INTRODUCTION AND RESEARCH DESIGN

In this chapter an attempt is made to discuss the role of agricultural marketing. Besides, the review of literature, research design, objectives and methodology are also presented.

INTRODUCTION ABOUT AGRICULTURAL MARKETING

Vegetables provide vital protective nutrients like vitamins and minerals in the balanced diet of human beings. It is not an exaggeration to say that there is no human being in the world who does not consume vegetables. Besides, vegetable cultivation is more labour intensive and remunerative for small and marginal farmers. Despite its utility, vegetable cultivation, consumption and marketing— in India remain a relatively neglected aspect. Though India is the second largest country in terms of production of vegetables in the world, the average per capita intake of vegetables is much below the requirements of a balanced diet. This is mainly due to severe handicaps associated with production and marketing of vegetables. The production problems include low productivity, traditional cultivation practices etc. On the marketing side, there are many imperfections and inadequacies while the perishable nature of vegetables poses some vital problems of marketing, the traditional and exploitative marketing practices pose some more problems. Some of the serious problems in marketing of vegetables include unfair trade practices by middlemen, price uncertainty, price manipulations, lack of proper transport, storage facilities etc. As a result, Indian vegetable growers are considered to be bad marketers. Under this situation, they are forced to accept the price offered by the traders. Though some attempts are made to regulate the market practices and develop marketing facilities, a greater part of the vegetable marketing remains unorganized and underdeveloped.

In recent trends, the importance of consuming vegetables for the maintenance of normal health is being realized in all parts of the world. Out of nearly 300 commercial cultivated crops in the world, about half were vegetables.
Comparatively, vegetables are one of the cheapest sources of natural nutritive foods. Their consumption in sufficient quantity provides taste, palatability and increases appetite. Improved nutrition through increased intake of vegetables will necessitate a considerable increase in the production of vegetables which in turn demands an increase in the area under cultivation and production of vegetables. The increased supply of vegetables brought about through improved techniques will bring down the cost of cultivation. Normally, vegetable crops give higher yield per unit area as compared to cereal crops. Further, increase in vegetable production can provide more farm employment.

In India, vegetable production can play a vital role as it is burdened with problems of food shortage, mass under-nourishment, lower farm income, existence of unemployment and surplus labor force engaged in agricultural sector. Vegetable crops generally are of short duration in nature and hence their production can make efficient use of land which also ensures additional employment and income to rural families. If vegetable production is increased, the per capita consumption will definitely increase and people would like to use more vegetables in comparison to cereals.

The agricultural marketing system in India is very often viewed as exploitative. The intermediaries in the marketing system, it is alleged, make abnormal profits at the cost of producers and consumers. The vegetable marketing in our country is mostly unorganized and remain defective. It is a well known fact that the vegetable trade is in the hands of a few middlemen and controlled by traders/Commission Agents who exploit the producers and the consumers to the maximum possible extent. It is often complained that the vegetable growers do not get remunerative prices for their vegetables while the consumers have to pay higher prices for the same. The difference in prices received by the growers and the prices paid by the ultimate consumers is too wide, almost four times or even more. Thus, it is generally believed that the marketing infrastructure for vegetables is very weak. The serious problems in marketing of vegetables are trade ring, unauthorized deductions, price uncertainty and perishable nature of the commodities.
REVIEW OF LITERATURE

Shamim Ahmad and Mohammed Jamshed (2014)\(^1\) In his study titled “Nurturing an Agriculture Friendly Commodity Derivatives Marketing in India” examined the analysis and discussion leads to the creation of a new institutional design exclusively for governing, monitoring and regulating the spot, futures and derivatives markets in agricultural commodities. Central Government may pass an “Inter-State Agriculture Produce Trade and Commerce Regulation Act” under entry 42 Inter-State Trade and Commerce of agriculture produce at national level. They found the Government of India should empower spot exchanges to function on pan-India basis through integrated single window.

