CHAPTER – II

REVIEW OF LITERATURE

- Introduction
- Review of Related Literature
- References
Introduction:

Review of literature provides information to the researchers regarding the previous works done in their area of research and thereby helps them in identifying the theoretical framework and methodological issues relevant to the study. It provides the researchers a proper direction to carryout their research work and enables them to arrive at meaningful results. Keeping these facts in view, the available literature relevant to the objectives of the present study was reviewed and they are presented here in under the following headings.

Review of Related Literature:

Literature related to present study has been reviewed from the available sources and presented in this section. Specific focus was given on marketing of horticulture crop.

1. Harold Hume (1951) comprehensively discusses all aspects of production of horticulture crops in his book entitled ‘The cultivation of Horticulture crops’ comprising thirty one chapters. In the beginning critical analysis of classifications of horticulture crops is given followed by a detailed description of almost all aspects of production of horticulture crops, from development of root stock to picking. In addition to cultivation, the book also provides technical guidance on different problems confronted in the production of horticulture crops.
2. **Survey Report on the Marketing of Horticultural crops in India (1965)**: The filed survey was confined to important horticultural crops viz., mango, citrus, pineapple, guava, papaya, grape, banana and temperate fruits and in case of vegetable only to potato, onion, tomato, peas and beans, cabbage, cauliflower, carrot, turnip and ginger. The data collected have been compiled and presented in a series of 13 reports. One among them is ‘Marketing of citrus fruits in India’ in which an attempt has made to present essential information regarding area and production and marketing aspects like, preparation for the market, grading and standardization, assembling and distribution, transportation and cold storages. This report was published by the Government in 1965. Since than the Government has not made special surveys and publications regarding citrus fruits in particular and horticultural crops in general in order to enable the farmers, traders, co-operative societies and processing units to utilize them effectively.

3. **Mahalambis (1971)** in his article entitled Need for more Processing and preservation of food highlighted their have been concluded that there was a loss of fruits and vegetables during storage, movement of produce and package.

4. **Mahalanobis (1972)** studied the price spreads of orange in Calcutta market and found that producer’s share was only 22.50 per cent of the
consumer’s rupee. The lower percentage to the producer was mainly due to transportation cost and handling charges etc. The share of middlemen was found 33.90 per cent of the consumer’s rupee and the margin of the retailers accounted for 28.75 per cent of the total price spread at different market functionaries’ level.

5. Keddie J. and Cleghorn H.W. (1980) Conducted a study on “technology, employment and basic needs in food processing in developing countries” for the international labor office within the framework of world employments programme. The study focuses on technological choices and transfer opportunities in food processing among developing countries. The report also includes a case study of food processing in Kenya, although the study was not directly related to the research work at hand, it can aid in good understanding of food processing choices and opportunities of transferring technology among developing countries.

6. UNDP, FAO (1980) Post-Harvest losses of fruits and vegetable the main objective of the report was reducing post-harvest losses of fruits and vegetables in the countries of this region through effective marketing system. The post harvest handling operation was categorized into five major stages, namely harvesting, preparation for markets, transportation, handling and preservation during distribution and at home. Information
regarding specific causes of losses and their relative contribution to total loss were acquired through survey and observational studies. In order to compensate seasonal and annual variations, analyses reveal that overall losses of fresh fruits and vegetables in the regions studied ranges from 15 to 50 percent, which is market unsatisfactory. Specific causes of post harvest losses at different stage of post harvest handling operations with percentage of loss at each stage are critically mentioned in the report.

7. Subarhamanyam et al. (1981) “A study of fruit and vegetable-cold storage unit in Bangalore city” horticultural problems like post-harvest losses and its impact on the economy, per capita availability, improved methods to reduce losses, transportation of horticultural crops by rail and roadways and how to avoid wastage in transit, importance of cold storage units.

8. Subarhamanyam, K.V (1981) studied the farmers’ share in consumer rupee for fruits in Punjab. They reported that most of the small and marginal farmers lease out their orchards to pre-harvest contractors. Producers’ share in the consumer rupee varied from 25 per cent to about 40 per cent in most of the fruit growers. The pre-harvest contractors who did not make any fixed investment on the orchards also got more than the producer’s share. There is no doubt they had to incur some expenses on the watch and ward of their orchards, picking, packing, transportation of
the produce, etc. They also reported that in Apni Mandi scheme also the domination of the traditional fruit and vegetable retailers outnumber the farmers.

9. Production and Marketing of Pineapple in Meghalaya, Agro economics Research, Agricultural situation in India, (Nov. 1984) The objective of the report was highlight standardization as one of the means of improvement of marketing process, among many other such as effective organization of growers, application of existing rules and regulation and improvement in packaging, transportation and wholesale markets. The study was carried out on major fruits of Meghalaya which includes pineapple, grape, apricot, peach and pomegranate. Production and marketing of pineapple in Meghalaya, discussed in the report include.

- Sale of hanging crop to contractor.
- Special care during harvesting sorting and packaging of good Quality fruit of the highland of Meghalaya (Pineapple)
- Absence of important information like net weight, quality etc. of the content.

After a general discussion on standardization and quality control service, the study focuses on present state of standardization and quality control services of the main fruits of Meghalaya. The quality control services are categorized into training, checking and repression functions.
10. **K. R. Dixit (1985)** has made an attempt to focus the marketing of orange in Vidharbha region. He made a detailed study on marketing of oranges like, transportation, gradation and standardization, problems of storage, financing, cost and marketing net return analyzing etc.

11. **National Co-operative Land Development Bank’s Federation (1985)** has also made an attempt to study the financial aspects of horticultural crops viz, mango, citrus fruits, apple, pineapple and jujube. The project has concentrated in technical and financial aspects like farm model, year-wise yield, inter crops, net income, phasing of programme and repayment schedule.

