CHAPTER - ONE

RESEARCH DESIGN AND METHODOLOGY

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CHAPTER - I

RESEARCH DESIGN AND METHODOLOGY

1.1 Introduction

Indian agriculture is witnessing a gradual change particularly in the cropping system, land use system, input utilization, marketing and above all the monetary returns. On the one hand, the land area available for agriculture is shrinking due to expanding urbanization, while on the other, the demand for higher productivity and returns from the cultivable land is increasing rapidly. At the same time, the quest for higher productivity is leading to serious problems of soil salinity and high water table in irrigated areas. All these factors have provided ideal conditions for major trends towards diversification, mostly in favour of horticultural crops such as fruits, vegetables, spices, plantation crops and ornament crops. The separation of horticultural wing from agricultural department in each state, main stress is now on the development of horticultural crops.

Horticulture has improved economic status of farmers, seasonal availability of fruits and vegetables throughout the year increased per capita consumption from 40 to 85 grams of fruits and 95 to 175 grams of vegetables. It has also played a significant role in women endowment, providing employment opportunities to them in mushroom cultivation, floriculture, vegetable seed production etc. The annual growth rate during the period was more than 6.5 percent. Thus the horticulture sector constitutes more than 24.5 percent from mere 8.5 percent of area to the gross domestic product (GDP) of agriculture.¹

India is blessed with various types of soils and varied agro-climatic conditions as a result of which the country has the advantages of growing a variety of horticultural crops in particular and other crops in general. Horticulture includes a wide range of crops namely, fruits, vegetables, tuber crops, flowers, medicinal and aromatic plants, mushroom, plantation crops, spices etc. These are grown in varied agro-climatic conditions of temperate, sub tropical and arid zones.²

India has made a fairly good progress on the horticultural map of the world with a total production touching over 152.5 million Tonnes during 2000-01. At present, India is the largest producer of fruits (45.4 million Tonnes) and the second largest of vegetables (93.9 million Tonnes) in the world, next to China. Its share in the world production of fruits is 9.7 percent and vegetables 13.6 percent.³

In fruits, India is the largest producer of mangoes and bananas and is among the first ten in the production of apples, papayas, oranges, grapes and pineapples. In vegetables, India is the world's largest producer of cauliflower, second largest producer of onions and among the first ten producer of cabbage, green peas, potatoes and tomatoes. The major fruits grown in India include mango, banana, papaya, orange, mosumbi, guava, grape, apple, pineapple, sapota, ber, pomegranate, strawberry, litchi etc. and vegetables like onion, potato, tomato, okra, chilli, brinjal, green peas, cabbage, cauliflower, carrot, radish, turnip, pumpkin, squash, gourd, cucumber, French beans etc.⁴

Marketing of horticultural crops has several distinctive features due to the special nature of the crop itself. Because of their high perishability, seasonality and bulkiness, these crops require special care and attention in providing time, form and place utilities, which in turn adds to the marketing costs. Due to prevalence of imperfect market structure and also existence on a few traders, the marketing system of horticultural crops is influenced by the ultimate price realised for these crops by the growers. Perishability, seasonality in production, scattered production on small scale, high marketable surplus in relation to total production, localised consumption and relatively less inclination on the part of the consumers towards consumption of processed products, involve a large number of intermediary for performing different marketing activities like assembling, packing, storing and transportation etc. Hence, effective marketing of horticultural crops is as important as their production.

India is the home for many horticultural crops of commercial importance. The horticultural crops differ from other food crops, with respect to certain natural characteristics like moisture content, texture and unit size which makes them highly perishable resulting in huge post-harvest losses. The huge post-harvest losses obviously have an impact both at macro and micro levels of the economy.

1.2 Importance of Horticultural Crops:

The horticulture has gained importance in recent years as a significant component of agriculture in India. The new impetus is given for the development of the horticulture, particularly for growing fruits and vegetables, which constitute important segment of India Dietary System (IDS). The development of horticulture and also securing of a
larger share in the export market are emphasized more during the Five Year Plans.

