity and reduce the losses at different stages of marketing. At the same time upgrading of infrastructure and function of vegetable markets is also required, as the trade of vegetable is mainly in the hands of private enterprises. The price of vegetable varies from one zone to another according to the season, production and marketing (Table 1-3). Rapid price fluctuation in vegetables shows how vegetable growers are suffering in getting the desirable price of their produce. A marketing network of vegetables markets in the country will certainly help the growers in getting/transporting their produce in other part of the country for better price. There is also an urgent need to have proper planning for foreign markets and export-oriented vegetable production with their quality and varietal requirement at a competitive price to remain in the global vegetable markets.
Table 4.1. Zone wise quarterly price spread of chilli during 2006-2008 (Price Rs. per quintal)

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Source: Data collected and compiled for the years 2006-2008 from NHB and other secondary sources in selected districts and states in different zones.
India has the advantage of diverse agro climatic condition, which enables it to produce a wide range of solanaceous vegetables round the year. Tomato, brinjal and chilli are grown in all tropical, subtropical and temperate region of the country, but still it fails to meet the basic requirements of ever increasing population because of low productivity and huge post harvest losses from farmers field to market and finally to consumers' hand.

In case of chilli, it has been observed that highest price was fetched during October-December 2008 in zone III (Table 4.1). However, in zone VI price of chilli decreased below Rs.1200.00 per quintal during the month of July-September of 2008. Arid western plain consisting of states Rajasthan, Gujarat, Haryana and Delhi are the areas where chilli production is more but the market price is less compare to other zones of the country. During 2006, maximum price (Rs. 2002.50 per quintal) was observed in zone II during July-September quarter whereas, minimum of Rs. 866.65 per quintal was observed in zone VI during the same period. In 2007, the price spread of chillies was maximum in zone II (Rs.2203.83/qt) in July – September quarter with a minimum of Rs. 853.90/qt during October-December quarter was observed in zone VI.

Thus it was revealed that the maximum price spread of chilli was noticed in zone II during the period of July – September while minimum price spread was recorded during October – December in zone VI.
Table 4.2. Zone wise quarterly price spread of tomato during 2006-2008 (Price Rs. per quintal)

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<th>Zone</th>
<th>2006</th>
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<tr>
<td>Zone I</td>
<td>629.38</td>
<td>678.83</td>
<td>984.17</td>
</tr>
<tr>
<td>Zone II</td>
<td>541.25</td>
<td>553.33</td>
<td>1608.83</td>
</tr>
<tr>
<td>Zone III</td>
<td>457.75</td>
<td>594.33</td>
<td>1314.50</td>
</tr>
<tr>
<td>Zone IV</td>
<td>448.81</td>
<td>507.37</td>
<td>1168.58</td>
</tr>
<tr>
<td>Zone V</td>
<td>282.50</td>
<td>509.67</td>
<td>896.78</td>
</tr>
<tr>
<td>Zone VI</td>
<td>372.38</td>
<td>459.65</td>
<td>986.75</td>
</tr>
<tr>
<td>Zone VII</td>
<td>299.42</td>
<td>433.03</td>
<td>988.33</td>
</tr>
<tr>
<td>Zone VIII</td>
<td>739.75</td>
<td>667.00</td>
<td>848.00</td>
</tr>
</tbody>
</table>

Source: Data collected and compiled for the years 2006-2008 from NHB and other secondary sources in selected districts and states in different zones.
In case of tomato the average maximum price gone up to Rs. 1985.83 during October-December 2008 in zone II i.e., Humid Bengal-Assam basin (West Bengal and Assam) and lowest ranges from Rs. 500-1000 per quintal in other zones (Table 4.2). The price elasticity of tomato was worked out and it was found that the wholesale price of tomato was more elastic for increased supply than for decreased supply, whereas, the retail price was more elastic for reduced supply than for the increased supply\textsuperscript{5}. In totality the wholesale price elasticity was less than retail price elasticity.

The price fluctuation in tomato was reported\textsuperscript{6} to be mainly due to imbalance between demand and supply in the market. Around 75.4 per cent of small farmers, 68.9 per cent of medium and 64.3 per cent of large farmers reported that the excess arrivals of vegetables to the market is the main cause of lowering of the prices and the quality of the produce had a positive relationship with prices. Lower prices due to poor quality were reported by 31.2 per cent, 10.3 per cent and 28.6 per cent of small, medium and large farmer’s categories.
Table 4.3. Zone wise quarterly price spread of brinjal during 2006-2008 (Price Rs. per quintal)

Source: Data collected and compiled for the years 2006-2008 from NHB and other secondary sources in selected districts and states in different zones
The fluctuation in prices was continued in case of brinjal also (Table 4.3) where the average prices in 2008 varies from Rs. 603.04 per quintal during January-March in zone IV to a maximum of Rs. 1580.50 per quintal during July-September in Zone II. During a particular period also the price fluctuation was critically observed in different zones which again indicate the efficiency of marketing operations in tomato, brinjal and chilli is crucial in determining the profit of the produce.

**Types of Channel Members**

**Agents/Brokers**

- Channel partners that match marketers with wholesalers or in organization markets with customers,
- They are very important for international marketing, for exports.

**Wholesalers**

- A wholesaler is someone who primarily sells to other retailers
- Also may retail on own
- Typically, buys in bulk
- Very important in rural India

**Retailer**

- The most visible face of the distribution system
- India has the largest number of retailers in the world
Value-added reseller

- channel partners that buy products from marketers, add value by modifying or enhancing value, then reselling them

Role of wholesaler and retailer in distribution of vegetables

Role of Wholesaler

Wholesaler acts as a middleman in the channel of distribution as he buys vegetable produce in large quantity from the growers and sells these to retailers in small quantities. His role in distribution of vegetable and its products is discussed below:

I. Buying and assembling: A wholesaler forecasts the demand for produce and collects different varieties of vegetables from several places. Some wholesalers also import vegetables from foreign countries.

II. Selling and dispersing: A wholesaler breaks the bulk so that retailers and users can buy them in small lots. His representatives regularly call on retailers and users/buyers to distribute the vegetable produce among widely scattered people.

III. Transportation: A wholesaler arranges transportation from producers to his store/shops and from there to retailers. Sometimes he has his own transport arrangement for this purpose.
IV. Storage: Wholesaler holds large stocks and serves as a reservoir and supplies to retailers. He helps in stabilizing prices by adjusting supply to their demand.

V. Packing and grading: A wholesaler packs and repacks produce in convenient lots. He sorts out in different grades and gives brand names to the products packed and graded by him.

VI. Financing: Sometimes the wholesaler buys produce on cash basis from producers and sells them on credit to retailers. In this way he provides financial help both to the producers and retailers. If necessary, the wholesaler also provides financial help by way of advance payment to producers.

VII. Risk-taking: A wholesaler bears risks of changes in demand and prices, bad debts and damage to vegetables in the course of transportation and storage. By undertaking various risks he simplifies the process of distribution.

Role of Retailers

Retailer buy produce from wholesaler and sells them directly to consumers. Thus he acts as a direct link between the wholesaler and consumers. His role in distribution of goods is enumerated below:

I. Wide choice to consumers: The retailer anticipates needs of consumers and stock vegetables from different sources. Thus, he
offers a wide choice to consumers. They can buy according to their purchasing power and requirements.