12. **Swarup, R. and Ranveer Singh, (1987)** observed that one of the important measures of marketing efficiency is the share of producer in the price paid by the ultimate consumer-buher. The study revealed that the farmer-producer of tomato, cabbage, cauliflower and cucumber received less than 50 percent price paid by the consumer-buher, the range being 37.26 percent (tomato) to 49.16 percent (cauliflower). The share of producer includes the marketing cost which is very high. The decomposition of retail price into share of producer and market functionaries revealed that i) grower’s share generally rises from low priced to high priced vegetables ii) with increased perishability of vegetables the grower’s share declines iii) the share of retailer is very
high, in few cases even higher than that of producer iv) the marketing
cost of vegetables is very high in hill regions.

Products-describes comprehensively the general marketing practices of
agricultural products. Agricultural marketing functions are divided into
six parts: namely the frame work of the marketing problems, food
markets and institutions, pricing functional and governmental issue in
food marketing and finally a brief on marketing of same selected
commodities. The first part reviews agricultural marketing and analyses
chief agricultural production and food markets throughout the world. The
second and third sections cover the distribution and pricing functions in
the agriculture marketing. Other marketing function, like standardization,
transportation, storage, market information and development and demand
expansion are extensively discussed in the fourth part of the book. The 5th
part concentrates on government programs and fruit marketing
regulations, the last part concisely reviews the marketing practice
involved in livestock, milk, poultry, grain, cotton, tobacco, fruit and
vegetable.

In addition to the above mentioned six parts, nine practical cases
are also included to highlight application of various agricultural
marketing concepts. Another important feature of this book, especially
for research students, is the glossary of key term, question for discussion and references stated at the end of each chapter. Though most of the description and statistics used in the book relate to the United States, it provides a guideline for designing and presenting research study on marketing of agricultural products in any part of the world. The review of this book is useful in understanding agricultural marketing concepts and practices.

14. **Gopalan and Gopalan (1991)** found that agricultural marketing system in India suffered from severe constraints like high costs, existence of middlemen, storage and transport bottlenecks and lack of market information among the farmers. This article used a case study in Tamilnadu to evaluate various methods of raising marketing efficiency. The analysis suggested that the cooperatives had weakened the many small monopolies and malpractices of middlemen and had led to a considerable improvement in marketing efficiency. However, there is a need for timely and adequate application of farm inputs, better coverage of potato growers, grading schemes and more efficient dispersal of information among other requirements.

15. **C.J. Overgaauw (1992)** packaging for fresh fruits and vegetables—he mentioned that packaging of fresh fruits and vegetables is both difficult and costly. Different aspects of packaging of fresh fruits and vegetable
are discussed including cost, dimensions, distribution, norms and preferences, shelf life, microclimate, box specification, compression test, recycling and labeling, describing the cost of packaging. Overgaard pointed out two main reasons of high packaging cost i.e. import of carton material and low cost of produce. In most of the cases, the packing material, usually called “Kraft lies” has to be imported and as the cost of produce itself is very low, the proportion of packaging cost in the total cost is usually high. According to Overgaard in the industrialized countries cost of packaging of fresh fruit constitutes up to 10-15 percent of the total cost.

After discussing some of the important factors of packaging of fresh fruits and vegetables especially for export purpose like box specification according to distribution, shelf life and microclimate factors, the author mentioned the impact of European legislation related to environmental policy regarding packaging of fruits. It strongly advised to move towards the use of recyclable packaging. Although wooden boxes are ideal for packaging of fresh fruits as they are comparatively harder and cheaper, difficulty in recycling limits its application. In the end Overgaard stressed, the importance of trade missions in overall marketing of fresh fruits.
16. **Prasad (1993)** conducted a study to identify the pattern and methods of sales and prices received by the vegetables growers in Jamshedpur and Ranchi markets of Bihar. Due to lack of adequate transport facility, small farmers usually prefer to sell their vegetables to the village intermediaries in Jamshedpur market. However, in Ranchi market the study found that co-operative marketing institution transact a substantially high proportion of vegetables. The study observed that higher marketing cost and large price spread was found due to high margins charged by the intermediaries on important vegetables. The study suggested development of market yard, storage, and transport facilities, so that efficient vegetable marketing can be attained.

17. **Singh et al. (1994)** had studied the production and marketing of hill vegetables in Himachal Pradesh and found that the producers’ share of tomato and pea was 43.15 and 49.96 percent respectively in the consumers’ rupee. The study found that the marketing margins of wholesalers’ were less than the retailers’ margin, due to the fact that the retailers were noted to bear the major burden of losses and deterioration of quality of the produce.

18. **Parmar et al. (1994)** conducted and opinion survey regarding the marketing problems faced by vegetable growers of South Gujarat and revealed that spoilage and malpractices in weighing were the major
problems. The study suggested the need for improvement in the marketing system by regulating the marketing operations, establishment of efficient transportation system and co-operative marketing structure.

19. Thakur (1994) reported various production and marketing problems faced by vegetable growers of Himachal Pradesh while conducting a study on high stakes for banks in off-season vegetable production and marketing. The major problems faced by farmers were lack of pure quality seeds, including hybrid seeds of different vegetables, genuine micronutrients and fertilizer mixtures, pesticide, weedicides, irrigation facilities, packing materials, storage and transport facilities, vegetable processing units, reasonable and remunerative prices and sufficient crop loans at reasonable interest rates.

