CHAPTER-2

REVIEW OF LITERATURE
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Literature related to early research works done in the concerned field forms the grounds and sets the directions for new researches. Thus for the success of a research and foremost work to be done, after conceiving the research idea, is to review the literatures available of early researches. A number of studies related to the production and marketing of vegetables have been conducted by early researchers from time to time, but a very few of them are concerned with eastern part of Uttar Pradesh. Literatures of some of the available studies were reviewed whose brief accounts are given in the following paragraphs.

Apte (1969) studied the marketing of onions in Nasik district of Maharashtra. His study revealed seasonal fluctuations of prices being maximum between September-November and minimum in April-May. In addition to seasonal fluctuations he found cyclical fluctuations which were more pronounced during the season of peak prices than during the season of low prices.

Georg and Prasad (1974) studied the comparative profitability of various vegetable and non-vegetable crops in the vicinity of Kanpur city for the year 1973-74. The vegetable farming yields higher returns per hectare in comparison to their food grain counter parts. The highest net returns per hectare were obtained from tomato followed by cauliflower, onion, brinjal, lady finger (bhindi), potato and tomato.
Joseph (1976) in his study computed the average cost of cultivation inclusive of the charges of owned seeds and family labour for which market rates were imputed for crops. The highest cost was observed for the farmers group who were cultivating above 3 acres of land. The ratio between the value of the produce and the expenditure i.e. cost benefit ratio was considerably high. The largest average return was observed for the large farmers while it was lower for medium size group of cultivators.

Madhulia and Kukadia (1978) studied cost and returns for chillies, pointed gourd and bhindi. They concluded that the cost of production of pointed gourd was higher than that of Bhindi. In production of vegetables, the variables costs accounted for 96 per cent leaving the balance as fixed cost (4 per cent of the total cost). The average output-input ratio for Chillies and Bhindi were well above 2.25 while that for pointed gourd and little gourd were around 2.00. Thus, cultivation of all the crops is highest net returns per hectare.

Raghuwanshi and Kansal (1978) studied the costs returns and margins of off-season tomatoes in Sapron valley of Solan district of Himachal Pradesh. They found that the total cost of cultivation and the human labour requirement on per hectare basis were very high signifying that tomato growing is capital as well as labour intensive. Human labour requirement was as high as it accounted for about one fourth of the total input cost. The margins of the trade intermediaries ranged between 38 to 45 per cent of the consumer price. They conclude that small
farmers were more efficient than their medium and large counterparts regarding both the production and the marketing.

Das (1979) analysed the marketing efficiency and price spread in fruit and vegetable marketing in Papua New Guinea. Considering Lac as the Terminal market. He concluded that the average total price spread was found to be 69.1 per cent and the producer received only 30.9 per cent of the consumer’s dollar. At wholesale level the average cost was 20.2 per cent and the profit margin was 11.1 per cent of the consumer price, making a total marketing cost and margin of 31.3 per cent. The variation in profit margins between commodities at the wholesale level was wide, ranging from 2.7 per cent to 25.3 per cent of the consumer’s dollar. The profit margins were higher for those commodities which require individual handling such as tomatoes, lettuce etc. and low for potato, beans, etc. which do not need individual handling. At the retail level, the average price spread were 37.8 per cent and profit margins range from 20.8 to 37 per cent of the consumer price, with an average profit margin of 28.7 per cent. The average cost at the retail level is 9.1 per cent of the consumer’s dollar. The relatively wide price spread seems to be inevitable due to high transport costs, substantial amount of spoilage and large profit margin especially at the retail level. Lac and Port Mores by markets for fruit and vegetables and found to be highly integrated since the price of a commodity in one market is related to the price of the same commodity in the other.
Nandal and Karwasra (1979) analysed onion price spread in Kurukshetra and Karnal districts of Haryana. They observed that 81.43 per cent of the farmers disposed of 76.85 per cent of the marketed surplus in the village through itinerant merchant (56.84 per cent) petty village retailer (1.92 per cent) and direct to the consumer (0.50 per cent). The remaining 23.15 per cent of the marketed surplus was sold by 18.57 per cent of the onion growers in the market through the commission agents. About 88.48 per cent of the marketed surplus was disposed of by the farmers during peak marketing period (June-July). The net price per of onion received by the farmers in the peak season was Rs. 20.25, Rs. 21.10, Rs. 21.50, Rs. 22.20 and Rs. 23.02 from sale through village merchant and direct sale to the consumer respectively. The farmer's average cost of production was covered by every agency of sale. The farmer received 51.21 per cent, 50.84 per cent and 52.30 per cent of the consumer price during the peak period in Panipat, Shahbad, Markunda and Radau markets, respectively. The share of the farmers in the consumer price decline over time to 31.77 per cent and 30.01 per cent in September in Panipat, Shahbad and Markunda market respectively. If the farmer stored the produce and sold it in September, his share in the consumer price increased to 58.85 per cent and 60.11 per cent in Panipat and Shahbad, Markunda markets respectively. The net returns to the producer could be increased by storing the produce. But three months was the optimum period of storage.
Gupta and Ram (1979) analysed the behaviour of marketing margins and costs of vegetables in Delhi. Brinjal, cabbage, carrot, cauliflower, green peas, and tomato were selected for the studies. To study the significance of differences in retail margins ' t ' test was used. Regression analysis was used to measures the effects of consumer price variation on margins and cost. The analysis revealed that the producer received very low (38 per cent) share in the consumer price whereas, the retailer's margin and marketing cost were quite substantial, each appropriating one fourth of the consumer rupee. Location played and labour expenses were the major components of marketing cost. Co-operative endeavour at both the producer and the consumer levels would probably go a long way improving marketing performance.