II. Availability of produce in small quantities and at convenient locations: A retailer provides ready supply of produce so that consumers can buy conveniently and quickly in small lots. By ensuring uninterrupted and fresh supply of vegetables, he saves consumers from the botheration of buying vegetable produce in bulk and storing them.

III. Assurance of regular supply: He maintains adequate supply of vegetables so that consumers are sure of getting regular supply at the time of their need.

IV. Close interaction with customers: A retailer acts as a friend and guide to his customers. Indeed his interaction with customers is of intimate personal nature and thus he is able to provide feed back to wholesalers about consumers' preferences.

A study was conducted on marketing of vegetables in Solan district of Himachal Pradesh. The marketable surplus of all vegetables was estimated to be more than 95 per cent of the total production. Marketed surplus was found to be 85 per cent in case of beans and peas. It was observed that commission agents, village traders, wholesalers and retailers were the main marketing functionaries in
the study area. Marketing cost was maximum in case of capsicum (Rs. 234 per quintal).

Some emerging aspects of production and marketing of 4 vegetables (potatoes, sweet potatoes, onions and chillies) in two agricultural markets, namely, Jamshedpur and Ranchi in Jharkhand state of India was examined. It was found that the area under vegetable production in the state has remained stagnant. The marketable surplus of these crops varies between 78% and 91%. Village sales were high for small farmers but low for large farmers. Cooperative marketing institutions play an important role in Ranchi market but are nonexistent in Jamshedpur. Marketing margins are high in both markets, reducing the producers' share of the consumer price.

The vegetables marketing in Bangladesh was studied with help of data collected from a number of growers and retailers operating in one market during 1993 for four selected vegetables: aubergines, okra, pumpkin and bitter gourd, and it was suggested that to sustain the trend of increasing vegetable production; a distribution system should be developed in such a way that vegetables can be supplied at a reasonable price, benefiting both the grower and the consumer. It was concluded that an improvement in the marketing system will reduce consumers' price and increase the growers' share, thereby facilitating the sustainable development of vegetable production in Bangladesh.
Role of middlemen in the distribution of produce

The middlemen perform the following marketing functions which are listed in sequence.

- Searching out buyers and sellers (contacting and merchandising), to the requirements of market.
- Persuading and influencing the prospective buyers to favour a certain product.
- Implementing pricing policies in such a manner that would be acceptable to buyers and ensure effective distribution.
- Providing feedback information, marketing intelligence and sales forecasting services for the regions to their suppliers.
- Looking after the process of distribution where necessary.
- Participating actively in the creation and establishment of a market for a new product.
- Offering credit to retailers and wholesalers.
- Risk bearing with reference to stock hoarding/transport.

A study was conducted on marketing of tomato and peas in the Jaipur vegetable and fruit market and observed four types of marketing channels. The channels were, channel I (producer → retailer → consumer), channel II (producer → commission agent → retailer → consumer), channel III (producer → masakhore → retailer → consumer) and channel IV (producer → commission agent → masakhore → retailer → consumer). The study revealed that the share of transportation cost in consumer rupee was lowest (2.06 per cent) in channel I and highest (4.42 per cent) in channel IV in case of
tomato. For peas the share of marketing cost was lowest (0.43 per cent) in channel I and was highest in channel IV (2.43), was almost double in tomato because of its higher perishable nature than pea.

Various marketing channels for vegetables was observed\textsuperscript{11}. Among them, the marketing channel I (producer → commission agent → retailer → consumer) was considered most important one as most of the transaction took place between producer and commission agent in early morning and producer has to pay a commission of up to 8 per cent. In this channel the producer’s share was about 66 per cent with a marketing cost of 9 per cent in case of beans, cabbage, and brinjal. But for tomato the producer’s share was only 49 per cent because of its higher perishable nature and character of forced sale.

Three types of marketing channels for marketing of onion in Sundargarh, Orissa was observed\textsuperscript{12}. The channels identified were, producer → consumer: producer → trader → consumer: producer → trader → wholesaler → retailer → consumer. It was further reported that the producer received maximum share in channel I (97.9 per cent), where there was no middlemen than 77.1 per cent and 53 per cent in channel-II and channel III, respectively.

The marketing of chillies in Guntur district of Andhra Pradesh was studied\textsuperscript{13} during 1999-2000 using personal interview method at market level and found that out of two existing marketing channels, Producer-local consumer was most efficient having marketing
efficiency of 37.91 in comparison to other marketing channel (Producer - Village merchant - Wholesaler - Retailer - Consumer) in that case marketing efficiency was only 2.88 due to multiplicity of intermediaries.

A wide channel disparity in the producer's share in consumer's rupee for cabbage and carrot was observed. The producer's share in the consumer's rupee was higher in channel where co-operative organizations were involved. The price variation observed in the market was mainly due to the lack of storage facilities and absence of market intelligence, etc. As an effective price mechanism is dependent on well-informed buyers and sellers, a well knitted network of marketing including marketing information system is necessary to fulfill the growing need. For the control of wide seasonal fluctuations in prices and to increase the producer's share in consumer's rupee, efforts have to be made for co-operative marketing, processing and storage and timely inter-state movement of the vegetables.

The role of the semi-government cooperative bodies in maintaining the distribution and price level of vegetables in Delhi was analysed. It was observed that distribution of vegetables to consumers in Delhi takes place through 10 channels but none of them can be considered as an efficient channel for the marketing of vegetables. Vegetables selling generate employment for the unskilled, semi-skilled and those
who do not have enough capital of their own. The existence of petty retailers or vendors in the vegetable trade will also help in creating competitive conditions. Their contribution seems to be socially and economically productive. The high margins of the middlemen like the wholesaler and retailer need to be regulated through a more effective role of the Market Committee. The ultimate solution to the problem lies in fair competition between the private trade channels and the semi-government or cooperative trade channels so that the producers can get the maximum share from consumers’ money paid for the produce. This way a fair deal of vegetable marketing especially in tomato, brinjal and chilli which are perishable in nature can be maintained.

**Integrating products and marketing in solanaceous vegetables**

**A. Processing:** One of the main problems faced by the vegetable cultivators is the price risks. For example, one important vegetable, tomato, was found subject to violent fluctuations in prices; the wholesale price varied from Rs 273/q in September to Rs 1382/q in June 1998, similarly from Rs 224/q in August to Rs 952/q in October 2000. In such cases, a linkage of producer with the processor becomes important to reduce the price fluctuations and avoid distress sale by the cultivators. This type of arrangements would also help in reducing the post-harvest losses. The feasibility studies\textsuperscript{16} have shown that small-scale intermediate processing units can be established
even in rural (production) areas. In case of tomato, it was observed that hardly 5-10 hectares under tomato were required for supplying raw material to produce 33 tonnes of tomato paste, which a small-scale unit should produce to achieve the break even point. Based on the average area of 0.45 hectare under tomato crop per cultivator, hardly 10-20 cultivators can supply the required raw material. This suggested that the small-scale processing units could be started on cooperative basis. It was also observed that despite high investment, tomato processing fetches higher returns than fresh sales in the wholesale market as the benefit-cost ratio (BCR) was more in the case of processed tomato than fresh tomato. Incentives have been announced by the MFPI for providing financial assistance to establish cooperative processing units, infrastructure parks and also for establishing backward linkages with producers. In view of the rapid changes in the policy environment, new types of linkages would have to be worked out.