20. Bhogal (1994) studied the marketing channels, marketing margins, costs and price spread for each channel and problems faced by the apple producers in apple marketing in Uttar Pradesh. The most prevalent channels observed in apple trade were Channel I: Producer-Commission agent/Haldwani market-wholesaler in distant market-retailer in distant market-consumer in distant market; and Channel II: Producer-local agent of wholesaler-wholesaler in distant market-retailer in distant market-consumer in distant market.
21. **Agarwal and Saini (1995)** studied the marketing of vegetables in Jaipur market during 1992-93. The main channels observed were, Channel I: Producer-commission agent-retailer-consumer; II: Producer-commission agent-retailer-consumer. The total marketing cost in the sale of cauliflower and cabbage through channel I was Rs. 42.87 and Rs. 40.05, respectively, per quintal charges for transport, commission, value of quantity lost and market fee were the main cost items, as these together accounted for 36 percent of the total marketing cost in these crops. In channel III, the total marketing cost in sale of cauliflower and cabbage was Rs. 47.26 and Rs. 43.35, respectively per quintal. In this channel, transport, commission, value of quantity loss and market fee accounted for over 87 percent of the total marketing costs. Producer and retailers shared these cost. The producers’ share in consumers’ rupee was around 55 percent in channel I and 52 percent in channel II. The farmers got a higher share in the sale of crops when channel I was adopted, as the total margin of the intermediaries is higher in channel II for both the vegetable crops.

22. **Bhalla (1996)** observed that the marketing of fruits and vegetables is associated with a unique set of conditions which makes the task difficult and highly risky. Firstly, the nature of the produce handled itself, because of high perishability it is difficult to create time and space utilities. The
second factor in marketing of fruits and vegetables is the prevailing imperfect competition i.e. there are only few traders in the business. These two factors have a lot of influence on the current marketing system of other agriculture commodities.

23. **Ayub Agricultural Research Center (1997)** the two booklets namely Citrus Fruit and Post-harvest Technology in Citrus Fruit-published by AARC provide brief guideline to citrus fruit cultivation and marketing in Pakistan. The main objectives of these publications are to provide awareness among the citrus producers and channel members regarding the basics of cultivation and handling of citrus fruit. In “Citrus Fruit” the first five chapters deal with the history of citrus, its introduction in Pakistan and new varieties of citrus fruit. Chapter 6th briefly discusses research in production of citrus fruit and the next eight chapters describe different aspects of citrus fruit cultivation, this includes method of cultivation irrigation, importance of root stock, and use of fertilizer and maintenance of citrus orchards. In the last two chapters nutritional values of citrus fruit and their marketing functions were concisely discussed.

The second booklet i.e. post-harvest technology in citrus fruit provides information about some of the basic causes of post harvest losses of citrus fruit in Pakistan. Standard for citrus fruit and major stage
between picking and packaging have also been mentioned briefly. These booklets though provide good guidelines to citrus producers and channel members, lack of awareness and the feudal system, the actual benefits of these publications have not been achieved.

24. **Fellow Peter (1997)** conducted a study on small-scale fruit and vegetable processors-describes different processing methods used by small-scale food producers. At the outset products and their characteristic are mentioned followed by different production methods for a wide range of fruits and vegetables. The study is useful document for potential entrepreneurs, and will help in selecting the most appropriate processing business.

25. **Carter S. (1997)** conducted a study Global Agricultural Marketing Managements-explains the global perspective of agricultural marketing along with brief discussion on cases related to agricultural marketing functions and problems worldwide. The report starts off with a general discussion on marketing of agricultural products, followed by a detailed description on general marketing environment, consumer analyses, marketing information system, global marketing strategy, standardization, grading and packaging of agricultural products after discussing the bedrock of marketing, key marketing functions with reference to global
agricultural marketing are explained. This included detailed discussion on global agricultural pricing, distribution and promotion strategies.

26. Poul W. Heisey (1997) in his article entitled Wheat Rust and the cost of genetic diversity in Punjab, highlighted the study focuses on wheat rust and genetic diversity nevertheless it pointes out some conventional problems in the overall agricultural sector in Punjab. While describing the general behavior of farmers in the province regarding genetic diversity, which is defined as yield foregone, Paul et, el. state that farmers often continue to grow cultivars even when, due to susceptibility to known diseases pathogens, they are no longer recommended by public research institutions that test and monitor them. Thus is mostly because the perceived private value of shifting to a more divorced portfolio of recommended cultivars is less than its social value. After a detailed discussion on conceptual approach and measuring genetic diversity, the article ends on some specific results and conclusion. Findings and suggestions given in the article can be useful to other agricultural products produced in the province, including citrus fruit for instance strategies which induce the farmers to diversify their portfolio and limit the cultivars grown to a changing list (recommended cultivars) can be applied to fruit and vegetables.
27. **Singh (1997)** examined the problems faced by the vegetable growers of Jabalpur district. Various marketing problems, as reported by the respondents were non-availability of fertilizers, seed insecticides were reported about 44.4 percent of the respondents, non-availability of labour 40.00 percent, lack of credit facilities 33.3 percent, lack of storage facilities 48.8 percent, problems of undue deduction in the market 40.00 percent, lack of transportation facility 37.7 percent and problems of low prices of the product 33.3 percent of the respondents. The selected respondents were largely in favor of formation of co-operative marketing society for direct marketing of their vegetable produce and regulation of market for vegetables.