India is one among the many important fruits and vegetables producing countries of the world. It ranks third after China and U.S.A. in the production of horticultural crops. It is the world's largest producer of mangoes and occupies second place among the banana and onion producing countries of the world. The recent breakthrough in technology coupled with the concerted and sustained efforts to augment the food production has transformed India in achieving self-sufficiency in food grains. However, the problem of malnutrition needs to be overcome. The need for meeting the minimum nutritional level of the diet of a common man is assuming greater significance today. Horticultural crops i.e. fruits and vegetable acquire a place of important as protective food. They provide much needed health supporting vitamins, minerals.

Besides, their value in human consumption, horticultural crops play an important role in commerce, particularly in export trade and processing industry. Horticulture is now regarded as the largest sub-sector of agriculture producing high quality traditional and exotic fruits and vegetables. Employment opportunities provided by this sector to the farm population engaged in production, transportation, processing and marketing operations in addition to the entrepreneurs seeking self employment. Keeping in view its importance much emphasis has been laid to augment the production of horticultural crops in our national plans.

5 Fruits and Vegetables from India, Directorate of Marketing and Inspection, Government of India, Faridabad, 1985, p-1.
There are now many agricultural universities, research institutions and state departments of horticulture directly engaged in fundamental and applied research producing new strains with good varietal characteristics. They run constantly adjusted training programmes for enterprising farmers motivating them to adopt modern technology and develop their skills in producing and preparing quality produce. Recently a National Horticulture Board (NHB) has been established to coordinate the activities further. This motivation has created a substantial degree of awareness and interest in the commercialization of horticultural crops for domestic and international markets.

However, the current production of horticultural crops i.e. fruits and vegetables fall very much short of the minimum requirements. In order to improve the tempo of production the growers are to be provided with enough incentive in terms of remunerative prices. An efficient marketing system helps in disposing of the produce profitably at a minimum cost and with least wastage ensuring a grower a fair return for his labour.

In its money value, in the large number of workers engaged on it, in its ability to distributes purchasing power, in the impetus it gives for industrialization by fostering several auxiliary industries in attracting population to the land and in feeding the people with a most healthful and essential food, horticulture development is to be deemed as a major and essential plank for the economic progress and security of every country.

Summarizing the advantages of horticultural crops, it may be stated that, they supply better food, higher income, all the year round occupation, a diversified system of giving an aesthetic touch to life, stimulus to promote intelligence. Horticultural farming promotes the
development of natural resources, yields higher returns from land, enhances the land values, creates a better purchasing power among the people and as a consequence adds to the general prosperity.

1.3 Problems of Marketing of Horticultural Crops:

The marketing of horticultural crops is a complex process. It consists of all those functions and processes involved in the movement of the product from the place of production to that of consumption. The marketing activities involve not only the functions of buying and selling but also the preparation of produce for marketing, assembling, packing, transportation, grading, storage, processing, retailing etc. The number of functions and its type vary from product to product, from time to time and from place to place.

As the second largest producer of fruits and vegetables in the world next to Brazil and China. India has achieved remarkably in the field of production and productivity of these crops. However it is insufficient to meet the over-growing domestic and external demand. In the coming years, a major shift in consumption patterns in favour of fresh and processed fruits and vegetables is expected, hence, there is an urgent need to solve the prevailing problems in marketing of horticultural crops. They are explained below:

1.3.1 Problems of Grading:

There is an absence of grading and sorting either at the field level or at the market place. The reasons for this are lack of proper standard for different horticultural crops and of grading facilities. There is fear about the disposal of low grade produce and non-availability of mechanical graders.
1.3.2 Problems of Packing:

Lack of innovative packing technology is responsible for huge amount of losses. An overview of status of packing in our country shows that about 30 percent of the marketable fruits and vegetables perish. The available methods of packing lead to spoilage in transit. It is very difficult to protect the produce against mechanical hazards involved in long road journey through wooden cartons.

1.3.3 Problems of Cold storage:

The available cold storage facilities are in sufficient. Moreover, most of them are under private control who actually charge higher rent. The available space is inadequate.

1.3.4 Problems of Non-availability of proper warehouse facilities:

Non-availability of proper warehouse facilities for horticultural crops storage is another problem. Now fruits and vegetables are stored under open conditions or on trenches and pits resulting in huge amount of losses due to rotting and drying.