The marketing of vegetables in two markets of Chhattisgarh, namely, Shastri market in Raipur and Subhash market in Durg district was examined during 1991-92. For the study a sample of 40 and 32 vegetable growers, 6 and 4 commission agents and 15 retailers each was selected from Shastri market and Subhash market, respectively. The study indicated that the percentage area under vegetables was decreasing at both locations with increase in size of holdings. Small vegetable growers preferred to sell their vegetables directly to
retailers while, medium and large farmers sold their produce to retailers through commission agents.

**B. Contract Farming**

Contract farming has been found to be successful in vegetables like gherkins (pickling cucumber), with large processing demand. It has been observed that VST Natural Products Limited in Andhra Pradesh was able to have contracts with the gherkin farmers by providing seeds, credit and other technical inputs for supplying gherkins which were processed and exported\(^\text{18}\). The contract farming in the case of tomato farmers practiced by the Hindustan Lever Limited in Punjab, however, was not so successful. The results of the two case studies on contract farming one in Punjab for tomato and another in Andhra Pradesh for cucumber, indicated that the contract farming helped in increasing the yield and income of the farmers because of the availability of high quality seeds and assured market for the produce (Table 4.4). It helped the company in getting adequate and assured supply of quality raw material for the processing unit at a predetermined price. However, as far as equity dimension was concerned, the small farmers could participate in contract farming only when there was a backward linkage in the farm of assured supply of inputs of all kinds. Attempt was made to determine the quality factors influencing price of important vegetable markets in Karnataka\(^\text{19}\). It was recommended that a uniform set of grade
specifications must be followed for the commodities in all the markets, so as to inject confidence among the producers of the commodities and get the premium prices.

Table 4.4. Contract farming and its impact

<table>
<thead>
<tr>
<th>Company</th>
<th>Crop</th>
<th>State</th>
<th>Districts</th>
<th>Net income (Rs. per acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hindustan Lever Ltd (HLL)</td>
<td>Tomato</td>
<td>Punjab</td>
<td>Amritsar</td>
<td>20,000 10,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hoshiarpur</td>
<td>9,940 6,440</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jullandhar</td>
<td>13,000 6,885</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kapurthala</td>
<td>14,535 8,075</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ludhiana</td>
<td>8,125 5,600</td>
</tr>
<tr>
<td>VST Natural Products Ltd</td>
<td>Cucumber</td>
<td>Andhra Pradesh</td>
<td>Karimnagar</td>
<td>4,500 3,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mehboobnagar</td>
<td>5,200 4,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medak</td>
<td>4,100 3,400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Nalgonda</td>
<td>4,800 4,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ranga Reddy</td>
<td>4,800 5,000</td>
</tr>
</tbody>
</table>

Source: Haque (2000)18

Further, it was observed that contract farming in Punjab with HLL, which sold only hybrid seeds to the tomato (contract) farmers and provided no other inputs, was of help only to the large and medium farmers. As against this, in case of VST NPL in Andhra Pradesh, the contract with the cucumber (gherkin) cultivators was found to benefit small and marginal farmers also, as the company provided not only seeds but also other inputs on credit basis. In Karnataka, it was also observed20 that gherkin marketing on contract basis followed by Sterling Agro-Processing Pvt. Ltd. was more successful than the tomato marketing followed by Hindustan Level Ltd. The main reason
for this was that in the case of gherkin, there was no demand for fresh vegetables and the company deputed its Field Officer to arrange for the contracts, whereas in the case of tomato, the channel included an agent, who was not the employee of the company, thereby preventing the direct contract between the producer of the raw material and the supplier of the inputs (seeds). To encourage contract farming, the Government of India has announced an incentive of Rs 25 lakhs for private processing units which have contractual arrangements with at least 25 farmers. The recently announced schemes of MFPI also provide incentives for such linkages. Apart from gherkins and tomato, there is a need to develop contractual arrangements for other vegetables also.

**C. Distant Market Sale**

It is often considered prudent to sell the produce in the distant markets, generally close to the town or city, which helps the producers in taking advantage of the higher price prevailing in these markets. The tomato produced in Kolar district being sold in Chennai was the case in point. Although the farmers had to incur additional marketing cost of around Rs 12/box of 15 kg towards transport, commission and packing, the price realized by them was much higher (Rs 57/box) than what they could have got (Rs 36.37 per box) in the local market. However, due to the problems of storage, packing and poor transportation, coupled with high commission charges, the
Marketing and Temporal Price Behaviour of Solanaceous Vegetables

producers were depending on the local markets. While working on economics of vegetable production the relevance of including marketing cost as part of cost of cultivation using data collected during the kharif season of 1979 from a sample of 106 cultivars in Kolar districts of Karnataka was illustrated\(^\text{21}\). The marketing cost amounted to about 20-30\% of total cost of cultivation. Out of different marketing costs, the transport cost and commission charges accounted for a major portion of marketing cost.

The price spread behaviour of brinjal, cabbage, carrot, cauliflower, green peas and tomato in Delhi was studied\(^\text{22}\). It was concluded that producer received only 40 per cent share of the consumer price. It was considered very low whereas, retailers margin and marketing costs were quite substantial, each appropriating about one-fifth on the consumer's rupee. Further, it was observed that the location was an important factor influencing producer's income and the range varies from 14.6 to 27.6 per cent. In all the income groups of producers the margins were largest for carrots and smallest for green peas, probably due to the lower perishability of the former than that of the latter.

A study in 1990 as a case study was conducted\(^\text{23}\) in the District of Majalengka, West Java, Indonesia to investigate into the marketing of vegetables at the local level in comparison with other crops. More specifically it was examined whether the marketing system within the
informal sector is able to deliver perishable commodities such as vegetables, efficiently, not only to local markets but also to distant markets such as Jakarta. It was concluded that the present marketing system seems to be effectively supporting commercial vegetable production newly introduced to the rain-fed area. The marketing activities increased farm income and employment, especially for the women whose alternative employment opportunities are limited. These findings imply that government intervention in this market through regulation of trade practices or control of prices would result in a loss of social economic efficiency.

D. Cooperative Marketing of Vegetables

In the system of marketing of vegetables, the limited literature on cooperative marketing of vegetables indicated that it was beneficial to sell through cooperatives, since the producer’s share was substantially high and there were some other benefits also from such a sale. In general, where the cooperatives were functioning well, the producers were getting higher benefits through them. The producer's share was found highest for carrot and cabbage (66-72 per cent and 51-55 per cent, respectively) when these vegetables were sold through cooperatives rather than other agencies like PHCs and CAS. The brinjal cultivators in Karnataka could get a higher price (Rs 51.45/q) by selling through cooperatives than other agencies. Even the variability in prices was found less in cooperatives than other
Marketing and Temporal Price Behaviour of Solanaceous Vegetables

It was also observed that HOPCOMS in Karnataka helped the vegetable growers by offering higher prices as compared to other intermediaries. All these suggested that it was beneficial to sell through cooperatives which would not only reduce the number of intermediaries but also help the producers in getting better prices. However, in general, there have been more failures than successes in the cooperative sector due to excessive dependence on the government, proportionately higher overheads, and lack of participation on the part of the members and improper linking of credit with marketing.