28. **Chahal et al. (1997)** examined the market structure, price spread marketing costs and margins overtime and space for Punjab tomatoes. The study revealed that the marketing structure had changed over time. Due to small holdings and lack of farmers’ organizations, it was found that the volume of sales in the terminal market decreased and sales at local market have increased. The intra-state analysis revealed that producers’ share in consumers’ rupee had declined overtime whereas the net margin of intermediaries had increased; indicating that tomato marketing system in Punjab was not conducive to the interest of the producers and consumers.
29. **Chinnappa (1997)** investigated guava marketing costs and the difficulties faced by producers in marketing the crop. Information was obtained from 60 producers in Devanhalli and Bangalore taluka (30 from each taluka) in Bangalore district, Karnataka, India. The total marketing cost incurred by producers’ was Rs. 168 per ton of which commission charges accounted for 45 percent. It was concluded that the present marketing system was not efficient as evidenced by the high marketing cost and the many problems faced by growers. Market regulation and minimum price support were thus needed to safeguard the interests of growers.

30. **Srinivas et al. (1997)** conducted a study post harvest loss Assessment of Totapuri and Alphonso, reported in a survey total physical harvest losses of 17.9 percent, 3.5 percent orchard/field, 4.9 percent transportation, 3.5 percent storage and 5.3 percent retail respectively for Bangalore and Alphonso.

31. **Subarhamanyam, K.V. and T. M. Gajanana, (1997)** observed that despite increase in both number and capacity, the cooperative sector has not been able to help fruit and vegetable producers to the extent desired as it accounted for hardly 8 percent of total capacity and about 90 percent of total available capacity is still utilized for storing potato alone with less than 1 percent capacity utilized for storing fruits and vegetables. A cost-
effective transport is an important facility required in proper marketing of fruits and vegetables.

32. **Patil P. S. (1998)** Export of Fruit in India-These include lack of quality standard, improper packaging, transportation and storage facilities. It is also mentioned that ineffective organization and coordination among channel members hampers export of fruits of India. In the end it is concluded that export of fresh and processed fruits should be given top priority and improvement in the above mentioned factors will help in establishing a name and reputation in the international market.

33. **Rudy Kartbech-Olsen (1998)** conducted a major ITC market survey on Organic Foods-In his report, he mentioned that there are high opportunities for developing countries to export organic foods, including fresh fruits and vegetables. Roughly it is estimated that organic foods could jump from 1 to 5-10 percent of food sales in major markets in the next few years Kartbech discussed the surveys finding under the following heads:

- What are organic foods?
- Certifying organic: a must for international trade.
- Major consumer markets in Europe, the United States and Japan.
- Market niches for developing country suppliers.
- Concerns of the organic trade.

Kartbech has defined organic foods as those which are grown with a commitment to respect biological and ecological processes. The definition followed with the detailed description about the major markets of organic foods like European union, the United States and Japan on the one hand and the importance of developing countries as suppliers of organic foods on the other. Further more Kartbech stated that “Major markets offer good prospects for organic products which are typically imported such as coffee, tea, cocoa, spices, tropical fruit and vegetables and citrus fruit”. A review of the world supply situation shows that of the 100 countries producing organic foods and beverage in commercial quantities, 65 are developing countries and 15 are less developed countries (including 13 countries in Asia). Developing countries are very important exporters of many of these products such as fresh fruits and vegetables”. The article concludes on brief findings of ITC market survey study which indicates importance of organic foods (including fresh citrus fruit) and the potential present in the global markets. The challenges for suppliers is to avail the opportunities through certification, technical know how and market intelligence.

34. **Sen and Maurya (1998)** studied the marketing of vegetables in Sewapuri block of Varanasi city. It included ten sample villages for 10
vegetables and 150 sample farmers; it was conducted during 1993-94. The study revealed that for the total marketing charges (including cost of transport) payable, 65.92 percent and 66.98 percent were payable by the sellers (producers), 12.22 percent and 11.84 percent by wholesalers and 21.86 percent and 21.18 percent by retailers in Chandwa and Kamachcha markets, respectively, and a little more than 28 percent and 31 percent of the marketing charges were accounted for by the cost of transport in the two markets. While studying, price spread between the price received by producers in selected villages and that paid by the consumers in Varanasi city included all the marketing charges (including commission and transport charges) paid by the wholesalers and retailers. It was, also observed that the produce’s share in consumer’s rupee for the vegetables was the lowest for tomato and highest for Brinjal in both the markets. Totally, the share of the producers was highest for vegetables with less perishability or with facilities of cold storage while it was lowest for vegetables with greater perishability. The margin of wholesalers and retailers for such vegetables (like tomato, green pea) was highest. Finally, the price spread accounted for more than 33 percent of the price paid by the consumer for major vegetables under study.

35. Devaraja (1998) conducted a study in Hassan district on channels and price spread in potato marketing. He selected 200 farmers from 30
villages and 40 market intermediaries indexing 15 commission agents, 15 retailer vendors and 10 cart vendors. The study identified 3 supply chains, first chain included commission agent and retailer for the movement of produce from producer and consumer in the nearby market of Hassan. Second chain included commission agent and retailer for the movement of produce from producer and consumer to the distant market of Bangalore and third chain included commission agent and cart vendor from producer to consumer. The price spread analysis revealed that producers got 48.57, 51.15 and 52.32 percent of the consumer’s rupee in first, second and third supply chain respectively. In third chain representing distant market Bangalore, the consumer’s rupee was the highest. Hence selling of produce at the distant market was found to be more profitable to the farmers.

The study also revealed that the producer’s net price could be increased by taking suitable measures by the Government like (a) providing cold storage facilities to producers (b) the existing system of collecting commission charges from producers should be stopped (c) providing support price facilities to producers when there is heavy price fluctuations in peak seasons (d) efficient and cheap means of transportation by the market committee (e) fluctuations in the market prices of potatoes may be eliminated by regulating and streamlining the
supply by establishing potato processing plants in the vicinity of production centers for manufacturing of processed potato products.