1.3.5 Problems of Transportation:

Movement of the produce from the place of origin to the place of consumption is another problems of the horticultural crop growers in India. Horticultural produce is mostly transported by road or bullock carts, tractors, trucks and also by road and air. In most of the growing areas, the roads are not properly maintained and in certain backward areas, there is no road facility at all. Added to these absence of all-weather roads and the of quickest means of transport. They leads to delay in transportation resulting in spoilage of the produce.
1.3.6 Problems of Market Intelligence:

Market intelligence plays an important role in the marketing of fruits and vegetables. The prices of produce are dependent mainly on the market situation. A grower not having proper information regarding the market cannot take the advantage of high prices whenever those are prevalent.

1.3.7 Problems of Malpractices:

Sometimes horticultural crop growers get very little out of their sale and this may be because of low prices on the market, high marketing cost, malpractices by commission agents and other market functionaries etc.

1.3.8 Problems of Proper weighing Systems:

Most of the fruits and vegetables are sold on the basis of baskets or through number and not by weighing. As such, neither the buyer nor the seller knows the exact quantity and exact price.

1.3.9 Absence of organised marketing system:

Absence of organised marketing system for horticultural crops is yet another major problems faced by the growers in India.

1.3.10 Non-availability of technologies for handling the horticultural crops: Low cost technologies for post harvest handling have not been adequately developed. Carelessness and non-application of the existing technology made the way for huge amount of loss.
1.3.11 **Inadequate knowledge of curing:**

Inadequate knowledge of curing is a major problem. Improper curing leads to a huge loss especially in vegetables like potatoes and onion.

1.3.12 **Non-functioning of co-operative system of marketing:**

The Non-functioning of co-operative system of marketing except at a few places is another problems of marketing of horticultural crops.

1.3.13 **Non-availability of adequate facilities for processing of fresh fruits and vegetables:**

Non-availability of adequate facilities for processing of fresh fruits and vegetables pose another problem.

1.3.14 **Poor export performance:**

Poor export performance over the year is a threat to the sector in India. There are no organised efforts to produce fruits and vegetables exclusively for exports.

1.4 **Statement of the Problem:**

Marketing of horticultural crops have several distinctive features due to the special nature of the crops. Because of their high perishability seasonality and bulkiness, these crops require special care and attention in providing time, form and place utilities which in turn add to the marketing costs. Due to prevalence of imperfect market structure and also existence of a few traders in the business, the marketing system of horticultural crops is influenced by the ultimate prices realised by the growers.
Effective marketing of horticultural crops have been treated equally important to their production. Perishability, seasonality in production, scattered and small scale production, high marketable surplus in relation to total production, localised consumption and relatively less inclination of the consumers towards the consumption of processed products, involve a large number of intermediaries for performing different marketing activities like assembling, packing, transporting and storing. These horticultural crops differ from other food crops with respect to certain natural characteristics such as moisture content, texture and unit size which make them highly perishable, resulting in huge post harvest losses. The post harvest losses obviously have an impact both on macro and micro levels of the economy.

In view of the multiplicity of marketing problems "PROBLEMS AND PROSPECTS OF MARKETING OF HORTICULTURE PRODUCTS – A CASE STUDY OF BELGAUM DISTRICT" has been undertaken.

1.5 Need for the study:

Horticultural crops production and marketing are plagued by many imperfections and inadequacies in India. The growers of horticultural crops are facing many problems like vagaries of monsoon, lack of knowledge about modern methods of cultivation, plant diseases etc. These problems are related to production aspects. There are some severe problems on the marketing side too. They are, lack of packing and grading, inadequate storage facilities, lack of transportation, biased market practices, superfluous market rates and farmers' ignorance about marketing trend etc. Marketing problems have been affecting both farmers and intermediaries and thereby preventing them from obtaining remunerative and competitive prices for the produce.
In view of the immense importance of marketing of horticultural crops any study on this aspect would be worthwhile to undertake. Against this background, the present empirical study aims at throwing light on most significant problems and prospects confronting the marketing of horticultural crops in Belgaum District of Karnataka State.

1.6 Review of Literature:

There is a dearth of literature on marketing of horticultural crops. Only a few studies have been made in India and abroad. They are:

Sidhu and Kahlon (1967)\(^6\) in their study identified three marketing channels for apple in Kuluvalley namely, contract system, sale in market through agents and direct selling to consumer. They observed that 62.60 percent of orchard owners sold their fruit on contract basis while 34.15 percent and 3.25 percent sold through agents and directly to consumers respectively.