The marketing of vegetables grown in the zaid season (April to June) in Kanpur, Uttar Pradesh (zone-IV), and sold through the Nawabganj Mandi primary market was examined. It was found that the wholesale prices of almost all the vegetables were highest in April, declined during late April and May, and then increased in June and July. Average retail prices were also highest in April, declined from April to June, then rose in July. The producer’s share in the consumer price ranged from 36.7% (pumpkin) to 62.4% (ridge gourd). Marketing charges ranged from 9% to 12.9% for the vegetable crops studied. It was recommended that storage methods should be developed in order to avoid flooding in the market during peak harvesting period resulting in depressed prices. A government regulated market would reduce marketing charges and the power of...
middlemen. Vegetable growers should be encouraged to form a producers' organization.

Cooperative marketing and agencies involved

Linking farmers to markets under co-operative arrangements helps assure a return on the farmers' investment, and the supply of what the retailer or processor needs.

(a) Co-operative marketing

Co-operative marketing, contract farming, and grower associations have emerged in recent years, to provide alternative marketing mechanisms and shorten the supply chain. While some have viewed the trends positively\textsuperscript{26}, others have raised concerns, particularly when contracts are involved\textsuperscript{27, 28, 29}. Here the perspectives on marketing, as implemented by village level SAFAL associations and under contracts with tomato processors have been considered.

SAFAL Associations- SAFAL associations have been promoted by Mother Dairy Fruit and Vegetables Ltd (MDFVL, formerly SAFAL), a subsidiary of the National Dairy Development Board\textsuperscript{30,31}. The NDDB was established in 1965 for the promotion, financing and support of producer-owned organizations which cooperatively collect, process and market dairy products throughout India, and provide a range of input services to members. The NDDB is now regarded as an exemplar of cooperative marketing success; in integrating millions of
smallholders, who often own just one or two cows, into a national milk marketing scheme.

Based on their success in milk marketing, and taking advantage of the NDDB co-operatives and infrastructure, the NDDB is also involved in fresh produce marketing (since 1988). There are at least 225 fruit and vegetable associations, located in niche production areas, supplying fruit and vegetables (and dairy) through 300 MDFVL retail outlets in Delhi, as well as a 100% export orientated processing business in Mumbai.

MDFVL fosters the development of associations of individual farmers, who can supply at least one tonne of fruit or vegetables a year, and deliver on a regular basis. No formal contracts are involved, but MDFVL indicates its supply needs to SAFAL associations ahead of the season to allow association and individual farmer planning in order to meet (or exceed) agreed requirements. MDFVL also provides technical and input support for associations, and the system has been cited as a model of success, with small (<2ha) and large (>2 ha) SAFAL members earning higher returns that similar farmers who are not members of a SAFAL association.

The marketing practices and marketing costs of major vegetable crops grown in Western Maharashtra was investigated. The study was based on data collected during kharif season of 1986-87 from a sample of 240 vegetable growers from over 40 villages in the two
districts of Pune and Nasik. Consumer price data were collected from Pune and Bombay. It was found that intermediaries' margin accounted for quite a large proportion of the consumer price in both markets and for all the vegetables studied. The major items of marketing cost were transportation, commission and packing material.

In the past decade and more, the country has witnessed the rise and establishment of agencies promoting the selling, distribution and marketing of agricultural produce. Following are the brief activities of some Indian Marketing Agencies involved in vegetables:

**APEDA**

APEDA (Agricultural and Processed Food Products Export Development Authority) is an autonomous organization attached to the Ministry of Commerce of the Government of India. The main function of APEDA is to build links between Indian producers and the global markets. APEDA undertakes the following development programmes:

- Development of data bases on products, markets and services.
- Publicity and information dissemination.
- Inviting official and business delegations from abroad.
- Product promotions and visits of official and trade delegations to abroad.
• Organization of seminars, workshops and awareness programmes on exports as well as latest farming processes.

• Participation in International Trade Fairs in India and abroad.

• Organization of buyer-seller meets and other business interactions.

• Information dissemination through APEDA’s newsletter, feedback series and library.

• Conferring annual APEDA awards.

• Provides recommendatory, advisory and other support services to the trade and industry.

• Providing solutions to the constraints faced by government agencies and other organizations, RBI, customs, import/export procedures and problems with importers through Indian missions abroad.

APEDA also offers financial assistance under various schemes for promoting and developing agro exports. Some of the activities that are eligible for financial assistance are:

♦ Strengthening of market intelligence and data base through studies and surveys

♦ Quality upgradation

♦ Development of infrastructure facilities

♦ Research and development

♦ Development of packing quality

♦ Human resource development, and

♦ Upgradation of meat processing facilities.
Under agricultural produce, the following categories of produce have been demarcated by APEDA:

1. Fruits, vegetables and their products
2. Meat and meat products
3. Poultry and poultry products
4. Dairy products
5. Confectionery, biscuits and bakery products
6. Honey, jaggery and sugar products
7. Cocoa products
8. Alcoholic and non-alcoholic beverages
9. Cereal products
10. Groundnuts, peanuts and walnuts
11. Pickles and chutneys
12. Horticultural and floricultural products
13. Herbal and medicinal plants
14. Guar and gum, and
15. Rice (non-basmati).

APEDA has an extensive database of Indian exporters of agricultural produce from all major cities and large towns. APEDA also regularly publishes an informative journal on a quarterly basis. This journal, called APEX Update lists all the recent developments in India, seminars and workshops and exhibitions to be held in the future as well as a section on foreign importers interested in trade with India.
NAFED

National Agricultural Co-operative Marketing Federation of India Ltd. (NAFED) was set up on 2nd October, 1958. NAFED functions as the National Apex body of Cooperative Marketing in the country. It functions in coordination with 27 State level Marketing Federations, 16 State level special Commodity Marketing Federations, 10 State level Tribal Co-operative Development Co-operations/Federations, and 172 District and Regional Marketing Societies. This network of primary co-operative marketing societies covers all important primary and secondary markets in the country.

NAFED promotes co-operative marketing of agricultural produce for the benefit of farmers through its own branches and the co-operative marketing network spread in the entire length and breadth of the country. NAFED undertakes internal trade covering a wide range of agricultural, horticultural, tribal and allied produce. It is a nodal agency for procurement of selected oilseeds and pulses under Price Support Scheme of the Government of India. It also implements Market Intervention Scheme in respect of horticulture and other crops for rendering market support to the farmers as and when wanted and decided by the Government of India.

NAFED covers stock of Agro-products from farmers in regulated markets during season directly by eliminating middleman. NAFED has established modern plants for pre-cooling- cum-cold storage,
grading-cum-waxing, cleansing-cum-processing and modern warehouses at different parts of the country for post harvest handling of agro-products/processing for marketing within and outside the country. NAFED and its associate shippers export around 5 lakh metric tonnes of onion valued over Rs. 3000 million annually mainly to Middle-East, Far East, Sri-Lanka, Bangladesh, Nepal, Mauritius, Saudi Arabia, etc. NAFED'S infrastructural, promotional and developmental activities serve the interests of onion farmers, consumers, exporters, importers, and the country's export at large. The Minimum Export Prices (MEP) of onion for different destinations is fixed regularly by NAFED. During the year 1996-97, NAFED'S total turnover was of the order of Rs. 6429 million, out of which contribution of export of various agro-based commodities was of the order of Rs. 3856 million.