36. Gupta and Rathore (1998) made an attempt to assess the share of different categories of farmers in vegetables marketing, the disposal pattern of vegetables, marketing cost and various constraints in the production and marketing of vegetables. They found that the market share of farmers increased with the increase in the size of holding. It was about 4 percent, 13 percent, 24 percent, and 59 percent on marginal, small, medium, and large farms respectively, of the total marketing cost.

37. Shelke and Kalyankar (1998) conducted a study to examine the pattern of market arrivals and prices, inter and intra-year fluctuations in market arrivals and monthly wholesale prices of tomato in Parbhani district of Maharashtra. Inter-year variation of market arrivals of tomato was between 22 to 62.5 percent whereas the intra-year variation was between 17 and 66.8 percent respectively. Arrivals and prices were negatively correlated, showing that an increase in arrivals led to reduction in price and vice-versa.

38. Ashok Kumar (1999) conducted a study on major fruits (citrus and mango) in Punjab - provides a good view of marketing practices of these fruits in the province of Punjab. The study focuses on assessment of marketing channel of major fruits in the Punjab. The report is divided into
two parts namely mango and citrus. The section reserved for marketing of citrus fruit contains six chapters i.e. the producer, four middlemen (contractor, commission agent, wholesaler/ phariawala and retailer) and consumer. Detailed description about volume of business, price setting, cost and margin and marketing losses are given in each chapter. Four citrus producing districts of Punjab were selected for the study data was collected through surveys. Producers, middlemen and consumers of citrus fruit were selected randomly. The report concludes with suggestions for improving the present marketing system of citrus fruit in the province of Punjab. Some of the recommendations are:-

- Direct purchase of citrus fruit by government from growers to avoid the influences of contractors and agents.
- Improvement in standardization and grading, quality control and packaging functions.
- Establishment of fruit processing industry.
- Improvement in transportation, storage and market committee functions.

On the whole, the study concludes that substantial improvements are required in almost all functions of marketing of citrus fruit in the province of Punjab in India.
39. Acharya S.S. (1999) conducted A Study on Fruit Production:- Mr. Acharya mentioned that a large number of fruit is grown in India. Amongst these, citrus fruit share 37-50 percent and is considered to be of good quality as compared to those produced in other countries. Besides orange, other varieties of citrus fruit like lemon, pineapple, jafa, red blood, Malta and Mosambi also have great export potential not only in the middle east markets, the main export market as Indian fruit, but also in Iran and Afghanistan. Citrus shares about 35 percent of total area under fruit cultivation. Sweet orange contributes 52 percent of the total area under citrus cultivation. In spite of having good quality citrus fruit, India has been criticized for supplying poor quality produce in most export markets. Besides absence of proper systems of packaging, grading and transportation, existing inadequate and expensive facilities of freight also hamper effective marketing of citrus fruit.

After a brief description of production and export of sweet orange, mango, date and other fruits Acharya concluded his study on fruit processing opportunities available in India considering the fact that world range production and consumption have increased rapidly over the last decades, India has good potential in increasing its share in this area of fruit business. At present Brazil, Israel and USA are the main suppliers of orange juice with around 8, 7 and 6 percent share of the total world
orange juice respectively”. To conclude it can be said that the literature reviewed, by and large focuses on two main points.

Firstly, marketing practice in fruits and vegetable in general and citrus fruit in particular have not been conducted in the same fashion as that of other manufactured consumer products.

Secondly, it has repeatedly been emphasized that though India has great potential in production and export of fruits, especially citrus but lack of effective marketing practices, non-technical harvesting and handling and high post harvest losses are the key problem area require immediately attention. An overview of the literature clearly demands systematic research to improve the practices involved in marketing of citrus fruit in India. The review not only helps in better understanding of the problem but also developing effective research problem for the study.

40. Anil Kumar and Arora (1999) Conducted a study on post-harvest management of vegetable in Uttar Pradesh hills and found that non-availability of cold storages, highly perishable nature of the vegetable, low marketing demand for the produce at the time of storage were the major problems as perceived by farmers.

41. Chauhan et al. (1999) Analyzed the marketing of vegetables grown in Azamgarh district, one of the important vegetables growing districts of UP. Analysis of margins and price spread reflected that the producers’
share in consumers’ rupee in channel, where commission agents and retailers were the main functionaries, was the lowest and varied from 60 percent to 63 percent, while 37 percent to 60 percent accounted for marketing cost including various items. In Channel II, the producers’ share in consumers’ rupee varied from 85 percent to 88 percent where CA was the sole forwarding functionary. The highest producers’ share in consumers’ rupee was noted in Channel I where producer directly sold to consumer. The producers’ share in consumers’ rupee was between 91 percent and 94 percent for all producers, and also efforts were made to describe the structure and operations of the guava marketing channels and quantify marketing margins of producers and other market agencies. The producers’ share of the retail price was calculated to be 27 percent; 38 percent contractors’ share, 7 percent commission agents, 8 percent wholesalers’, 20 percent retailers’ were also calculated. Results indicated that more than 95 percent of producers sold harvesting rights of their orchards to contractors.

42. Kohli (2000) identified various problems of off-season vegetable growers in Himachal Pradesh. Some of the important problems are non-availability of reliable seeds, assured irrigation, timely supply of fertilizers and chemicals and high cost of packing material, etc.
The study suggested the improvement of the production technology suitable varieties having resistance to insect pests and diseases, improving packing material and organized marketing of off-season vegetables.

43. Haque (2000) Observed contract farming in the case of tomato farmers practiced by the Hindustan Lever Limited in Punjab. The results of the case study on contract farming in Punjab for tomato 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. He found that per acre net income of tomato contract farmers was Rs.20,000.00 for Amritsar district, Rs.9,940.00 for Hoshiyarpur district, Rs.13,000.00 for Jullandhar district, Rs.14,535.00 for Kapurthal district and Rs.8,125.00 for Ludhiana district while per acre net income of potato for non-contract farmers was Rs.10,200 for Amritsar district, Rs.6,440 for Hoshiyarpur district, Rs.6,885 for Jullandhar district, Rs.8,075 for Kapurthal district and Rs.5,600 for Ludhiana district.