Singla and George (1969)\(^7\) analyzed the "Channels for marketing sweet oranges in Punjab" and they reported that on an average, about 77.79 percent of the total marketable surplus was disposed off through the pre-harvest contractors. The producers sold 20.83 percent produce to distant terminal markets and about 1.04 percent of it was sold in the local wholesale market. Direct sales to retailers and consumers accounted for only 0.24 and 0.10 percent respectively.

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Jassi (1972)\(^8\) has made study on the problems of marketing potato in two markets of Jalundar city, found that 24.35 percent of the sampled farmers sold their produce in the village after harvest accounting for 30.60 percent of the sales at two markets. On the whole, 56.41 percent of the producers sold their produce directly in the town market which accounted for 49.47 percent of the sales in both the markets and 19.23 percent of them sold their produce in the terminal market accounting for 19.93 percent of the total sales in both the markets.

Kunwar et al (1972)\(^9\) conducted a study on marketing of potatoes in Parrukhabad (Uttar Pradesh) found that the producer's share in the consumer's rupee varied from 60.48 percent to 76.89 percent. The average worked out was 71.52 percent. It was found that the producer's share in the consumer's rupee increased as the marketing cost decreased.

Chandrashekar (1973)\(^10\) in his study on marketing of vegetables in the city of Bangalore, indicated that the share of wholesalers and retailers, in the consumer rupee were 6 percent and 26 percent respectively. The marketing cost accounted for 13.00 percent of consumer's price when the produce moved from producers to ultimate consumers through wholesalers and retailers.


Purandara Rao (1973)\textsuperscript{11} has analysed marketing problems of arecanut formers in three major areca nut markets – Managalore, Shimoga and Sirsi during price depression in 1973. The author has found that about 55 percent of the producers interviewed sold through one channel, while about 35 percent through co-operatives and the remaining through multiple channels.

George (1974)\textsuperscript{12} made a study on marketing pattern of citrus fruits in Nagpur and Cuddapha. He found that farmers depend heavily on the pre-harvest contractors and other agents. They sold 48 percent of their produce through pre-harvest contractors and 52 percent by auction in the markets. Uncertainties in the wholesale market and its imperfections left the farmers with no other alternatives.

Raghubansi et al (1975)\textsuperscript{13} studied important channels for marketing fresh ginger and dry ginger. They found that sale through different agencies namely whole seller, commission agents and retailers constituted 72.81, 20.83 and 6.36 percent respectively.

Pawar and Patil (1976)\textsuperscript{14} worked out the per unit marketing costs of different fruits in Bombay. The study revealed that packing and transpiration were the major items of marketing costs in all the fruits like sweet oranges, apples, grapes and mangoes. The other items of costs were loading and unloading charges, entrance fee. He stressed more


upon the effective marketing services for efficient movement of fruits from producing areas to consuming area.

Borude S. G. (1977)\textsuperscript{15} in his study \textit{Economics of Mango Processing in Ratnagiri district} (M. S) that, he compared the economics of processing of three mango products namely, Alphanso mango pulp, raw mango slices in brine and mango pickles and chutneys. He concluded that the business of mango processing was quite remunerative. However, the preparation of mango, pickles and chutneys was most remunerative while preparing Alphanso mango pulp was least profitable.

Sete et.al. (1980)\textsuperscript{16} in their study on measurement of price-spread of tomatoes reported that the total cost of marketing worked out to be Rs.20.97 and Rs.20.76 per quintal in case of irrigated and rainfed tomatoes, respectively. The producers, itinerant traders, commission agents and retailers incurred on an average 20.80, 8.75 and 27.30 percent of the total cost of marketing of tomatoes. Among the various items of costs, transport, grading, packing, labour and Gram Panchayat cess were the major items.

Chinnappa B. (1981)\textsuperscript{17} has made a study on economics of production and marketing of guava in Bangalore district that the total expenditure during the first three years of establishment incurred by the guava growers was Rs. 14237.00 per acre. The average cost including variable costs fixed costs and marketing costs worked out to Rs.6947.68.


\textsuperscript{17} Chinnappa : \textit{Economics of production and marketing of guava in Bangalore district of Karnataka}, M. Sc. (agri) thesis UAS, Bangalore, 1981.
The study indicated that the establishment cost could be reduced when guava was grown with some inter crops during the first three years of establishment.