Neeti Agarwal and Gurbandini Kaur (2013)\(^2\) in his study titled “Agricultural Commodity Future Trading and its Implications” An Overview the discussion based on various parameters of the commodity market as a whole show that the researchers have a mixed view. There is undefined view point on any of the variables selected. This clearly shows the uncertainty prevailing in the market which forms the basis of the research.

Harwinder Pal Kaur and Dr. Bimal Anjum (2013)\(^3\) in his research paper “Agricultural Commodity Futures In India” A Literature Review Indian economy has witnessed mini resolution in commodity Future market since 2003 as a result of the revival of commodity futures in a big way. They found there is no integration between the commodity futures markets and spot market.

Gupta and Ravi (2013)\(^4\) explored the efficiency between commodity futures and spot markets at MCX, NMCE and NCDEX for chana, guar seed, wheat, and potato and cotton seed oil cake. They found evidences of efficiency in most of the sample commodities.

Shakeel and Selvaraj (2013)\(^5\) “Determinants of Farmers Perception Towards regulated Agricultural Market in Salem District” they are likely to contribute towards enhancing the performance of the regulated markets in future by strengthening the infrastructural facilities and provision of modern
conveniences in the regulated markets. The government should also be made responsible to examine its policies and regulations to strengthen the marketing system and prices are determined on the basis of competition and manipulated markets. In order to remove the malpractices of agricultural trade and to give benefits to farmers and traders pressed in services social institutions are in dying need of steely backup from the government to attract and secure the interest of both buyers and sellers in the market.

Elamathi, C(2013)⁶ “Agricultural Marketing in India” has studied challenges and present constraints in the agricultural marketing in India. A good marketing system is one, where the farmer is assured of a fair price of his produce and it is possible when there is basic organizational and infrastructural facilities are to be provided such as the number of intermediaries between farmer and consumer is less. Proper storing facilities, efficient transport facilities so that the malpractices of middlemen are regulated. Proper marketing information is provided to the farmers.

Shakeel-Ul-Rehman et al., (2012)⁷ Indian agriculture can be balanced and made efficient through proper and better management practices. The present study brings out past and present scenario of agricultural marketing prevailing in India, its challenges and future recommendations. Moreover the opportunities provide by agricultural marketing should be tapped effectively by the marketer

Kristoufek and Vosvrda (2012)⁸ Examined the market efficiency of 25 commodity futures across various groups like metals, energies, soft’s, grains and other agricultural commodities using a proposed efficiency Index. They found that the most efficient of all the analyzed commodities is heating oil, closely followed by WTI crude oil, cotton, wheat and coffee. They also inferred the efficiency for specific groups of commodities viz. energy commodities were found to be the most efficient and the other agricultural commodities the least efficient groups.

Murthy and Reddy (2012)⁹ studied the relationship between the futures price and spot prices and the farmer’s participation. For chili and turmeric, they
found that futures prices affect spot prices. Also, they found that “majority of the farmers are not aware of the commodity futures trading and hence do not participate in futures trading”.

**Sehgal, Rajput and Dua (2012)** examined ten agricultural commodities futures market for a period from June 2003-March 2011 on NCDEX. They found that markets were efficient for all Asian Journal of Business and Economics but one commodity (Turmeric). Also their results showed bi-directional Granger lead relationship for all select commodities except Turmeric. They concluded that Indian commodity market is still is not competitive for some commodities.

**Sanjay Sehgal, Dr. Namita Rajput and Rajeev Kumar Dua (2012)** in his study titled “Price Discovery in India Agricultural Commodity Markets” conclude that Indian commodities market is still not perfectly competitive foursome commodities. Find that spot and futures prices of all sample commodities and indices are non stationary, and in fact integrated to order one except one commodity Turmeric in which null hypothesis is accepted and there is no co integration revealed in this market.

**Dutt, P.K. (2011)** “Agricultural Rural Marketing in India” has tried to know the rural marketing potential and its utilization in India. The company has developed the new marketing strategies that influence the consumer behavior.