44. Susanta (2001) conducted the study on integrated post production management and food processing in India with the national objective. The study findings identifies that India produces over 200 million tones of food grains and about 132 million tones of fruits and vegetables. The unnecessary wastage of valuable commodities can be checked if they are
processed into value added products or adequately distributed in different parts of the country and by improving the post harvest distribution and processing facility. If fresh fruits and vegetables and also processed fruits are evenly marketed from the place of abundance to the place of scarcity, not only will the consumer get the produce at a reasonable price but also the producer will not be found to sell at throw away prices. He further identified some of the techniques, which are not followed in our country like primary processing packing station, on farm storage, packaging, palletisation, containerization, cool/cold chain etc.

45. Vasant P. Gandhi et al (2002) conducted a study on fruit and vegetable marketing and its efficiency in India: A Study of wholesale markets in the Ahmedabad area highlighted there has been concern in the recent years regarding the efficiency of marketing of fruits and vegetables in India. It is believed that poor efficiency in the marketing channels and poor marketing infrastructure is leading not only to high and fluctuating consumer prices, but also to only a small proportion of the consumer rupee reaching the farmers.

The paper examines regulated wholesale markets for fruits and vegetables in the Ahmedabad city area, a large city of 4.5 million in western India. The markets were established to facilitate and improve the marketing efficiency.
The paper studies their infrastructure, operation and status, and the value chain - from farmer to wholesaler to retailer to consumer. A variety of facilities and services are provided at the three regulated wholesale markets studied. The ratings by farmers, commission agents and retailers indicates that location is the most important, followed by go-down facility, yard maintenance, weighing, price display, and banking facilities.

Analysis of the data on the system of sale followed indicates that use of open auction as a system of market transaction is very limited and most of the exchanges take place through secret bidding or simple transactions. Significant marketing efficiency losses may be taking place due to this. Analysis of marketing costs indicates that on an average they hover around 8 percent of the consumer price for vegetables and around 11 to 15 percent for fruits. Among different cost components, transport cost and commission are the most important. Analysis of prices at different levels indicates that overall the average share of the farmers in the consumer price is only around 48 per cent for vegetables and 37 percent for fruits. A study of the profit margin after accounting for explicit marketing costs shows that the margin is frequently as high as 80 to 90 percent as a percentage of the farmer-consumer price difference.

This may indicate significant imperfections and poor marketing efficiency. The study indicates that the regulated wholesale markets can
help in improving the efficiency by measures such as increasing the direct contact with the farmers, increasing the number of buyers and sellers in the market, promoting the use of open auction at the market, and improving/ adding facilities and services such as go-down, cold storage, weighing, and transparency and access to internal and external market information.

46. **Sharan and Singh (2002)** examine the pattern of sales, marketing costs and margins for kinnow in Rajasthan. They found in their study that the producer's share in consumer's rupee is more indirect sale as compared to contract sale, due to elimination of pre-harvest contractor. Marketing cost and margin indicate that producer's share in consumer's rupee may be increased by decreasing the number of intermediaries in the existing marketing system.

47. **Subarhamanyam, K.V (2002)** Reported from the study in Andhra Pradesh the dominance of commission agents in vegetable trade as against pre-harvest contractors in case of fruits.

48. **Pandey et al. (2003)** estimated the price spread and producers and market intermediaries share in the consumer price in the channel: Producer-commission agent-retailer-consumer in potato marketing at Shimla. For the study samples of 25 potato growers, 10 commission agents and 25 retailers were selected purposively. The result showed that
the producer realized around 73 percent share in consumer’s price. The retailer and commission agent earned profit of about 3.5 and 8.0 percent of the consumer’s rupee. The price spread and marketing efficiency was found to be about 27 percent and 3 percent, respectively.

49. **Kumar, Sant, P.K. Joshi and Suresh Pal (2004)** Observed that the farm gate prices for vegetables and fruits range between 20-30 percent of the eventual retail prices in India. In developed countries such as U.S.A., U.K. and Japan, the farm gate prices for such products range between 40-55 percent of retail prices. Realizing the importance of the significant growth in the recent years in horticulture (fruits, vegetables, flowers etc.), exclusive horticultural and animal science universities has been opened in several states. They are expected to cater to the needs of the sector in terms of research, extension, and manpower requirements. Further, these universities are expected to also explore ways and means to evolve appropriate policy interventions for the sustainable growth of perishable Agri-foods.

50. **Jairath, M.S. and N.L. Agarwal (2005)**, Reported that the share of specialized markets like fruits and vegetables in total regulated market is low. Only few states have separate fruits and vegetable wholesale regulated markets. There availability is not even one per thousand sq. km area. Even the horticultural states which account for nearly 20 percent of
fruits and vegetable production does not have regulated market per hundred Sq.km. area various state governments recently initiated a process of direct marketing by producers to consumers in the country by initiating the concept of Apni Mandi (Punjab, Haryana, Rajasthan), Raythu Bazaar (Andhra Pradesh), Uzhavar Sandies (Tamilnadu), Shetakari Bazaars (Maharashtra), Krushak Bazaars (Odisha). But these markets have been promoted so far only at state headquarter and some district headquarters adjoining the state. These markets are dealing only in fruits and vegetables and other perishables.