Subramanyam K.V. (1981) Studied on the effect of marketing costs on cost of production of vegetables. He emphasised the relevance of inclusion the marketing costs as a part of the cost of cultivation and illustrated this using the data collected on vegetable crops during kharif season for 1979 from a sample of 106 cultivators of Kolar district of Karnataka. The marketing cost amounted to 20-30 percent of the total cost of cultivation. The Marketing of the produce involved a lot of expenditure which has to be borne by the producer. The transportation cost and commission charges accounted for a major portion of the marketing costs.

Tayade and Patil (1981) who conducted a study of prices spread in marketing of selected vegetables in Mahatma Phule market, Pune found that producers' share in the consumer's rupee for potato was 58.24 percent, while of the retailers margin was 33.03 percent. It suggested providing cold storage facilities at a cheaper cost in the market yard and exercising effective control over the commission agents for safeguarding the interests of producer sellers.

Neelagreevan (1985) made a study of problems in procurement and supply of fresh fruits and vegetables in Nagpur district of

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Maharashtra and reported that the prevailing system of transportation, handling and packing of fruits and vegetables resulted in pre harvest losses ranging from 15.00 to 40.00 percent.

Nagaraj et al (1985)\textsuperscript{21} in their study on market appraisal for the fruits and vegetables observed the single most important channel for vegetables like beans, cabbage, brinjal and tomato in Bangalore city viz.

Channel-I : Producers - Commission agents-Retailers. (Shopkeeper an Hawker) - Consumers.

Dalvi H. I. and others: (1986)\textsuperscript{22} made a study of price spread in the marketing of coconuts in Konkan region of Maharashtra State reported that the cost of marketing margins has shown that marketing of coconut on Sindhudurg district in Maharashtra is simple and not involving many intermediaries as the demand was restricted to the district only. Most of the produce was consumed locally and hence coconuts were sold by local producers to consumers. District selling to the consumers was found to be the more profitable one than selling through the wholesalers. The farmers got maximum share in consumers' rupee, while in case of the latter it was minimum. Co-operatives must therefore be encouraged to come forward in the marketing of coconuts.

Jagmohan Singh D. C. Mathur and A. K. Gupta (1986)\textsuperscript{23} made a study on the use of tractor and bullock labour in the cultivation of vegetable crops in Delhi area. He concluded that the per acre yield of the


selected cultivators who used tractor was not significantly higher. On the other hand the cost per acre for tractor users was higher than that of the users of bullock labour. This showed that the use of tractor in cultivation of vegetable crops in small holdings as uneconomical.

Rajagopal (1987)\textsuperscript{24} in his study on marketing of fruits namely apple, guava and mango reported that the producers share in the final price was highest in apple crop, followed by mango and guava. The cost of marketing was higher in guava followed by mango and apple. It was found out that apple cultivation was economically viable even to small growers. He recommended direct sales and sales through co-operative should be promoted to provide more shares to the producers in the final price of fruit crops.

Hegde D. A (1987)\textsuperscript{25} has found that price behaviour of arecanut has created a favourable impact on arecanut plantations and their growth in the North Canara district of Karnataka. The higher incomes realised were used for improving the standard of living of small and marginal farmers. While large farmers had invested in productive assets.

Kiresur (1987)\textsuperscript{26} in his study conducted in Dharwad and Hubli Markets on marketing of vegetables found that the cost of cultivation of onion per acre was Rs.2440.78 and gross return were Rs.4950.90 per acre and the net return were Rs.1734.18 per acre.


Srivastava (1991)\textsuperscript{27} analysed regional imbalance in production and consumption of fruits and vegetables in India. Examination of the consumption data showed that very little was spent on fruits and vegetables. However, in all the regions, the consumption of fruits and vegetables was higher in Urban areas than in rural areas.

Jayale (1992)\textsuperscript{28} in his study observed that majority of the respondents (79.16\%) opined that filling of pit with manure and fertilizers is costly and laborious while 66.66 percent of respondents expressed that the problem of digging the standard size pit is expensive and 45 percent of the respondents expressed that getting seedling is difficult.

Bhogal (1994)\textsuperscript{29} conducted a study in Nainital district of Uttar Pradesh and reported that 66.66 percent of the apple growers were facing problems of non-availability of cold storage facilities, 64.00 percent of the apple growers were facing problems of high marketing cost and 51.39 percent were facing that of lack of transport facilities.