Tayade and Patil (1981) estimated price spreads in marketing of selected vegetables. The study of the marketing margins earned by different intermediaries in the Mahatma Phule market, Puna, revealed a wide difference between wholesale and retail prices. Retailer's margins were very high for onion, potato, garlic, green chilies, brinjal and tomatoes. The retailer's share ranged from 33 to 60 per cent while the producer's net share was from 32 to 37 per cent.

Diwakar (1982) in his study of the production and utilization of potato in Furrukhabad District worked out the cost of production of potato. Size group-wise distribution depicted a positive relationship between size of farm and the cost
of production while the volume of post harvest sales was negatively correlated with increase in the size of holding.

**Nahatkar (1982)**, studied cost and return in the cultivation of chillies and its competing crops along with general problems of marketing of chillies in the Chhindwara district. He found that cultivation of chillies was more profitable over competing crops, i.e. cotton, ground nut and jowar. At the same time he also found that the transporting and middleman charges were higher as compared to other marketing charges in marketing of green as well as dry chillies. In general, he reported higher transporting charges, higher middleman charges, lack of storage facility and other allied marketing problems in his study.

**Hugar and Hiremeth (1984)** estimated efficiency of alternative channels in the marketing of vegetables in Belgaum city. The main objectives of the study were (1) to estimate the price spread and the producers share in the consumer's rupee in different marketing channels; (2) to compare the relative share of the commission agents and the co-operative society in the total sale of vegetables; (3) to examine the distribution of different categories of producer sellers between alternative channels; and (4) to assess the operational efficiency of the commission agents vis-a-vis the cooperative society. Two markets in the city of Belgaum, the Mahatma Phule Bazi Market and Shahpur Market, were selected. The study was first made in 1979 and the same study was repeated in 1984. The study was restricted to the peak period of arrivals of two vegetables, cabbage and
brinjal. The sample consisted of 10 commission agents, one cooperative society, 30 retailers and 120 producer sellers. The marketing margins were higher with commission agents than with the cooperative society. There was an increase in marketing margins for both the commodities under both the channels over the period under review, particularly in case of cooperative society. The cooperative society which had a better performance in 1979 in terms of price made available to the producer sellers had lost its popularity as well as effectiveness vis-a-vis the commission agents in 1984.

Srivastava (1987) conducted a study on economics of vegetable marketing in Nainital district U.P. He examined the vegetable marketing pattern and vegetable price behaviour overtime. Price spread and marketing margin for major vegetables were also estimated. It was concluded that vegetable producer did not grade the vegetable before sale. It was also found that Mandi Samiti in the area had failed in implementing the various provisions of the market regulation act in the area. If the Mandi Samiti was able to implement what was already provided in its by-laws, the net price of producer seller was automatically go up by about 8 per cent. The increasing price-spread of vegetables overtime was another evidence of existing marketing imperfection in vegetable marketing in the area. It was suggested that to cut down the retail price, the regulation of vegetables retail trade was needed.
Singh and Agrawal (1989) found that an efficient marketing system was an essential component of a programme to raise farmers income as it provides producers with access to fair prices. This study represents an assessment of three rural cauliflower markets in the districts of Ranchi in Bihar, India. The area under observation was major producer of cauliflower in terms of acreage and output and any improvement in the marketing system was expected to have direct beneficial effect on farmer's income. Data on marketing costs, margin and price spread were collected from farmers and market functionaries. The study reveals that farmers in Kanke and Mesra sold most of their produce directly to the consumers while those in Pithoria sell more output through retailers and whole sellers. Marketing costs are found to vary according to farm size, with small farmers incurring the least cost. The most important determinant of market efficiency is said to be the number of middleman involved in the marketing network.