**Jeevan Chinnappa (2011)** come to know that middlemen are not allowed in the vegetable market and everyday Rs. 5 lakh transactions occur in Mysore. Mysore taluk farmers expressed that they sell vegetables at 4 a.m and business closes between 11 and 11.30 a.m. Merchants relax the prices as the time comes to nearby 11:30 a.m as per the words of Rajanna, president of the Siddartha Tarakari Belegarara Mathu Maratagarara Sahakara Sangha, an association of the farmers and merchants. The vendors would leave huge quantity of litter after they left for the day, defiling the surroundings, which necessitated their relocation. The merchants provided with identity cards to sell vegetables and spot selling not allowed. Merchants would be suspended for 15 days at a stretch, if they found on the wrong side.
Vishwanathan and Archana (2010)\textsuperscript{14} examined the role of futures markets in terms of price discovery process and rate of convergence of information from one market to another by taking six commodities- gold, silver, nickel, copper and Gram (Chana). They used a two-regime threshold vector auto regression (TVAR) and a two-regime threshold auto-regression method. Result supported the existence of price discovery process in Indian commodity exchanges. Further, a high rate of convergence of information in case of metals and slow convergence of information in case of agricultural commodities has been found between the different markets.

Gurbandani and D.N, (2010)\textsuperscript{15} they tested the market efficiency of agricultural commodities traded on National Commodity Derivative Exchange of India and pointed out that Indian commodity derivative market has witnessed phenomenal growth in few years by achieving almost 50 time expansion in market. By applying autocorrelation and run tests on four commodities namely-Guar seed, Pepper Malbar, refined Soya oil and Chana (Gram) the study observed the random walk hypothesis and tested the week form efficiency of these commodities. The study also indicated key evidence of liner dependence for selected agricultural commodities which has reflected by high coefficient values of autocorrelation. Indian agricultural commodity market is efficient in week form of efficient market hypothesis.

Sheba and kanwal (2010)\textsuperscript{16} tried to examine the need for commodity trading advisors and discussed the important functional and policy considerations in initiating the commodity futures market for commodity trading advisors in India. Study found an unstructured expansion in Indian commodity market, in spite of high demand for commodities in both derivative and spot markets. There had been limitations through policy restrictions and at the same time there had been an attempt for liberalization of the derivative market to bring both markets at par with global commodity market. Study concludes that the participation of non professional people make commodity trading a risky venture and they add volatility factor to the market. So it has been argued that participation of
commodity trading advisor will provide expertise in commodity futures trading and it will protect the traditional portfolios with better profit and less risk.

Ranjit and Asima (2010)\textsuperscript{17} studied the efficiency of Indian commodity market in terms of price formation of agricultural commodities traded on commodity exchanges. By applying co- integration analysis and GARCH model on agricultural commodities they confirmed the co- integration between commodity futures and commodity spot market indices. They emphasized that with the information of any one index hedging can be done on other commodity indices. New information was found as an important factor to predict the future value of commodities.

Gurbandani (2009)\textsuperscript{18} found that both spot and future prices for selected agricultural commodities are efficient in weak form. Future prices are independent and past prices have no role in the contribution of future price prediction

P.Sankaranaryana and S.Sri Thnaga Rama Krishnan (2009)\textsuperscript{19} in their paper “A new trend in Indian Agriculture Sector “opine that the occupational structure of India is dominated by the “agriculture sector”, “manufacturing Sector” and the “ Service sector” are lagging far behind in this context . This shows that India is predominantly an agricultural economy and hence it requires strongest protection and development of its agricultural resource: India is facing certain “Agricultural challenges” that must be resolved as soon as possible.

Swami and Bhawana (2009)\textsuperscript{20} discussed that with the elimination of ban from commodities, Indian futures market has achieved sizeable growth. Commodity futures market proves to be the efficient market at the world level in terms of price risk management and price discovery. Study found a high potential for future growth of Indian commodity futures market as India is one of the top producers of agricultural commodities.
Brajesh and Ajay (2009)\textsuperscript{21} observed that commodity futures market in India provide higher hedging effectiveness in agricultural commodities as compared to non-agricultural commodities and price risk management role of Indian commodity futures market has also increased with increased activity in market.

Mahalik et al. (2009)\textsuperscript{22} also supported the commodity future market as efficient for price discovery in the case of agricultural commodities.