Saravanakumar (1996)\textsuperscript{30} in his study on a study on management of mango gardens by farmers in Krishnagiri taluk of Dharmapuri district (T. N) revealed that large majority of the respondents (80.93\%) leased out their mango gardens, Nearly fifty percent of respondents sold their

\begin{thebibliography}{99}
\bibitem{30} Saravanakumar, R.: \textit{A study on management of mango gardens by formers in Krishnagiri taluk of Dharmapuri district (T.N)}, M. Sc. (agri) Thsis UAS, Dharwad, 1996.
\end{thebibliography}
produce at different market places and only 9.17 percent of the respondents auctioned their produce.

Venkatarman and Srinivas Gowda (1996) studied the economics of tomato production in Kolar district of Karnataka. The study revealed that the per acre total cost of production (including marketing cost) worked out to Rs.36,611.51, out of which the variable costs, were Rs.15,648.26 (42.74 percent of total cost) and marketing costs Rs.18,406.77 (50.28 percent of total cost). Out of total cost of production 37.55 percent (Rs.5,875.45 per acre) was incurred on human labour, 21.55 percent (Rs.3,371.46 per acre) was on manure's and fertilizers and 13.64 percent on plant protection chemicals. The farmers on an average received gross return of Rs.97,476.96 from tomato crop per acre. The net return per acre over the total cost was found to be Rs.60,710.68

Kaul G. L. (1997) was made a study on Horticulture in India production, marketing and processing that, horticultural crops account for over 25 percent of the total export of agricultural commodities and cashew leads with an overall share of about 41 percent of the total value of horticultural exports.

Ranganathan and Somsundaram (1997) conducted a study on marketing behaviour of mushroom growers in Tiruchinapalli district revealed that more than three fourth of the respondents (77.78%). Sold

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the mushroom at the production place, retail outlets and processing unit. Only one fourth of the mushroom producer (23.16%) sold their produce to the restaurants directly.

Nirmaladevi and Manoharan (1998)\textsuperscript{34} Studied on constraints encountered by guava growers and he reported that farmers were facing many problems in adoption of guava production such as soil and water problem (76.17%) lack of training facilities (50.15%) and high cost of pesticides (46.77%). In case of marketing 74.25 percent each of guava growers were facing the problems of low price of produce and non-availability of regulated market while 58.59 percent faced the problem of lack of quick transport facilities.

Sreenivasa Murthy and Subramanyan (1999)\textsuperscript{35} made a study on growth and instability in exports of onion from India and reported that India is exporting onion to more than 45 countries. Shrilanka having about 47.32 percent share in the total quantity of onion exported from India during 1970-71 and now it is of UAE and Malaysia accounts 38 and 22 percent respectively.

Tamanna and Chaurasia (1999)\textsuperscript{36} documented the country wise mango exports from India. In the year 1995-96, the export of Indian mango was most profitable to Australia followed by Sweden, France, Japan, Switzerland, Belgium and Singapore etc in terms of unit value (Rs/Kg). The country wise export of grapes from India. In the year of

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1995-96, the export of grapes was most profitable to the countries like Seychelles, France and Mauritius etc in terms of unit value (Rs/Kg). In another study they documented the country wise banana exports from India. In the year of 1995-96, the export of Indian banana was most profitable to USA followed by Russia, South Africa, Jordan, Germany, Netherlands and Israel in terms of unit value (Rs/Kg).

Katar Singh and Pundir (2002) made a study on the role of banks in promoting India’s export of fruits and vegetables, reported that over the period 1995-96 to 2000-01, there has been a slow but steady growth in the exports of both fresh and processed fruits and vegetables from India.

Thus, the review of earlier studies on marketing of horticultural crops reveals that such studies focussed on analysis of cost of production, methods of cultivation, cost of marketing, marketing channels, share of market functionaries, price spread and producer’s share in the consumer rupee etc. in respect of different horticultural crops. Hence, the present study which is micro, regional and empirical in nature, is quite distinct from the earlier studies.

1.7 Objectives of the study:

The present study has been undertaken with the following objectives.