**Mother Dairy Fruit & Vegetable Unit, Delhi, India**

National Dairy Development Board, a corporate body created by Government of India, with an objective to provide a direct link between fruit and vegetable growers and consumers, set up fruit and vegetable unit in the year 1988. Presently it is a unit of Mother Dairy Foods Processing Ltd, a wholly owned company of Mother Dairy Fruit & Vegetable Ltd. In April 2000, Mother Dairy Fruit & Vegetable Ltd was created as a subsidiary of NDDB with a vision *To Provide Quality Produce, Products and Services to the Entire Satisfaction of*
Customers. The processed products of the unit are marketed with the brand name 'SAFAL'. The Unit initiates and supports production enhancement activities at farm, improved pre and post harvest practices, efficient logistics from farm to the retail outlets, scientific quality assurance and education of grower, support staff and consumer.

Production of quality product begins at the farm level where the grower, in co-operation with unit officials, work to cultivate and supply quality produce to the unit. With the utmost care and dedication, the growers and unit officials try to apply their professional knowledge and skills to give consumers the best return for their money. Standards are defined for each fruit and vegetable so as to link price to quality. Procurement specialists and trained field staff help the farmers in crop management and protection. Efforts are made to introduce new seed varieties and scientific methods of agriculture to increase the yield and improve the quality of produce. Presently 279 specially designed modern retail outlets have been set up in and around Delhi to market fresh and frozen fruit and vegetables, directly to the consumers. Each shop caters to large number of customers, with a capacity to sell 1,600 kilos of fruit and vegetables a day. The shops are equipped with electronic machines that automatically weigh the produce and print item wise bills. Unit also manufactures products such as jam, squash, ketchup, etc at its Ramgarh unit.
Major Activities of Mother Dairy Fruit & Vegetable Unit, Delhi

I. To improve quality of life of farmers and producers by providing guidance for:
   ♦ Improving yield and quality of produce,
   ♦ Identifying superior varieties,
   ♦ Adopting better agricultural practices,
   ♦ Expanding market, and
   ♦ Ensuring remunerative price for their produce.

II. To provide opportunities to employees for advancement in life and service career.

III. To help creating better and meaningful living for all in the society.

IV. To continuously pursue excellence in all areas of working.

State-level organizations like MARKFED and HPMC

MARKFED

It is the name of the state-level marketing organizations in states like Madhya Pradesh, Andhra Pradesh and Punjab. In Andhra Pradesh, it is a federation of Marketing Co-operative Societies. They have the main object of helping the farmers to secure better price for their produce by taking care of their market needs and providing agricultural inputs. Against this objective the MARKFED'S present activity consists of sale of farm inputs like chemical fertilizers, pesticides & seeds, maintenance of godowns and procurement of agricultural commodities through its member societies like District
Co-operative Marketing Societies, Primary Agricultural Co-operative Societies, Andhra Pradesh Co-operative bank and Government of Andhra Pradesh.

HPMC

HPMC, the H.P. Horticultural Produce Marketing and Processing Corporation Ltd, was established in 1974 by the Himachal Pradesh Government with the objective of facilitating marketing and processing of fruits and vegetables to help farmers in getting remunerative prices for their produce. Apples, oranges, pears, plums and peaches are the main fruits being marketed and processed. A glimpse of their facilities is:

- **Post-harvest Infrastructure**

  Cool-chain having pre-cooling units, refrigerated vans and cold storage's coupled with a chain of grading/packing houses of the corporation provide services to the farmers enabling post-harvest management on scientific lines.

- **Marketing outlets for fresh fruits & vegetables**

  Marketing outlets of HPMC are in the entire metropolitan and big cities of India and providing wide choice to the farmers to consign their fruits to the place where best prices prevail.
Processing plants

Processing plants produce juices, pulps and concentrates of the fruits. They have Bucher Guyer Press, Falling Film Evaporator and Centritherm Concentration Units, Aroma Recovery, Westphalia Separator, Automatic Pulper line, Spiraflo Sterilization, Asceptic Bulk Packaging, Canning Line and Tetra Pack Filling Machine.

Marketing of processed products

HPMC has more than 400 booths all over the country for effective sale of consumer products - juices, jams, squashes, canned fruits, etc. in addition to a well-knit distributors’ network to provide quality fruit products at reasonable price to the consumers.

Government efforts in regulating vegetable markets

Organized marketing of agri-horticultural commodities has been promoted in the country through a network of regulated markets. Most of the State governments and Union Territories have enacted legislations to provide for regulation of agri-horticultural produce markets. While by the end of 1950, there were 286 regulated markets in the country, now the number stands at 7,521 during 2005. Besides, the country has 27,294 rural periodical markets, about 15 per cent of which have some kind of regulation from government. The advent of regulated markets has helped in mitigating the market handicaps of producers/sellers at the wholesale
assembling level but, the rural periodic markets in general, and the tribal markets in particular, remained out of its developmental ambit.

Agriculture sector needs well functioning markets to drive growth, employment and economic prosperity in rural areas of the country. In order to provide dynamism and efficiency into the marketing system, large investments are required for the development of post harvest and cold chain infrastructure nearer to the farmers’ field. A major portion of this investment is expected from the private sector, for which an appropriate regulatory and policy environment is necessary. Alongside, enabling policies need to be put in place to encourage procurement of agricultural commodities directly from farmers’ field and to establish effective linkage between the farm production and the retail chain and food processing industries. Accordingly, amendment to the State APMC Act for deregulation of marketing system in the country is suggested to promote investment in marketing infrastructure, motivating corporate sector to undertake direct marketing and to facilitate a national integrated market.

The Ministry of Agriculture formulated a model law on agricultural marketing for guidance and adoption by State Governments. The model legislation provides for establishment of Private Markets/Yards, Direct Purchase Centres, Consumer/Farmers Markets for direct sale and promotion of Public Private Partnership in the management and development of agricultural markets in the country. Provision has also
been made in the Act for constitution of State Agricultural Produce Marketing Standards Bureau for promotion of Grading, Standardization and Quality Certification of agricultural produce. This would facilitate pledge financing, direct purchasing, forward/future trading and exports. Several States have initiated steps for amending the APMC Act.

**Infrastructure Requirement**

Investment requirement for the development of marketing, storage and cold storage infrastructure in the country has been estimated to be huge and with a view to induce investment in the development of marketing infrastructure as envisaged above, the Ministry has implemented the following Plan Schemes:

- A capital investment subsidy scheme titled "Construction of Rural Godowns" is being implemented w.e.f. 1st April 2001. The main objectives of the scheme include creation of scientific storage capacity with allied facilities in rural areas to meet various requirements of farmers for storing farm produce, processed farm produce, agricultural inputs, etc., and prevention of distress sale by creating the facility of pledge loan and marketing credit. Under the original scheme, back ended subsidy @ 25 per cent of capital cost of the project was provided. In case of NE States, hilly areas and SC/ST entrepreneurs, subsidy was provided @ 33.33 per cent of the capital cost of the project. The scheme has since been modified
with effect from 20 October 2004, to provide subsidy @ 25 per cent to farmers, agriculture graduates, cooperatives and Central Warehousing Corporation/State Warehousing Corporations. All other categories of individuals companies and corporations are now given subsidy @ 15 per cent of the project cost. The scheme has been made farmers' friendly by allowing subsidy for smaller godowns of 50 MT size in general and of 25 in hilly areas. Five lakh tonnes capacity to be created is reserved for small farmers. The scheme is being implemented through NABARD and NCDC. Till 31st May 2006, 11,583 storage projects having a capacity of 166.42 lakh tonnes have been sanctioned under the scheme.