51. **FAO (Food and Agriculture Organization) (2007)** Highlights the trend is production and trade of Horticulture products, canned peaches, apricot and tomato products in its publication entitled “Processed Fruits and Vegetable”. Different aspects of marketing of citrus fruit, such as quality, price, distribution and trade barriers are thoroughly analyzed in this report. The report states that production of citrus fruit has expended rapidly during the last few decades- from 10 million tons in the early fifties to 20 million thons in the early sixties. The consumption of citrus products (especially citrus juice) has risen faster in the last few years’ then consumption of fresh citrus fruit. Overall the study indicates upward trend in production and consumption of citrus products thought the world. Although the study was conducted almost thirty years back, yet it provides
useful information for present marketing practices. This is mainly due to the fact that the study focused on the fast growing trend in production, demand and consumption of citrus productions world wide.

52. Sreenivasa et al. (2007) Conducted study on “Marketing losses and their impact on marketing margins: A case study of Banana, Karnataka”. To estimate the post harvest losses field level, transit and wholesale marketing level and retail marketing level was selected for the study and they found that the margin of the retailers’ after taking into account the physical loss during retailing has been negative (loss), which otherwise, was positive (profit) in the conventional estimation. Similarly, the producers’ net share and wholesalers’ margins also decreased substantially. It has been shown that marketing efficiency is inversely proportional to the marketing losses. The cooperative marketing has been found to be a more efficient system in terms of both operations and price. Marketing cost has been identified as the major constraint in the wholesale marketing channel and bringing down the costs, particularly the commission charges as demonstrated in the cooperative channel, would help in reducing the price-spread and increasing the producers’ margin. The need for specialized transport vehicles for perishable commodities had also been highlighted.
53. **Surabhi Mittal, (2007)** observed that the increasing share of high value commodities in the consumption basket of households, higher incomes and urbanization, changing lifestyles, market integration and trade liberalization at global level have led to an increase in the demand for horticulture products in India.

54. **Birthal, P.S. and P.K. Joshi (2007)** Reported that the current installed capacity can process only 3 to 4 percent of total production of fruits and vegetables in the country. In the year 1993, there were 4100 to 4200 licensed processing units with an installed capacity of 12 lakh MT, against this the actual production of processed material was only 5.6 lakh MT implying a capacity utilization of less than 50 percent. Being seasonal in nature, the units operate for less than 150 days a year.

55. **Kakaty (2009)** in the study entitled, “Potentialities of Horticultural Crops and Market Accessibilities in Assam and Meghalaya with special reference to Technology Mission for Integrated Development of Horticulture” worked out the price spread for orange in Guwahati Market. He found three marketing channels for orange (I) Producer-Retailer-Consumer, (II) Producer-Commission Agent-Retailer-Consumer, (III) Producer-Commission Agent-Wholesaler-Retailer-Consumer. He found that the growers’ net share of consumers’ rupee was highest in channel-(I) (47.45 percent) followed by 39.00 percent in channel-(II) and 35.50
percent in channel-(III). The commission agent’s margin was 21.80 percent in channel-(II) and 14.35 percent in channel-(III). The wholesaler’s margin was 12.65 percent in channel-III). The retailers’ margin was found at 45.75 percent in channel-(I), 34.45 percent in channel-(II) and 31.75 percent in channel-(III).

56. The Horticulture Board of New Delhi (2010) Organized the Third National Citrus and Winter Fruits Show- The proceeding of the inaugural day were published in ‘The Indian Express’ with the heading “Great Market for Indian Fruits Around The World” The chairman of the foundation in his inaugural address emphasized on the need for enhancing fruit export by improving the quality standards. He called upon the growers to boost the quality production of fruits, especially citrus of which there existed high potential for export. He also pointed out the need to be acquainted with the methodology for overcoming the high rate of pre and post harvest losses which as per estimates has gone up to 45 percent as against standard losses of 20 percent for perishables. He stressed on two important issue i.e. enhancing export and reducing the losses of fruit in general and citrus fruit in particular.

57. Gaurav Joshi (2011) In his article entitled An Analysis of Marketed Surplus and Price Spread of Brinjal in Western Uttar Pradesh, highlighted production of fruits and vegetables to farmers is of vital importance as it
provides three to four times more cash income than cereals per hectare of land. The vegetable crops hold a great promise for accelerating income of the farmers. Realizing the importance of vegetable cultivation many farmers are diverting their resources towards vegetable crops.

The production of vegetables being seasonal and face tremendous uncertainties on several counts. Further, vegetables are extremely perishable in nature and, therefore, require speedy and efficient marketing. This gives rise to various problems to vegetable growers. High marketing cost, quantitative and qualitative losses at various stages, high level of price spread and unpredictable behavior of prices are some problems. Low marketed surplus, market imperfections and poor infrastructural facilities add to these problems. Therefore, in the backdrop of the situation it becomes worthwhile to conduct studies on marketing of vegetables so as to identify remedial measures for better management and to earn higher returns from vegetable crops.

58. Ahmad et al. (2011) developed an alternative methodology for estimation of area and production of different horticultural crops which is cost effective and less time consuming and in which the survey procedures have been simplified. The alternative methodology provides estimates for more than one fruit/vegetable at district level. Hence, in this paper, an attempt has been made to obtain estimates of area, production,
yield rates, number of trees categorized as bearing, non-bearing, young and total number of trees as well as number of stray trees categorized as bearing, non-bearing, young and total number of stray trees for major fruits and area, production and yield rates of major vegetables for Maharashtra State using the alternative methodology.