1. To analyse the area and production of horticultural products in India and Karnataka.

2. To know the export of horticultural products in India and existing market for export.

3. To study the growth of horticulture production in Belgaum district.

4. To study the horticultural marketing problems faced by the growers and intermediaries in the study area.

5. To study the future prospects of horticulture in the study area.

6. To identify major problems in marketing of horticulture in the study area.

7. To make suitable suggestions for future improvements.

1.8 Scope and Limitations of the study:

Though horticulture produce grown in most of the districts in Karnataka State, this study confines itself to Belgaum district only as it is the second largest producer of fruits and vegetables in the state. The study has been deliberately confined to this district as the researcher hails from this district the problems pertaining to marketing of horticultural crops by the growers and intermediaries in the areas covered by the study. The study chiefly focuses on the marketing problem, areas affecting the growers and intermediaries of selected horticultural crops. The temporal coverage is confined to the period 1998-99 to 2002-03 for trend analysis.

In spite of all possible efforts to make the analysis more comprehensive and scientific, a study of the present kind is bound to have certain limitations. The study has been conducted with the following limitations:

1. Horticulture includes, cultivation of fruits and vegetables as well as ornamental flowering, foliage trees, shrubs and flowers gardening. The study is restricted to the marketing problems of fruits viz, mango, banana, sapota and vegetables only.
2. The area of the study is confined to all ten talukas in the Belgaum district and the period of the study is restricted to five years from 1998-99 to 2002-03.

3. The interview method of data collection entails the respondents to recall from their memories the operations carried out. Hence the findings are subject to error in the recollected account.

4. Most of the data is gathered from the primary sources, which naturally have their own limitations. Generally, fruits and vegetable growers do not maintain any books of records. The traders maintain books of accounts on a limited and not on scientific lines.

5. Secondary data is taken from different sources, variations are likely to occur due to the different sources of the secondary data. However, care has been taken to eliminate inaccuracies through logical inferences.

6. Constraint of time, limited resources, unwillingness on the part of most of the sample respondents for spending more time for interview, and absence of accounting habits of respondents are some other limitations.

1.9 Methodology:

For the purpose of collecting the required information for research study the following methods have been adopted:

A) Tools for Data Collection:

The present study is primarily based on primary as well as secondary data. The main sources of primary data, however is field investigations carried out by the scholar. Two different schedules are prepared and pretested for administering on the farmers and wholesale
commission agent separately. The schedule for farmers (Appendix-I) intended to sought information of their general background, marketing problems faced in sale of horticultural crops and future prospects. The second schedule for wholesale commission agents (Appendix-II) is meant to seek information on their background, finance and opinion on the marketing problems of fruits and vegetables.

The secondary data constitutes published and unpublished reports of central and state Governments. Specifically the secondary data required for the study were collected from below given sources.

1. The Directorate of Horticulture, Bangalore.
2. National Horticulture Broad, Bangalore.
3. The Deputy Director of Horticulture, Belgaum.
4. The District Statistical Officer, Belgaum.
5. The Assistant Director of Horticulture (All taluks)
6. The Director, Indian Institute of Horticulture Research, Bangalore.
8. Directorate of marketing and Inspection, Government of Karnataka, Bangalore.
10. Other Libraries.
    a) University of Agricultural Science, Dharwad.
    b) University of Agricultural Science, Bangalore.
c) Karnatak University, Dharwad.
d) Bangalore University, Bangalore.
e) Mysore University, Mysore.

B. Sample Design:

The study is confined to Belgaum district in Karnataka. There are 10 taluks in the district, all these ten taluks - Athani, Bailhongal, Belgaum, Chikodi, Gokak, Hukeri, Khanapur, Ramadurg, Raybag and Saundatti - are selected for field study and investigations.

Belgaum district is gifted with various types of soil and varied agro-climatic conditions as a result of which the district has advantages of growing a variety of horticultural crops in general and fruits and vegetables in particular. Amongst all the horticultural crops, fruits and vegetables are important crops grown in the district. Therefore for the indept study the researcher has chosen only two important crop viz. Fruits (Mango, Banana, Sapota) and vegetables. However the selection of major crops was made based on their area occupation and availability of data.