Pravakar and Rajiv (2009)\textsuperscript{23} found no evidence supporting future market leads to higher inflation rather results suggested the efficiency of commodity futures market. Commodity derivative trading provides better risk management along with price discovery.

H.S.Gopal Rao (2009)\textsuperscript{24} in his article writes that, “experience in Agricultural Marketing in India: A Case of Regulated Markets”, what is required is the adoption of a few markets and an all round development of both infrastructure and institutions as a model one, which can exert a profound demonstration effect on the rural community and that can set in motion a revolution of rising expectations among the farmers. Centralization market forces and development of regulated markets need to be the only solution. This channel is important for certain commodities and that should be strengthened.

Swami and Bhawana (2009)\textsuperscript{25} with the elimination of ban from commodities, Indian futures market has achieved sizeable growth. Commodity futures market proves to be the efficient market at the world level in terms of price risk management and price discovery. Study found a high potential for future growth of Indian commodity futures market as India is one of the top producers of agricultural commodities.

Tata Rao (2009)\textsuperscript{26} observed that after the removal of government protection from various commodities Indian commodity futures market has
made massive progress in trading activity and trading volume. Study supported the fact that commodity derivative market served significant function of price risk management. With reference to the study of soya oil trading at National Board of trade(India) he found rapid growth in trading volume along with change in supplies and open interest as NBOT enabled hedgers to earn riskless profit by actively participating in the market. The reason behind this growth was the positive impact of soya oil imports and domestic supply of the produce. The NBOT lagged behind the developed country exchanges because of offering contracts shorter periods of three months or less.

According to Brijesh, et.al. (2008)\textsuperscript{27} Indian commodity derivative market provide useful risk management instrument for hedging and for portfolio diversification. The result found a reasonably high level of hedging effectiveness.

R. Salvadi and P. Ramasundaram (2008)\textsuperscript{28} found commodity futures market in India Failed to provide an efficient hedge against the price risk particularly in agricultural commodities. The results showed the inefficiency of agricultural commodity futures market in terms of price discovery due to the non integration of futures and the spot market. Exchange specific factors attributed to the market imperfection had found like non awareness of future market among farmers, infrequent trading, thin volume and low market depth, lack of effective participation of members, etc. Authors suggested implementation of Government driven policy measures to raise the commodity future market a vibrant segment for price risk management in Indian Agriculture.

Golka and Tulsi (2008)\textsuperscript{29} emphasized that trading in commodity futures contributed to an increase in inflation as result showed that during the time period of future trading the spot price of selected commodities and their volatilities had posted remarkable increase.
Kedarnath (2008) discussed the significance of price discovery and risk management by commodity futures for the development of commodity spot market in India. The result of interdependence between commodity future and spot market in agricultural commodities also supported the relevance of commodity future trading in Indian commodity market.

Shobana Nelasco (2008) in his paper “Structural changes urgent for Indian Agricultural”, in the Ahmadabad Science Conference, Manmohan Singh (Manmohan Singh “Agriculture for Food”, International conference in New Delhi”, May 27th, 2007 published by Ministry of Information and Broadcasting.) presented a seven points program, which included,

- Increasing land fertility in physical, chemical, and microbial ways.
- Saving water, conserving water, and balanced use of water,
- Crop loans and Insurance reforms.
- Proper technology and increasing the marketability of products.
- Improving infrastructure.
- Improving seeds through science and microbiology.
- Advanced scientific methods of Dairy farming and Poultry.

Manmohan Singh’s ideas can be implemented. But it can be done only by scientific management. Scientific management is the core concept of every corporate and multinationals. The rest has to learn from them. New Scientists and leaders should replace the old. Agriculture and allied sectors account for 20 percent of GDP in 2005 and 60 percent of total workforce are employed in this potential sector.