Naik (1990) conducted a study of the vegetable auctions in Holland, the land of tulips and emphasized the following benefits to the growers in Dutch auctions:

(i) Greater speed of selling
(ii) Greater accuracy
(iii) Better prices to the grower
(iv) Greater honesty in trading
(v) The seller runs on financial risk, the auction organization sees to it that he is paid, properly.
Diwakar (1990) found that the marketing efficiency of an economy is often determined by the level of profitability of farm products. In this article, the potato market at Farrukhabad, Uttar Pradesh was examined as an attempt to optimize the return to potato producers in India. Farrukhabad is the largest potato market in the country. Data from Mandi Samiti for the period 1972-76 reveal that there was a high degree of concentration amongst buyers and sellers, or middlemen. Some suggestions are made to create a more competitive environment, which is seen as an essential prerequisite for optimizing profitability.

Srivastava and Arora (1991) made a study of vegetable marketing in Kumaon division of Uttar Pradesh. They reported that the producers of the vegetable in the area, usually do not grade their produce before sale. If they do so they may revive higher price for their produce. Also, to increase the share of producer-share in consumer’s rupee, special attention is called for lowering the margin of retailers. Such measures are expected to reduce the market prices of vegetables for consumers.

Nawadkar et al., (1991) in their study investigated the marketing practices and marketing cost of major vegetable crops grown in western Maharashtra. The study was based on data collected 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 the consuming centres of Pune and Bombay. Data pertained to the kharif season (1986-87). The intermediaries margin
accounted for quite a large proportion of the consumer price. Major items of marketing cost were transportation commission and packing material.

Chahal and Gill (1991) in their study attempted to consolidate various methods of measurements of marketing efficiency. They briefly discussed the methods of determining the marketing efficiency, namely pricing and technical efficiency. Price spread was the main parameter in judging the marketing efficiency in various channels or in assessing the comparative efficiency of various markets. Market integration is also a useful parameter in measuring marketing efficiency both for spatial and temporal analysis.

Nagraj and Chandrakanth (1991) observe that in case of perishables such as vegetables and fruits to regulate the market and equip the region by establishment of a network of infrastructural facilities. The small vegetable growers prefer to dispose through the commission agents, as they are given advance in anticipation of procuring the produce, which is of great help to them. Such measure should be explored by the co-operative to help the farmers and attract the growers.

Kushwaha (1994) observes that potato is one of the most important commercial and cash crop of rabi season of Bihar state and occupies a place of pride in vegetables kingdom. Keeping in view the importance of Agricultural in district of Muzaffarpur, an attempt has been made to study the marketing of potato. The study was based on an intensive enquiry of 100 potato growers of
Sakara block (Muzaffarpur) at two points of time i.e. 1980-81 and 1993-94. The study inferred that resources should be shifted from human labour and improvement of farmer's agricultural economy. Marketing cost per quintal of potato paid by producer in Muzaffarpur Mandi has been almost doubled between the two points of time. Producer's share in consumer's price registered a decrease by about 8 per cent. Lower producers share in consumers price in 1993-94 shows the inefficiency of government marketing policy which failed to protect the interest of potato growers. Effective measures are needed to increase the growers share in consumers price by strict implications of marketing rules and regulations on one hand and minimizing the number of middlemen and distribution channels on the other.

Srivastava and Rashid (1994) identified three important channels, during the course of investigation, through which ginger produce passes on to the ultimate consumers. These channels were Channel-I: Producer-local trader-wholesaler-retailer-consumer; Channel-II: Producer-wholesaler-retailer-consumer; and Channel-III: Producer-retailer-consumer. Channel I was identified as the most important channel through which bulk of the produce passes from all categories of farms. On an average over 76 per cent of the produce passes through this channel. Small farms disposed off about 83 per cent of ginger through this channel. Farmers received 57.43 per cent of consumer's rupee for their produce if sold through channel-II, which was highest among all the three channels.
Comparatively higher retailers margin in all channels was mainly due to the fact that disposal of the produce at the retailer's level was very slow but wholesalers were found to dispose the produce faster even with lower rate of margin of profit.