Selection of Sample Formers:

At the outset it may be honestly admitted that it was rather difficult to select the growers of the chosen horticultural crops whose number runs into thousands. So the researcher has selected 200 farmers/growers in the study area on the basis of non-probability sampling i.e. by using quota-sampling methods.
Sample of farmers/respondents selected for obtaining information is shown in Table 1.1

Table 1.1

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Taluks</th>
<th>Total No. of Villages</th>
<th>Total No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Athani</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Bailhongal</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Belgaum</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Chikodi</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>Gokak</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>6</td>
<td>Hukeri</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>7</td>
<td>Khanapur</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>Ramdurg</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>9</td>
<td>Raybag</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>10</td>
<td>Saundatti</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>40</td>
<td>200</td>
</tr>
</tbody>
</table>

Selection of Sample intermediaries:

There are mainly three markets where fruits and vegetables are traded viz. Wholesale fruit market, wholesale vegetable market and APMC Belgaum where only two commodities are traded (i.e. Potato and Onion). All these three market were selected for the study, which are located in Belgaum city only. There are 264 wholesale commission agents in these three markets i.e. 40 in wholesale Fruit market, 114 in wholesale vegetable market and 110 in APMC Belgaum. Out of these 30 intermediaries, 10 each from wholesale fruit market, wholesale vegetable market and APMC Belgaum were selected for the present study. The selection of respondent intermediaries is made on the basis of convenience sampling method.
C. Methodology for Analysis

The analysis of the data is accomplished by using percentages, averages, trend analysis and growth analysis. The data is presented through well-designed tables in SPSS Software. Application of Excel software has also been used for graphical presentation of data wherever found appropriate.

1.10 Period of the study:

The present study has covered for a period of 5 years, between 1998-99 and 2002-03. Significant trends and inferences could be identified on the basis of the data collected during the period under reference.

1.11 Design of the study:

Keeping in view, the objectives of the research, the present study is divided into seven chapters:

Chapter I:

The first chapter deals with the nature, objectives of the study, review of literature, scope and limitations, period, sources of data and methodology adopted in collection, analysis and presentation of the data. The chapter also presents some of the definitions of the concepts used in the study.

Chapter II:

The second chapter covers the conceptual framework of horticulture, marketing and horticultural marketing.

Chapter III:

Area and production of horticulture in India and Karnataka is dealt in Chapter III. It also covers the export of horticulture crops from India. The chapter also presents the growth of horticulture production in Belgaum district.
Chapter IV:

Chapter IV furnishes the profile of the economy of Belgaum District in Karnataka state.

Chapter V:

The fifth chapter covers to study the horticultural marketing problems faced by the growers and also covers to study the future prospects of horticulture in the study area.

Chapter VI:

The sixth chapter deals with to study the horticultural marketing problems faced by the intermediaries and their backgrounds.

Chapter VII:

The last chapter provides major findings and to recommends and give suggestions for future improvements.

1.12 Concepts used in the study:

1. Horticulture:

Horticulture is a term, under which cultivation of fruits and vegetables, foliage trees, shrubs and flower gardening are covered.

2. Hectare:

Hectare is a measurement of land in metric systems. It is equal to 2.471 acres of land.

3. Marketing channel:

The chain of intermediaries through which horticultural crops are passed from the producers to the consumers constitutes the marketing channel.
4. **Consumer:**

   Consumer is one who buys the horticultural crops for consumption.

5. **Trader:**

   Trader is a person who buys notified horticultural produce in the market yard either for himself or as an agent of one or more persons for the purpose of selling processing or for manufacturing.

6. **Commission agent:**

   He is a person who operates in the wholesale market on behalf of his principal in consideration of commission at a fixed rate on the amount involved in each transaction and responsible for payment of sale proceeds received from buyer.

7. **Retailer:**

   Retailer is a person who buys horticultural produce either directly from the producer sellers or from the commission agents in the wholesale markets and in turn sells them to consumers at various retail outlets.

8. **Producer / seller:**

   Producer / seller is one who produces and or sells the horticultural crops.

9. **Co-operative:**

   Co-operative is an institution of marketing element which perform stated functions to meet stated objectives under co-operative framework.
10. HOPCOMS:

HOPCOMS stands for Horticulture Producers Co-operative Marketing Society. It is a society in which farmers directly sell their horticulture produce through this marketing centre.

11. APEDA:

APEDA (Agricultural Produce Export Development Authority) is an institution formed by the Ministry of Commerce, Government of India for the purpose of exporting agricultural produce to the foreign countries.