Arup et al. (2008) to facilitate business development and to create market awareness, they conducted an index named MCX COMAX for different commodities viz. agricultural, metal and energy traded on Multi Commodity Exchange in India. By using weighted geometric mean of the price relatives as the index, weights were selected on the basis of percentage contribution of contracts and value of physical market. With weighted arithmetic mean of group indices the combined index had been calculated. It served the purpose of Multi
Commodity Exchange to make association among between various MCX members and their associates along with creation of fair competitive environment. Commodity trading market had considered this index as an ideal investment tool for the protection of risk of both buyers and sellers.

**Himdari (2007)** pointed out that significant risk returns features and diversification potential has made commodities popular as an asset class. Indian futures markets have improved pretty well in recent years and would result in fundamental changes in the existing isolated local markets particularly in case of agricultural commodities.

**Kamal (2007)** concluded that in short span of time, the commodity futures market has achieved exponential growth in turnover. He found various factors that need to be consider for making commodity

**Kiran (2007)** concludes that commodity futures market performs the function of price discovery and proved beneficial to spot market by reducing the spot price volatility.

**Jabbar and Kriti (2007)** Analyzed the effectiveness of commodity futures market through regression analysis by taking both spot and future prices of commodities. Result proved the high level of volatility in both spot and future prices of commodities. Positive coefficients for agricultural commodities in dissimilar equations supported the effectiveness of commodity market in hedging the price risk.

**Ram and Ashis (2007)** emphasized that agricultural commodity derivatives provides an efficient protection against the price volatility risk in terms of commodity prices i.e. appropriate future spot mix trading. Commodity exchanges offer a broad based platform for trading of agricultural and non agricultural commodities over time and space so the commodity exchanges need to be developed at national level.
Singh (2007) concludes that in spite of new developments in commodity trading, the efficient and modern infrastructural facilities has accounted for major bottlenecks in growth of Indian commodity exchanges. He suggested to discourage the unofficial commodity market.

S.M. (2007) found co integration of commodity future and spot prices revealing the right direction of achieving the improved operational efficiency at a slow rate. Further Indian commodity market has lack of liquidity in some commodities like pepper, sugar and groundnuts. In other commodities hedging proves to be effective. For some commodities the volatility in future price has been considerably less than the spot price indicating an efficient utilization of information.

K. Lakshmi (2007) discussed the implications on the grant of permission to Foreign Institutional Investors, Mutual Funds and banks in commodity derivative markets. She found that participation of these institutions may boost the liquidity and volume of trade in commodity market and they could get more opportunities for their portfolio diversification.

Narender (2006) concluded that Indian commodity market has made enormous progress since 2003 with increased number of modern commodity exchanges, transparency and trading activity. The volume and value of commodity trade has shown unpredicted mark. This had happened due to the role played by market forces and the active encouragement of Government by changing the policy concerning commodity derivative. He suggested the promotion of barrier free trading in the future market and freedom of market forces to determine the price.

M. Narasimhulu (2006) in his paper “Role of agriculture in India”. Observes the Pandit Nehru’s saying, everything can wait but not Agriculture. Science inception of planning era in India, priority is given to Agricultural development. Because of the green revaluation there is no hunger, no starvation
and no famine deaths, (Dr. K.R. Narayanan, former President of India). This is a great achievement and instead of ship to mouth than field to mouth, now we have gone to field to ship. We are exporting food grains and that is a greater achievement. We have got unprecedented buffer stock of more than 60 million tons in the country (M.V. Roa).

Ashutosh (2006)\(^{43}\) suggested the participation of banks in the commodity futures market for effective commodity price risk management as financing by banks could provide efficient hedge against price risk.

Gurpreet and Gaurav (2006)\(^{44}\) observed the dependence of commodity future market on spot market for price determination along with increasing inflation due to trade volume of commodity futures. They concluded that futures market is not performing the function of price discovery and futures market as a weak market in short run.

S.D. Shikhamany and G.S.R., Murti (2006)\(^{45}\) has analyzed the total production in fruits and vegetables has gone up from 32.96 to 45.2 million tones and vegetables from 63.8 to 64.8 million tones over a period of 10 years from the year 1992 -93 to 2002 -2003 recording an increase of 37 percent and 33 percent respectively, in these crops. This is against an increase in area of 15.4 percent and 20.8 percent under fruits and vegetables during the same period. Thus increases in total production are not entirely due to an increase in area but is also through enhancement in production per unit area.