Parmar (1994) analysed the data collected from two different markets, and the results showed that marketing cost of vegetables under study was nearly double as Surat market than that of Navsari market. The major cost components were the transportation and commission charges. The marketing cost accounted for very high proportion of the price spread. Spoilage and malpractices in weighing were the major problems faced by the vegetable growers. Thus for improvement in the present state of vegetable marketing, there is need to make existing cooperative structure more competent and regulate the marketing operation to curb the marketing malpractices. Establishment of efficient transportation grid for speedy disposal of vegetables from remote area may be helpful in reducing the spoilage loss.

Krishna (1994) observes that the area under vegetables in the state has remained almost stagnant. Among the four important vegetable crops taken under study potato, which is often known as a cash crop, has shown increasing trend. The other vegetables such as sweet potato, onion and chillies have shown decreasing trend. The study, further, indicates that the proportion of marketable surplus of these vegetables varies between 78.65 per cent to 91.12 per cent indicating there by their similarity to that of cash crops. So far as the marketing
pattern is concerned village sales are very high in case of large farmers whereas it is low in case of large farmers. Cooperative marketing institution play very important role in agricultural marketing in Ranchi agricultural market whereas it is totally absent in Jamshedpur agricultural market. The producer's share varies between 56.09 per cent to 68.15 per cent in Jamshedpur market whereas in Ranchi market, it varies between 62.54 per cent and 74.28 per cent.

Kesar (1994) have conducted that Bombay market has emerged as a margin consuming centre for bittergourd produced in the area under study. The study concludes that per kilogram average cost of marketing worked out to Rs. 1.48 in Bombay market. By and large, transport, commission charges, packing and grading were the major items of marketing cost. The price spread in marketing of bittergourd in Bombay market indicates the producer's share in the consumer's rupee to the extent of 41.49 per cent. The study suggests that there is a strong base to establish a cooperative marketing society for vegetable so that the crucial market services such as grading, packing, storage and transport could be performed collectively on economic basis for improving the market efficiency and thereby increase the producer's share in the consumer's rupee in the area under study.

Autkar (1994) attempted to study the cost of marketing and price spread of marketing of vegetable grown in Akola district. It was found that per quintal cost of marketing was higher in green chillies,. Cabbage, brinjal and
cauliflower because of that higher transportation, commission and weighing charges. The producers share was highest in Brinjal and it was lowest in tomato. The study showed that cost and margin of intermediaries accounted large proportion of profit from prices paid by the consumer for all vegetables. In order to overcome the defects in the present system of marketing steps should be taken to establish the vegetable growers cooperative societies which can ameliorate the situation to some extent to protect the interests of vegetable growers.

Singh et al. (1994) concluded that from local chillies traders point of view it is more profitable to sell their produce directly to the Samastipur market than to Begusarai or Phulbaria market. The price spread indicates that the intermediaries present in the marketing channel charge high margin of profit in lieu of the services rendered. Thus, it may be suggested from the present study that the scope of marketing efficiency of chillies in the project area can be improved by making better availability of credit and transport on reasonable terms and conditions and finally by providing better marketing facilities.

Dahiya and Sharma (1994). Potato figures among the principle crops in India and its marketing plays an important role in plant economics of growers of all scales. This paper describes the current status of potato marketing in India including infrastructure, market structure, price analysis, use, imports and exports and price support policy. Marketing and research conducted at the Central Potato Research Institute, Shimla and experiences gained are also presented. These
include a comprehensive farm-level study of Farrukhabad District, U.P.; the
dynamics of seed potato marketing in Himachal Pradesh; price forecasting; a study
of cold storage in Meerut district, U.P.; and outlook surveys. Issues that merit
future attention are: improvement of crop statistical; studies on consumer
behaviour, including the estimation of income elasticities of demand; assessment
of marketing of seed potatoes and processed products; and techno-economic
feasibility of potato exports.

Jairath (1994) have studied the tempered behaviour of costs and
margins in marketing of vegetable crops in Rajasthan. They reported that the
marketing cost which is used to account for nearly one-fifth of the total cost during
early eighties reduced substantially and their share in the total cost now accounted
for only 8 per cent. This cost was on account of packaging and transport. The
retailers shares is high for cabbage and cauliflower. Such a higher rate of return
from marketing of vegetables offers a scope for entering more entrepreneurs into
this business of marketing of vegetables. This will make the marketing of
vegetables more competitive and bring the prices down. Thus the consumer will
be benefited and would help in reducing the margins of the retailers.