- With a view to establish a nation-wide information network for speedy collection and dissemination of price and market related information to farmers, electronic connectivity is being provided to all important agricultural markets in the country under a Central scheme, "Market Research and Information Network". 2,408 market nodes and 92 State Marketing Boards and Directorate of Marketing and Inspection offices have been networked on a single portal, wherein daily prices of more than 300 commodities and about 2000 varieties are being reported. It was planned to connect 2,700 markets in all, under the scheme during the 10th Plan.

- The Ministry of Agriculture has implemented another Central Sector scheme for "Development / Strengthening of Agricultural Marketing
Infrastructure, Grading and Standardisation. Under the scheme, investment subsidy is provided @ 25 per cent on the capital cost of the marketing infrastructure development project subject to a maximum of Rs 50 lakh for each project in all States and @ 33.3 per cent of capital cost subject to a maximum of Rs 60 lakh for each project in case of North Eastern States, hilly areas and to Scheduled Castes/Scheduled Tribes entrepreneurs. In respect of infrastructure projects of State Governments/State Agencies, there is no upper ceiling on subsidy to be provided under the scheme. The scheme is reform linked, to be implemented in those States/Union Territories wherein the law dealing with agriculture markets (Agricultural Produce Marketing Regulation Act) allows setting up of competitive agricultural markets in private and cooperative sectors, direct marketing and contract farming. The States of Andhra Pradesh, Punjab, Kerala, Tamil Nadu, Manipur, Sikkim, Madhya Pradesh, Himachal Pradesh, Nagaland, Rajasthan, Chattisgarh and Union Territory of Andaman and Nicobar Islands, Daman and Diu and Dadra and Nagar Haveli have notified to receive assistance under the Scheme. The remaining States/UTs are in the process of amending their APMC Acts. 158 training and awareness programmes have been conducted in the notified States/UTs. A total number of 259 new project proposals have been provided advance subsidy of Rs 516.30 lakh by NABARD in the
States of Madhya Pradesh, Tamil Nadu, Punjab, Andhra Pradesh and Kerala.

The Department has recently taken the initiative to promote modern terminal markets for fruits, vegetables and other perishables in important urban centres of the country. These markets would provide state of the art infrastructure facilities for electronic auction, cold chain and logistics and operate through primary collection centres conveniently located in producing areas to allow easy access to farmers. The terminal markets are envisaged to operate on a 'Hub-and-Spoke' format wherein the Terminal Market (the hub) would be linked to a number of collection centres (the spokes), conveniently located in key production centers to allow easy access to farmers for the marketing of their produce. The concept on setting up of Terminal Markets for perishable commodities was discussed with the State Governments and interested private enterprises at a national conference of State Ministers held on 20 February 2006 at New Delhi. Based on the discussions, a Committee has been constituted under the Chairmanship of Director General, National Institute of Agricultural Marketing, Jaipur with members from participating State Governments to develop a framework for the bidding process for selecting the enterprise for the implementation of terminal market projects and to work out implementation modalities. Central
assistance to these projects is planned by way of equity participation.

The Department of Agriculture and Cooperation has three organizations dealing with marketing under its administrative control, namely, the Directorate of Marketing and Inspection (DMI), Faridabad, the Ch. Charan Singh National Institute of Agricultural Marketing (NIAM), Jaipur and the Small Farmers Agri-Business Consortium (SFAC), New Delhi.

**National Institute of Agricultural Marketing**

The National Institute of Agricultural Marketing (NIAM) started functioning at Jaipur from 8 August 1988. NIAM has been imparting training to senior and middle level executives of agricultural and horticultural departments, Agro Industries, Corporations, State Marketing Boards, Agricultural Produce Market Committees and Apex level Cooperatives, Commodity Boards, export houses recognized by Agricultural and Processed Food Products Export Development Authority (APEDA), commercial banks and non-governmental organizations. Besides these clients, the NIAM also imparts training to farmers on marketing management. The main objectives of NIAM are:
- To provide specialized training in agricultural marketing designed to develop leadership potential in the management of agricultural marketing enterprises and services

- To undertake research in agricultural marketing for Government, Cooperative and other institutes, both on public funding and by contract

- To undertake appraisal of markets/marketing projects for approval and financial support by the Central Government, on consultancy basis

- To formulate objective criteria for selective development of physical markets and to evolve a practical methodology for the application of such criteria in their planning

- To offer advisory and consultant services on marketing policies, investment programmes and marketing development strategies and specific advice to marketing enterprises (State, Private and Cooperatives)

- To survey, study and analyze the rural market management and to examine in depth the principal and practice of market regulation as a development sector in the agricultural economy.

The NIAM is managed by a Governing Body under the Chairmanship of Minister of Agriculture and an Executive Committee under the
Chairmanship of Secretary, Department of Agriculture and Cooperation.

**Price-Supply relationship of solanaceous vegetables**

The result of survey conducted in selected two states of each zone revealed that during the last five years maximum arrival of chillies was observed in zone VI where as in case of tomato and brinjal, it was zone V and zone VII, respectively, but the prices of different commodities varied from zone to zone in different period of the year which clearly indicates the laws of demand and supply that affects the prices (Table 4.5-4.7).
Table 4.5. Price-supply relationship of chilli during 2004-2008 (Price in Rs. per quintal; Arrival in tonnes)

<table>
<thead>
<tr>
<th>Zone</th>
<th>(Jan-Mar)</th>
<th></th>
<th>(Apr-June)</th>
<th></th>
<th>(July-Sept)</th>
<th></th>
<th>(Oct-Dec)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
<td>Arrival</td>
</tr>
<tr>
<td>Zone I</td>
<td>1371.28</td>
<td>123.38</td>
<td>1460.71</td>
<td>150.82</td>
<td>1224.01</td>
<td>150.38</td>
<td>1417.49</td>
<td>117.45</td>
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<tr>
<td>Zone II</td>
<td>1119.00</td>
<td>1279.19</td>
<td>995.42</td>
<td>1263.81</td>
<td>2007.82</td>
<td>1054.68</td>
<td>2006.42</td>
<td>1151.83</td>
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<tr>
<td>Zone III</td>
<td>1197.10</td>
<td>167.70</td>
<td>1061.72</td>
<td>153.97</td>
<td>1854.54</td>
<td>107.52</td>
<td>2162.68</td>
<td>110.26</td>
</tr>
<tr>
<td>Zone IV</td>
<td>976.33</td>
<td>492.36</td>
<td>1105.05</td>
<td>306.52</td>
<td>1221.71</td>
<td>360.86</td>
<td>1308.60</td>
<td>354.39</td>
</tr>
<tr>
<td>Zone V</td>
<td>926.54</td>
<td>557.27</td>
<td>885.44</td>
<td>576.31</td>
<td>1405.09</td>
<td>542.11</td>
<td>1489.72</td>
<td>532.28</td>
</tr>
<tr>
<td>Zone VI</td>
<td>903.50</td>
<td>2842.88</td>
<td>1017.98</td>
<td>2620.35</td>
<td>959.13</td>
<td>1438.39</td>
<td>1085.89</td>
<td>1713.32</td>
</tr>
<tr>
<td>Zone VII</td>
<td>916.60</td>
<td>1319.12</td>
<td>1062.73</td>
<td>771.19</td>
<td>1214.66</td>
<td>1085.02</td>
<td>1034.93</td>
<td>1344.99</td>
</tr>
<tr>
<td>Zone VIII</td>
<td>1174.61</td>
<td>408.74</td>
<td>1020.60</td>
<td>647.01</td>
<td>1251.89</td>
<td>355.15</td>
<td>1196.32</td>
<td>358.68</td>
</tr>
</tbody>
</table>