L.P. Singh (2005)\(^{46}\) has analyzed the maladies prevailing in food marketing in India and has suggested several measures for improving this system. According to him “A market mechanism can be a source of considerable development leverage or can be a barrier to development. The needed, improved performance of food (Agriculture) marketing system is no more likely to occur without investment in research, education and training than in fanning and such programme should receive same priority consideration as agricultural production”.

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S. Shanmuga Sundaram (2005)\textsuperscript{47} revealed that many vegetable growers realize that income from growing vegetables is higher than from growing cereals. They also recognize that since vegetables are perishable, risks associated with growing vegetables are higher.

G.Venkataramani (2005)\textsuperscript{48} revealed that the new opportunities to participate in the production and marketing of high-value livestock products, fruits and vegetables and fishing should be exploited. The nation should work towards establishing and strengthening rules-based multi-lateral trading system through WTO negotiations and explore second-best options for bilateral or regional free trade agreements with other major developing countries according to the International Food Policy Research Institute IFPRIJ team.

B.P. Singh (2005)\textsuperscript{49} points out the contract farming for potato in India is prevalent mostly for producing potatoes in processing companies. A big opportunity of producing table potatoes for export purpose and seed potatoes for domestic and export market lies ahead.

S.S. Acharya (2004)\textsuperscript{50} India’s age old farming practice has taken a turn in the recent years. There had been a technological breakthrough- after the advent of Green Revolution, the evolution of high – yielding variety seeds, increased use of fertilizers, in insecticides and pesticides, installation of pump sets and tartarisation and mechanization. This technological breakthrough has led to a substantial increase in production on the farms and to a large marketable and marketed surplus.

Basab (2004)\textsuperscript{51} described the monopolistically competitive nature of the Indian Commodity Derivate market which stabilizes the spot price. Result showed the co-movement among future prices, production decision and inventory decisions.

Andrew W. Shepherd (2004)\textsuperscript{52} conducted a study on agricultural marketing finance and found that the agricultural trade sector in Asia finances itself through a combination of self-financing, bank loans, and informal
credit assistance from friends and relatives, suppliers, customers and moneylenders. Loans from banks are important to millers, accounting for over 60 percent of their finance in India, Nepal, Pakistan and Viet Nam, and are used both for investment and working capital purposes. With lower or, in some cases, non-existent financing requirements for investment capital, combined with an inability to offer collateral, paddy, rice and horticultural traders are insignificant users of loans from financial institutions, with the apparent exception of paddy traders in Pakistan. Traders rely mainly on own funds, advances from millers or wholesalers, acceptance by farmers of deferred payments and, in times of peak financing requirements, moneylenders. Working capital finance requirements are greater for those dealing with non-perishable commodities. While traders dealing in perishable horticultural products turn over their capital in a matter of a few days, or can rely on farmer finance for that period, those dealing in storable products such as paddy, potatoes, onion or garlic require finance of a longer duration. The paper concludes that lack of working capital is probably not a major constraint to the functioning of agricultural marketing systems in Asia. Nevertheless, millers, in particular, do appear to experience problems in accessing investment capital. A feature of most agricultural marketing systems is the existence of many vertical financial linkages, pivoting around millers in the case of grains and wholesale market traders in the case of horticultural produce. The paper concludes that such linkages seem to be generally non-exploitative and serve mainly to secure supply, guarantee markets and reduce transaction costs.

Jatinder Bir, (2004)\textsuperscript{53} observed the hedging performance of agricultural commodity futures market in terms of price discovery and risk management. Out of selected six agricultural commodities, caster seed and pepper futures markets were found as efficient and unbiased in terms of price risk management and hedging effectiveness. The factors responsible for inefficient hedging in other commodities were found as low volume, low participation, inadequate warehouse facility and deficient information system of commodity exchanges.
K.L. Chadha (2004)\textsuperscript{54} emphasizes the need to be given on creating awareness and implications of WTO regime among horticultural workers, entrepreneurs as well as small and marginal farmers aspiring to take advantage of global opportunities. Diversification of agriculture has been acknowledged to make more profit, generate additional employment for rural masses and to conserve natural resources.