Thakur (1994) studied that the major problems faced by the farmers in
production and marketing of vegetables lack of pure quality seeds including hybrid
seeds, genuine nutrients and fertilizer mixture, pesticides, weedicides, irrigation
facilities, soil testing facilities, sufficient marketing intelligence and facilities,
packing materials, storage and transport facilities, vegetable processing units, reasonable and remunerative prices and above all sufficient crop loans at reasonable interest rates. Government and commercial banks must come forward to remove these problems by providing sufficient finance and loans to farmers. The farmers must be helped to increase off-season production in a big way by establishing cooperatives, vegetable processing plants and to sell their produce in an organised manner so that they get remunerative prices and high income.

Thakur et al. (1994) observes that the farmers face many problems on the production and marketing fronts. This need immediate attention. The study shows that the progressive farmers adopting new technology and recommended package of practices get very high production, income and profit by growing of vegetables. There is a need to provide hybrid and improved variety seeds, crops loans, other essential inputs, mobile soil testing facilities and support prices and also to establish regulated market, processing industries or plants and cooperative societies in the production areas to boost up vegetable production further in future. Government should also come forward with the market intervention programme to ensure fair and remunerative prices to farmers and give training to farmers in advance for irrigation facilities and mobile soil testing facilities to farmers on priority. Farmers should also be ensured of remunerative prices by establishing regulated markets, curbing malpractices of trades, mechanized grading and packing mechanism, low cost improved storage and transport facilities and above
Review of Literature

all market intervention and support prices. There is also a need for the establishment of vegetable processing units under cooperative societies to ensure remunerative prices to farmers as well as training of farmers in advance on production and marketing techniques. Exports of fresh as well as processed vegetables must also be promoted on large scale.

**Srinivas and Raju (1994)** conducted study on marketing of cashew nut in A.P. Five marketing channels representing as well as national markets state were identified. Among the five channels, about 80% of cashew trading takes place through the first and second channels only. Processor-cum-wholesaler as the market functionary gets major share in the consumer's rupee. He can minimize his market cost if he purchases raw nuts directly from the producers. The producer's share in consumer's rupee can be further enhanced if government reduces the sales tax rate on raw nuts, and if cashew nut are allowed to pass through regulated markets by which number of middlemen can be reduced.

**Krishna (1994)** conducted a study on some emerging aspects of production and marketing of vegetables in Bihar. He studied the nature and characteristics of vegetable production and marketing based on a case study of two agricultural markets at Jamshedpur and Ranchi. He studied four vegetable crops namely potato, sweetpotatoes, onions and chillies. Village sales were high for small farmers but low for large farmers. Co-operative marketing institutions played an important role in Ranchi market, but were non existent in Jamshedpur.
Marketing margins were found to be high in both the markets reducing producer’s share in the consumer price.

Agrawal and Saini (1995) in their study investigated the institutions, agencies and channels involved in the marketing of brassica crops, and assessed the price spread in different marketing channels. Two villages (Mahapura ad Bhankrota) in the command area of Krishi Upaj Mandi Samiti Jaipur, Rajasthan were selected for the study. Their sample consisted of 50 farmers comprising 18 small, 12 semi-medium, 16 medium and 4 large size groups. Data were collected for the year 1992-93. The study indicated that farmers mostly adopted channel-II (producer-commission agent-mashakhores-retailer-consumer). Estimation of price spread indicated a low share for farmers (52-54 percent) due to high marketing costs and margins charged by intermediaries.

Adilakshmi et al. (1995) have made an attempt to examine the temporal and spatial variations in the prices of chillies in five markets of Andhra Pradesh from 1973 to 1990. Seasonal indices for prices were worked out. Pricing efficiency was measured in terms of correlations of price movements of same product in separate markets. The analysis revealed that the fluctuations in the price of chillies in all the selected markets were erratic which created problems to both growers as well as policy makers. This phenomenon of spatial and temporal variation in prices of chillies is considered as a major problem which inhibits the allocative decisions.
Maurya (1995) conducted a study on Economics of production and marketing of bhindi (Lady's finger) in district Varanasi (U.P.). The cost benefit ratio reported was 1:1.69 in the marketing of bhindi. The producer's share in the price paid by the consumer was very low being only 59.16 per cent due to inefficient marketing. They suggested for a sound production and marketing system of vegetables in general and that of bhindi in particular.

Sharma et al. (1995) in their study calculated the post harvest losses during storage transportation and marketing of major vegetable crops. They quantified the factors affecting marketed surplus and investigated the problems that cultivators face in storing, transporting and marketing of vegetables. A sample of 60 farmers from Solan and Kandaghat block of Solan district, Himachal Pradesh, India was selected. The study shows that the highest percentage of losses occurred during assembly and market operations caused major losses for beans and peas. Increased productions with minimum losses are important factors for increasing marketed surplus. Costly wooden boxes, time consuming manual grading, distant markets, high transportation charges, malpractices in the market and lack of market information were the major problems faced by the growers.