Source: Data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones
Table 4.6. Price-supply relationship of tomato during 2004-2008 (Price in Rs. per quintal; Arrival in tonnes)

<table>
<thead>
<tr>
<th>Zone</th>
<th>(Jan-Mar)</th>
<th></th>
<th>(Jul-Sep)</th>
<th></th>
<th>(Oct-Dec)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
<td>Arrival</td>
</tr>
<tr>
<td>Zone I</td>
<td>889.65</td>
<td>1014.94</td>
<td>838.04</td>
<td>979.13</td>
<td>899.79</td>
<td>763.42</td>
</tr>
<tr>
<td>Zone II</td>
<td>720.26</td>
<td>2566.96</td>
<td>880.17</td>
<td>1530.92</td>
<td>1724.90</td>
<td>1806.24</td>
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<tr>
<td>Zone III</td>
<td>672.93</td>
<td>569.49</td>
<td>752.29</td>
<td>775.29</td>
<td>1226.08</td>
<td>703.69</td>
</tr>
<tr>
<td>Zone IV</td>
<td>691.84</td>
<td>1283.66</td>
<td>655.24</td>
<td>858.39</td>
<td>1109.96</td>
<td>779.62</td>
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<tr>
<td>Zone V</td>
<td>520.10</td>
<td>5400.69</td>
<td>688.39</td>
<td>5167.86</td>
<td>944.64</td>
<td>5407.81</td>
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<tr>
<td>Zone VI</td>
<td>627.21</td>
<td>5899.94</td>
<td>618.37</td>
<td>5072.40</td>
<td>929.20</td>
<td>4660.28</td>
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<tr>
<td>Zone VII</td>
<td>573.73</td>
<td>3803.17</td>
<td>765.99</td>
<td>3093.69</td>
<td>877.38</td>
<td>2323.78</td>
</tr>
<tr>
<td>Zone VIII</td>
<td>874.14</td>
<td>2010.68</td>
<td>861.99</td>
<td>2115.21</td>
<td>945.18</td>
<td>1709.32</td>
</tr>
</tbody>
</table>

Source: Data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones.
Table 4.7. Price-supply relationship of brinjal during 2004-2008 (Price in Rs. per quintal; Arrival in tonnes)

<table>
<thead>
<tr>
<th>Zone</th>
<th>(Jan-Mar)</th>
<th></th>
<th></th>
<th>(Jul-Sept)</th>
<th></th>
<th></th>
<th>(Oct-Dec)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
<td>Arrival</td>
<td>Price</td>
</tr>
<tr>
<td>Zone I</td>
<td>602.72</td>
<td>206.01</td>
<td>611.00</td>
<td>238.72</td>
<td>668.24</td>
<td>176.72</td>
<td>643.10</td>
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<tr>
<td>Zone II</td>
<td>554.88</td>
<td>1546.33</td>
<td>833.71</td>
<td>709.21</td>
<td>1440.63</td>
<td>563.86</td>
<td>1234.75</td>
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<td>Zone III</td>
<td>661.43</td>
<td>278.09</td>
<td>662.58</td>
<td>277.04</td>
<td>904.32</td>
<td>477.35</td>
<td>932.49</td>
</tr>
<tr>
<td>Zone IV</td>
<td>510.45</td>
<td>636.61</td>
<td>541.27</td>
<td>445.97</td>
<td>761.08</td>
<td>448.60</td>
<td>582.61</td>
</tr>
<tr>
<td>Zone V</td>
<td>597.02</td>
<td>530.58</td>
<td>597.08</td>
<td>554.00</td>
<td>886.44</td>
<td>584.13</td>
<td>954.13</td>
</tr>
<tr>
<td>Zone VI</td>
<td>760.92</td>
<td>739.55</td>
<td>690.98</td>
<td>802.24</td>
<td>897.00</td>
<td>810.53</td>
<td>843.25</td>
</tr>
<tr>
<td>Zone VII</td>
<td>674.11</td>
<td>2527.31</td>
<td>587.96</td>
<td>2085.51</td>
<td>924.78</td>
<td>1794.32</td>
<td>874.41</td>
</tr>
<tr>
<td>Zone VIII</td>
<td>803.51</td>
<td>314.77</td>
<td>825.35</td>
<td>483.85</td>
<td>824.22</td>
<td>311.61</td>
<td>862.92</td>
</tr>
</tbody>
</table>

Source: Data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones
Marketing and Temporal Price Behaviour of Solanaceous Vegetables

Source: Based on data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones

Fig. 4.2 Price and supply relationship in solanaceous vegetables in Zone I

Source: Based on data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones

Fig. 4.3 Price and supply relationship in solanaceous vegetables in Zone II
Marketing and Temporal Price Behaviour of Solanaceous Vegetables

Source: Based on data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones

Fig.4.4 Price and supply relationship in solanaceous vegetables in Zone III

Fig.4.5 Price and supply relationship in solanaceous vegetables in Zone IV
Source: Based on data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones

Fig. 4.6 Price and supply relationship in solanaceous vegetables in Zone V

Fig. 4.7 Price and supply relationship in solanaceous vegetables in Zone VI
Marketing and Temporal Price Behaviour of Solanaceous Vegetables

Source: Based on data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones

Fig.4.8 Price and supply relationship in solanaceous vegetables in Zone VII

Source: Based on data collected and compiled for the years 2004-2008 from NHB and other secondary sources in selected districts and states in different zones

Fig.4.9 Price and supply relationship in solanaceous vegetables in Zone VIII
The above tables including graphical presentation of price and supply relationship in tomato, brinjal and chilli in different zones clearly indicates that the price of a particular commodity is having a direct relationship with the arrival of said commodity in the market, i.e. if the arrival of commodity is more in the market the price reduces and vice-versa. Therefore, there is an urgent need to promote the marketing trade in a manner that the commodities should reach in all the different zones as per the demands so that the producer can get a handsome share from the consumer’s money.

**Improvement for Vegetable Marketing**

As India has entered in global market as one of the signatories of WTO, therefore it is necessary to change our outlook on vegetable marketing system. It is all the more important keeping in view Exim (export-import) Policy, existing dynamics in domestic markets and the agricultural policy. Market oriented agricultural extension is the need of the time, which is a real challenge for our public sector dominated agricultural extension system. Following factors prompts for a sound vegetable marketing extension and exports:

**Farmer-agro-industry-consumer linkages** – There is a need to have strong linkage between vegetable marketing and vegetable production system as ‘what to produce’, ‘how much to produce’ and ‘how to produce’. 
Shift in physical output to value realization – Ensuing shift in the approach from increased physical output to increased value realization by the producers is the need of the time.

Vegetable processing and value addition of vegetable produce – India has great potential for expanding its export of processed products in view of the increasing production of fruits and vegetables. Processing facility for such commodities need to be augmented.