59. Todkari G.U. (2012) conducted a study on Regional Disparities of Fruit Farming in Solapur District of Maharashtra: A Geographical Analysis, highlighted Fruits are nature’s gift of mankind. The standard of living of the people can be judged by production and consumption of fruits per capita, cultivation of fruits contribution to the health, happiness and prosperity of the people. The fruits production was confined to the pleasure garden of king and nobles. Fruit cultivation is labour intensive industry and it is ideally helpful in drought more area where employment opportunities is very rare. The economic productivity of the fruit plants per unit area is no less than any of the agriculture crops in spite of the fact that Solapur district is climatically favorable of a Variety of tropical, subtropical and temperate fruits. Hence in present paper an attempt has been made to assess the regional disparities in level of fruit farming in study region.

60. Tauqueer Ahmad et al (2012) Production of fruits and vegetables has attained significant importance in the recent past. Fruits and
vegetables account for nearly ninety percent of total horticulture production in the country. One of the basic requirements for proper planning for increasing the production of these crops in the country is the availability of reliable statistics about their area and production at various levels. At present, the estimates of area and production of important fruits and vegetables are being obtained under the scheme “Crop Estimation Survey on Fruits and Vegetables” only for eleven states. Ahmad et al. (2011) developed an alternative methodology for estimation of area and production of different horticultural crops. In this paper, the estimates of area, production and productivity of important fruits and vegetables have been obtained for Maharashtra State using the alternative methodology.

61. Mitul Deliya et al (2012) In his article entitled A study on differentiator in marketing of fresh fruits and vegetables from supply chain management perspective, highlighted in today’s competitive marketplace the pressure on organizations to find new ways to shape and deliver value to customer grows ever stronger. Gradually, in emerging economies as well as developments markets, the power of the seller has overtaken that of the customer. Supply chain management not only helps in cutting costs, but also adds to maintain and improve the quality of fruits and vegetables marketed. In marketing fruits and vegetables, which are perishable in nature, supply chain plays a crucial role. The very nature
of land holding by the farmers, varied climate conditions, production spread over wide geographical area, mainly in remote villages, diversified consumptions patterns and poor infrastructure makes SCM for fruits and vegetables complicated. In India, SCM is at its growing stage in marketing of fruits and vegetables. Marketing of fruits and vegetables are challenging because of the perishability, seasonality and bulkiness and consumption habits of the Indian consumers. In addition to this, poor infrastructure, poor equity in SC and conventional small scale unorganized retailers, make state of the art supply chain challenging in the present scenario.

The Indian retail market is mainly dominated by unorganized retailers. The unorganized retailers are homogeneous group. Recent development in retailing is the entry of large number of organized retailers. Current supply chain catering mainly to the unorganized retailers is riddled with number of drawbacks. As per this paper important drawbacks of the current supply chain are number of intermediaries, high level of wastage, quality degradation, poor infrastructural facilities and high cost. Government and private operators have to join hands to improve the physical infrastructure, information sharing and the service required for quality improvement of the supply chain. In today’s
competitive marketplace the pressure on organizations to find new ways to shape and deliver value to customer grows ever stronger.

Gradually, in emerging economies as well as developments markets, the power of the seller has overtaken that of the customer. Supply chain management not only helps in cutting costs, but also adds to maintain and improve the quality of fruits and vegetables marketed. In marketing fruits and vegetables, which are perishable in nature, supply chain plays a crucial role. The very nature of land holding by the farmers, varied climate conditions, production spread over wide geographical area, mainly in remote villages, diversified consumptions patterns and poor infrastructure makes SCM for fruits and vegetables complicated. In India, SCM is at its growing stage in marketing of fruits and vegetables. Marketing of fruits and vegetables are challenging because of the perishability, seasonality and bulkiness and consumption habits of the Indian consumers. In addition to this, poor infrastructure, poor equity in SC and conventional small scale unorganized retailers, make state of the art supply chain challenging in the present scenario.

62. S.K.Chadha and S.R Dash (2012) in his article entitled ‘Sustainable Horticultural Prosperity of Odisha’ highlighted the agro-climatic conditions of Odisha are favourable for growing a number of horticultural crops. Government of Odisha has taken a multidimensional strategy
including open and protected cultivation of various fruits, vegetables, spices and ornamental crops, post harvest management and marketing of the produce involving various agencies like DRDA, ITDA, OTELP etc and utilizing assistance from NHM, NMMP, NMMI, RKVY, CDB as well as State Plan schemes, the boons has to come in future. The national targeted growth of 6.5 percentages per annum in horticultural sector for the 12th plan period could only be achieved by concentrated effort by all the stake holders.

63. Ipsita Nayak (2012) in his article entitled ‘Livelihood Support of Tribals by Horticultural Plantations under WADI’ highlighted horticultural plantations under WADI followed by proper inter culture and intercrops proved to successful in Koraput district. As the tribals are not habituated with tree based agriculture, it was quite difficult at first to motivate the farmers. With passage of time by seeing the utility of these plantations and interacting within themselves more number of farmers came forward. Fruit tree plantations in the limited area of the rural poor under WADI found to support livelihood besides giving regular employment. This is very much useful for the small and marginal farmers of the state. Many organizations are involved in developing fruit orchards under WADI. The plantations taken up under WADI in Koraput district
during 2010-11 were quite successful and multiplied during 2011-12. The process is being multiplied in other areas of the state.

64. Soumya Kanta Dwibedy (2013) in his article entitled ‘Estimation of Price Spread and Marketing Efficiency of Brinjal in Different Marketing Channels: A Case Study’ highlighted Efficient marketing plays an important role in increasing the producer’s share in consumer's rupee and maintains the tempo of increased production. In the present study, the cost of cultivation, profit, price spread and marketing efficiency in the marketing of Brinjal in Khurdha district of Odisha were examined during the period from 2011-2012. Primary data were collected from 80 farmers through personal interview method using a specially designed pre-tested schedule.
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113


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