Sudha and Subrahmanyam (1996) observe that although some cooperative fruit and vegetable marketing societies in India have been successful, a large number are facing problems and running into losses, despite their backing by the government. This study was conducted to investigate the working of and
weaknesses of the Farmers Rural Extension Service in Horticulture (FRESH) marketing society (Hyderabad) in order to serve as guidelines for improvement in cooperative marketing societies. Performance of FRESH (Hyderabad) is assessed in two parts: (1) growth of the society in terms of share capital, membership and sales turnover, and roundness of the society's policies on procurement, price fixation and mode of sales; and (2) the financial soundness of the society based on trading accounts, balance sheet and financial ratios. The analysis covers the period 1986-87, 1991-92. Suggestions are made for improving the performance of the cooperative.

**Ashok (1996)** noted that marketing in India forms one of the weakest links in the production and disposal of agricultural products. In an attempt to overcome this study proposes to develop vegetable marketing along the lines of milk marketing. This would actually entail using the existing infrastructure of milk marketing to transport and market vegetables. Collection of vegetables by milk lorries and Vans would also reduce the overheads that are currently charged to milk marketing as the vans regularly run below capacity.

**Hugar and Vijaykumar (1996)** in their study seek to understand the purchasing behaviour of consumers in vegetable marketing. In particular, they identified the economic factors and assess their influence on the purchasing pattern of consumers, assessed the personal attributes of consumer affecting the purchases of vegetables, and studied the impact of services provided by the
different marketing agencies on purchasing behaviour of consumers. The study was carried out in Dharwad city of Karnataka state, India. The sample consisted of 90 respondents. Data were collected by personal interview method for a period of three weeks during March-April 1993 and analysed using simple tabular analysis. They observed that level as well as nature of income (stable vs. varying) had significant influence on purchase pattern of vegetables related to the quantity. There was a positive relationship between educational level of consumer and the extent of quantity and number of times of vegetables purchased in a week. The female consumers had better purchase behaviour as compared to male consumers. The purchases of vegetable in the evening times were mostly preferred by majority of consumers particularly in the case of highly educated consumers. The dynamics of consumer behaviour indicated that the extent of vegetables purchased changes with the changes in the prevailing market price, more so, in low income group of consumers. It was found that the producer-seller was generally preferred and the choice of the shop was based on the price, quality and weighment of the produce.

Mehta and Chauhan (1996) in their study estimated the marketed surplus of vegetables vis-à-vis food grains and their contribution to farm and non-farm income of the household, of three district regions of Himachal Pradesh, India. Three regions covered are; Zone-I (low hill sub-tropical), Zone-II (mid-hills sub-humid) and Zone-III (high hills), Kangra, Kullu and Solan districts were selected from the three zone respectively, and a sample of 150, 130 and 120
vegetables growers was randomly selected from these districts. Both the primary and the secondary data related to the year 1991-92 were used. The study revealed that the marketed surplus of food grains was low in all the regions. The marketed surplus of vegetables was very high in all regions. Thus vegetable crops played a significant role in the household income in all the regions.

Prasad and Krishna (1996) have revealed in their findings regarding the breakdown of the consumer’s rupee in case of vegetables in two agricultural markets of Bihar i.e. Ranchi and Jamshedpur. The overall marketing costs and margins revealing, thereby, lower share of vegetables growers in consumer’s rupee. A comparative analysis with the help of past studies does not indicate any perceptible change in the proportion of farmers share.

Prasad and Krishna (1996) conducted a study on vegetable marketing in Jamshedpur and Ranchi markets of the Bihar plateau region, India, to locate, identify, and analyse the characteristic futures of marketing in terms of method of sale, and prices received by growers. Both markets sale locally and to other status. The main conclusion note that; there is a high level of village sales of vegetables, particularly in Jamshedpur market; Ranchi market transacts a high proportion of vegetables through cooperative marketing institutions; farmers need to be more aware of the efficient use of inputs; prices are generally high because of the margin taken by intermediaries; and improvement in all aspects of marketing
infrastructure would improve the price received by growers and reduce their losses due to lack of demand.