Development/strengthening of rural markets – A rural market is the first contact points for producer-seller for encashing his produce. The vegetable growers with higher surplus generally takes their produce to nearby wholesale markets, while the small growers with limited surplus find it uneconomic to go to wholesale markets located at a distant places, so they sell their produce in local market. These local markets are mostly dominated by individuals or local bodies and are mainly interested in collection of revenues from these markets. These markets are not equipped with basic facilities like platform for sale, electricity, drinking water, link road, trader premises, etc. In absence of more number of buyers, these markets become imperfect markets leading to less bargaining power among the farmers. Mostly small and marginal vegetable growers depend on local dealers for loans to meet their immediate requirements and social obligations, which also cause the farmers to sell their produce
to these local dealers even at a lower price. Due to all these problems, the growers do not get the competitive price out of sale of their produce in these rural markets. The development of these markets is very necessary to ensure operational and pricing efficiency at this grass root level outlet. At farm level, farmers’ organization, cooperatives, informal groups etc. should be encouraged to develop / strengthen the marketing of vegetables.

A study on marketing of vegetables in south Saurashtra revealed that the overall marketed surplus was 90 per cent of total vegetable production and the index of marketing efficiency was highest in case of chillies (5.6) followed by cabbage (5.5), bottle gourd (3.9), tomato (3.90 and brinjal (3.6).

**Grading and packing** – In view of tremendous potential for export of fruits and vegetables, it is necessary to give more attention to grading and packaging of these commodities by creating required infrastructure support.

**Diversification of agriculture** – India has large inherent potential for diversification and scope to introduce new areas in agricultural production such as hi-tech horticulture, precision farming, organic farming, etc.

**Augmented infrastructure facilities** – Considering the large volumes of vegetables handled in the wholesale markets, there is a
need to construct new markets, modernize the existing ones and make them operationally efficient. The current wholesale vegetable markets are especially unhygienic and inefficient. Since these markets form the supply base for exporters as well as country markets and thus, badly require upgradation of services and facilities/creation of new market. A strong infrastructure support has to be developed in terms of cold storage chains, transport, credit support, market information and insurance to fully exploit the present opportunities. The computerization of market operation in these markets is also essential.

Cost-effectiveness – The country's agriculture has to become more cost-effective to meet the growing challenges and opportunities arising out of WTO agreements and the consequent globalization impacts. Therefore, future growth of vegetables have not only been yield based but should be tilted towards ensured demand in the national and international market.

Export promotion – There is a great need to orient our vegetable production system for enhanced export promotion.

Global market research and information centre – An apex centre at the national level for market research, international price analysis, global demand, availability and also to pass on this information to the concerning authorities is very much required.
Upgrading of human resource through trainings – There is a need to train the farmers in the areas like product planning, marketing information, preparation of produce for marketing, improved marketing practices, rules and regulations, marketing input, etc.

Involvement of private sector – Under the atmosphere of liberalization and economic reforms in the country, efforts should be made to involve private sector in creating necessary marketing infrastructures.

Marketing information network – There is an urgent need of assessing timely and relevant marketing information to farmers, traders, policy makers and other marketing agencies to enable them to have proper marketing decisions. Application of information technology in this area is not upto the desired level. A need has been felt to improve the existing marketing information system by linking all the regulated market in the country with computer to control electronic communication with free access to information. The important communication system will enable the producers to know about market where he can dispose his produce profitably. The producers and consumers can also derive maximum advantages out of their sale and purchase at low communication cost. Installation of computers at different level is required for better research management for the benefit of different market users through
network facilities. The State Government should also make efforts to provide such improved communication system at various levels in the states. National Horticultural Board has a network for collection of market information for fruits and vegetables in 33 important markets. The information is collected, compiled and disseminated through radio, newspapers and monthly bulletins. All the important markets in the country needs to be linked with each other through computer network so that they are in touch with each other regarding trends in arrivals, prices, dispatches, etc.

The marketing of vegetables in Varanasi City, (U.P.) was examined\textsuperscript{34}. The study revealed that variation in prices was positively correlated with that of arrivals in the market. Nearly 68 to 69% of total marketing costs were paid by the seller (producer), and the share of producer was higher for less perishable vegetables (or with facilities of cold storage) than for vegetables with greater perishability. The marketing of vegetables in Agra was studied\textsuperscript{35} and it was found that producer received a very low (43%) share in the consumer price whereas the retailers margin and marketing costs were quite substantial. Transport, labour and weighing expenses were the major components of marketing costs.

The seasonal pattern of market arrivals and prices of onion in the Ludhiana (Punjab) market during the period 1979-80 to 1989-90 was analysed\textsuperscript{36}. The volume of market arrivals of onion was highest in
June and lowest in November. Therefore, the price of onion was the cheapest in June and costliest in November.

**Marketing of agro-inputs** – Regarding marketing of agro-inputs like vegetable seed, it is necessary to streamline and simplify seed certification procedures, modify the Seed Act and enforce it strictly, create an efficient seed marketing and delivery system and encourage greater participation of private sector, cooperatives and NGOs in the production and distribution of seeds. The efficiency of alternative channels in the marketing of vegetables was compared in Belgaum city and found that the marketing margins were higher with commission agents than with the cooperative society. There was an increase in marketing margins for both commodities (cabbage & brinjal) under both channels from 1979 to 1984 particularly in case of cooperative society.

**Promotion of direct marketing** - Direct marketing by growers to consumers increases their share in consumers’ rupee. It shortens marketing channel, eliminates middleman and brings producer-seller in direct contact with consumers. Direct marketing experiences in Punjab, Maharashtra, etc. have been very successful.

A study on marketing of vegetables in Mondha Market, Parbhani, Maharashtra was conducted and reported that the retailers share on consumer’s rupee ranged between 21 to 31 percent, while the producer’s net share between 42 to 57 percent. The retailer received
better share on consumer’s rupee than any other market functionaries in the Mondha Market. It was suggested that the producer can be highly benefited and increase their share to 95.85 per cent from 55 per cent by selling their vegetables directly to the consumers rather than selling to the wholesalers. Hence, producers should arrange to sell their vegetables directly in the consumer market, wherever possible.

The marketing practices followed and the associated costs in vegetable trade in three states, namely Karnataka, Andhra Pradesh and Tamil Nadu was studied\(^3\) and found that producer-commission agent was the most popular marketing channel, followed by direct sale by cultivators, although the extent of using this channel differed from vegetable to vegetable and state to state. Field sales were found to be more common in Tamil Nadu (zone-VIII) compared to the other two states. The commission charges were found to be high in Karnataka and Andhra Pradesh at around 10% as compared to Tamil Nadu at 7%. Costs of using carts were higher than lorry and bus, but most of the cultivators in Tamil Nadu used carts for transporting the vegetables due to the short distances transported and ready availability in villages. He suggested measures like strict supervision in regulated markets, fixing reasonable commissions with the provision for 50% payment by sellers, encouraging processing factories and consistent support prices and export policy to solve
common problems of high commission charges, non-availability of transport and low prices.

A study on migrant vegetable sellers in Ludhiana city of Punjab was conducted. The study brought out the major factor which motivated the migrant vegetable sellers to come to the state of Punjab was the economic distress faced by these persons in their native places caused by unemployment, under employment, relatively low wages, etc. It was observed that majority of the selected vegetable sellers came from Uttar Pradesh and Bihar. The study brought that only two per cent of the respondents had permanent shop as vegetable sellers whereas 13 per cent had temporary shelter, 27 per cent had roadside rehri and 15 per cent were hawkers. The study revealed that a vast majority of the local vegetable sellers did not view the influx of migrant vegetable sellers favourably. However the vegetable buyers were indifferent between the local and migrant vegetable sellers.
References