Marothia et al. (1996) in their study examined the marketing pattern of vegetables; assessed the marketing cost, margins and price spread in different marketing channels; and suggested some policy measures to improve vegetable marketing. Two markets namely Shastri market of Raipur district and Subash market of Durg district in Chhattisgarh region of Madhya Pradesh, India were selected. A sample of 40 and 32 vegetable growers, 6 and 4 commissions agents and 15 retailers each was selected from Shastri and Subhash market respectively and interviewed for the data related to the year 1991-92. Farmers were categorized as small, medium or large based on the quantity of vegetables sold during one visit. The study indicates that the percentage area under vegetables was decreasing at both the locations as size of holding increased. While the small vegetable growers preferred to sell their produce directly to consumers, medium and large farmers sold it to retailers through commission agents.

Dubey et al. (1997) made and inter-channel comparison of marketing costs, profit margins and net price received from potato marketing by the producers of Allahabad district of Uttar Pradesh during the year 1993-94. They state that the producer’s net gain can be increased if he adopts storage practices. An efficient seller is one who always remains cost conscious and disposes off his produce to an appropriate agency at appropriate price. Farmers could come
forward, through their own organizations to help themselves. Cold storage facility be made available to the farmers on cooperative basis so that they may store their small surplus too at reasonable costs. Farmers should have options of getting their produce out of the store whenever they want so. Cost of storage be fixed on the basis of both the time period and the quantity stored. There should be provision of institutional loaning on the receipt of the cold storage.

Madan and Singh (1997) estimated efficiency and price spread of pea marketing in Ranchi district. The analysis showed that farmers received a low proportion of consumers price for pea and higher proportion of the consumers price was absorbed in marketing cost. The marketing cost was high because of the higher transportation cost due to poor infrastructure facilities like absence of all weather roads connecting the vegetable village clusters with village hott (collection centres), virtual absence of public transport system, lack strictness in implementation of Market Regulation Act and the involvement of a large number of intermediaries charging abnormally high profit margin for their services rendered. It is suggested that to improve the share of producers the marketing cost must be reduced. It was implied that for the economic welfare of he farmers of the region the government should provide uninterrupted transportation; eliminate the malpractices like under weighing, multiplicity of charges, forced sale; encourage open auction sale; and check oligopolistic behaviour of few traders and arbitrary
tax collection by private contractors etc. Also the market regulation should strictly be implemented

Harbans et al. (1997) conducted a study in Kangra and Mandi districts of Himachal Pradesh, India during 1991-92, to estimate marketable and marketed surplus of principal vegetable crops for small (upto 2 ha) and large (above 2 ha) farmers and to determine the factors affecting marketed surplus. Crops covered are; summer vegetables (tomato, aubergine, cucumber, okra) and winter vegetables (cauliflower, peas, potato, radish), both production and marketed surplus showed a positive relationship with size of holding. Growers sold 83-97 per cent of total vegetables produced.

Chahal et al. (1997) observed that tomato is one of the most popular vegetable grown in India. Increased production of tomatoes has led to numerous marketing inadequacies relating to grading, packaging, handling transportation and sale of marketable surplus. The seasonality, bulkiness and perishability of the product create difficulties for marketing, which is controlled by the private operations. There is significant gap between the price received by the producers and that paid by the consumers. The market structure of tomato was examined over time and space and found inconsistent resulting into variation in price spreads, marketing cost and margins in Punjab.

Vishwanathan and Satyasai (1997) examined that trends in the production and consumption of fruits and vegetables in India for the period
between 1960-61 and 1992-93. The importance of different credit and non-credit provisions for promotion of the various linkages that facilitate/constrain the performance of the sector were also examined. The study highlights a rising demand for fruits and vegetables, both for domestic consumption and for exports, however, the sector is constrained by inadequate infrastructural facilities (processing facilities, market facilities, credit, etc.). Efficient post harvest handling of the produce through better infrastructural facilities and exploiting the available production potential are some of the measures suggested to promote this sector.

Kaul (1997) in his study began by analyzing growth in horticulture production (fruits, vegetables, spices, coconut, cashew, arecanut) in India since the mid-1980s, and discuss the role of horticulture crops in crop diversification, human nutrition and in generating income and employment. He evaluated the then status and export potential of horticultural products. The major constraints limiting the production and quality of these products and demand projections were examined and various strategies were suggested for enhancing productivity. Horticultural crops are characterized by high productivity per unit area, much higher returns, and higher potential for employment generation and exports than other crops and are adaptable to adverse soil and weather conditions. Horticulture exports increased by over 30.2 per cent between 1983-84 and 1991-93 and by over 80 per cent between 1991-92 and 1995-96. Despite good potential production is limited by old and unproductive plantation, inadequate disease free planting
material, lack of organised marketing and low level of processing. It is suggested that efforts should be made to improve production through intensive use of advance techniques and by diverting more land to horticultural production.

Gray and Kleih (1997) state that India is a major producer of a number of horticultural crops including mango, banana. Onions and Asian vegetables and has traditional markets in Asia and the Gulf through only a very small percentage of the total production is destined for export. The development of other markets for exports represents an important opportunity and small holder involvement. This report reviews past trends and prospects on the European market in general and the U.K. market in particular for horticultural exports from India. The principal products reviewed are mango, melon, papaya, specialty banana, onion and Asian vegetables. The market outlook for selected Indian horticultural exports and the factors that will govern their performance were examined.

Thakur (1997) made a study on off-season production and marketing of vegetables on hills and suggested that vegetable production is highly remunerative in hills and it can be used to increase the income of small, marginal and other farmers significantly. This will open a new dimension for progressive and profitable hill farming in future. However, there is a need for an integral approach to tackle the production and marketing problems faced by the farmers.

Hema and Yadav (1998) in their study examine consumer purchasing behaviour for fresh and processed vegetables; their preference for marketing
Review of Literature

outlets; and demand for processed exotic vegetables. The study was conducted in Jawahar Nagar, Jaipur covering 50 consumers with an income range of Rs 3000 to 10,000 per month. The study shows that the most preferred place of purchase amongst daily buyer was nearest Mandi. Furthermore, with the increasing buying capacity, availability of vegetables was not the deciding factor for preference of place of purchase of processed and fresh vegetables. They were willing to pay high prices for processed vegetables which give them a change in taste, variety and is convenient to use. The purchase of processed vegetables was made from a supermarket in 64 per cent of cases as against 32 per cent from retail shops. The study revealed the role of family in buying fresh and processed vegetables. In a family the decision of buying vegetables for family consumption is dominated by the wife. The decision for buying vegetables is influenced by the likes and dislikes of the family members and by the advantages associated with processed vegetables, i.e., convenience of use, longer shelf life variety etc., their use was found to be low as compared to fresh vegetables. The study also revealed the demand for French beans, mushrooms, salad leaf, baby corn, jack fruit etc. Few also had demand for exotic vegetables e.g., broccoli, asparagus, basil, thyme, rosemary, red capsicum etc. This showed the influence of communication channels and international food popularity i.e., Chinese. Thai food, Italian food in Indian families which demanded rare vegetables for preparation.
Kutty et al. (1998) present the costs and returns of vegetable seed production, based on data generated at the Agricultural Research Station, Mammuthy, Kerala, India during the period 1994-95 to 1996-97. Eight crops namely ash gourd, melon, bitter gourd, shake gourd, aubergin, okra, cowpeas and amaranth were covered. Cost of cultivation showed wide variation from Rs 3,09,218 ha\(^{-1}\) for okra to Rs 86,412 ha\(^{-1}\) for melon. In all cases, labour was the single highest item of expenditure. Average labour use per crop was estimated at 1,394 man days ha\(^{-1}\) with wide variations between crops. Gross returns and net income were highest for Okra. Cowpeas had the highest B:C ratio and ash gourd and melon had the lowest B:C ratio.

Kumar and Arora (1999) analyse the data are collected from 150 vegetable growers from Kumaon and Garhwal districts of Uttar Pradesh, India, for the agricultural year 1996-97. The packaging, storage, transportation and sales are the major activities performed by sample vegetable growers. The major factors attributed to post harvest losses in vegetables are due to improper handling of vegetables during grading, packing and marketing of the produce and also due to lack of proper transportation and storage.

Madan et al. (1999) examined the economics of production and marketing of cauliflower in Ranchi district of Bihar for the year 1995-96. They worked out comparative profitability of main and off-season crops and analysed the problems in its production and marketing. Through both the crops were found highly profitable, the relative profitability of main-season crop was found more. The cultivation of off-season
crops cauliflower, if increased through subsided supply of quality inputs and processing facilities, it may assures the availability of this products through out the year at reasonable price. Unfavourable agro-climatic conditions and over mounting charges are the major problems.

Mishra et al. (1999) made an study on production and marketing of chilli in Azamgarh district of Uttar Pradesh for the year 1995. They examined the cost of cultivation, cost of production and the price-spread. An inter farm comparison depicts that virtuality there is no considerable difference in cost of cultivation, income, cost of production and cost benefit ratio between the size group of farms. They identified three channel of marketing for this group. Over 62.50 per cent of the market surplus moves through channel III (Largest channel) including Producer-Wholeseller-Retailer-Consumer. Producers share in consumer’s rupee varies between 74.17 and 98.82 depending on the length of the channels.