S. Shanmuga Sundaram (2004)\textsuperscript{55} revealed that the vegetables can serve as one of the vehicles to move away from subsistence farming toward business-oriented farming that improves income, nutrition and the quality of lives in rural commodities.

Mathura Rai and A.K. Pandey (2004)\textsuperscript{56} point out, India is endowed with diverse climatic condition for growing most of the vegetables throughout the year, near self sufficient in domestic need, trained manpower, relatively low labour cost along with sound infrastructure for research and development, and can play a very vital role in vegetable trade.

P.K. Mishra (2003)\textsuperscript{57} in his article “Rationalization of Market Fee” the present system of levy of fee at multiple points for the same commodity at different stages of transaction needs to be replaced, by single point levy of market fee in the entire process of marketing in the State. There is need for bringing uniformity in the state level tax structure in agricultural commodities for improving the marketing efficiencies.

Sunikumar's (2003)\textsuperscript{58} “Role of futures markets in stabilization of agro commodity prices”, expresses concern over the wide price fluctuations in the commodity markets and the absence of market based risk instruments and the plight of farmers towards less risky cultivation, which perpetuates the growth of Indian agriculture.
**Reardon et al., (2003)** in their study documented that private firms now play a dominant role in countries such as China, India, South Africa in developing of improved seed varieties producing and distributing inputs, post harvest operations and retailing through super markets.

**P.K. Mishra (2003)** in his paper, “A well – regulated market creates in the minds of cultivators a feeling of confidence of receiving a fair play and this is the mood in which he is most ready to accept new ideas and to strive to improve his agricultural production”.

**Gopal and Sudhir (2002)** Emphasized that agricultural commodity futures market has not fully developed as competent mechanism of price discovery and risk management. The study found some aspects to blame for deficient market such as poor management, infrastructure and logistics. Dominance of spectators also dejects hedgers to participate in the market.

**B.K. and Ashutosh (2002)** attempted to find out the determination of equilibrium price of future contract of an agricultural commodity along with relationship of future contract with the expected spot market at maturity of the contract. They identified three determinations of the equilibrium price i.e. risk aversion of hedgers, demand and supply conditions expected by hedgers in the spot market and expectations and responsiveness of speculators about current spot market. In case of relationship between future contract and spot market, existence of excess demand was observed. Speculator’s expectation of increase in spot prices resulted in high demand for future and in opposite situation of low prices the speculators by doing reverse trade creates off setting positions.

**K.G.(2002)** indicated the inefficiency of commodity future market in terms of providing hedge against price risk by observing the difference between future and spot prices. He found many factors like lack of participation of trading members, low market depth and thin volume with Government’s interference in Commodity markets etc., as major evils for inefficient price risk management.
Gopal and Sudhir (2001)\(^{64}\) pointed some of the commodity markets are efficient among all the commodity markets in terms of price risk management. The reasons for inefficiency of other commodity markets were found as low volume of trading during maturity period, lack of hedger’s participation.

Bhagirath Singh (2001)\(^{65}\) has analysed the developing infrastructure for post-harvest management, processing, marketing and agri-business and its enhancement of export potential in selected areas that have the comparative advantage.

H.K.Patil and others (2001)\(^{66}\) have estimated the demand for vegetables and fruits by 2025, as 6.82 lakh tonnes and 2.32 respectively. They felt that for such a heavy demand, cold storage and godown facilities are a must.

Kiran Sankar Chakraborty (2001)\(^{67}\) observes that in the marketing of agricultural produces the farmer has been in all cases a price taker. Therefore, if the farmer’s share in the consumer’s price is inadequate he will not be encouraged for further production.

Mr. Natarajan (2001)\(^{68}\) et. al., have examined the operations of farmers’ market and found that farmers’ markets help the farmers to get a reasonable price for their produce avoiding all unwanted and unreasonable charges. The consumers were facilitated to get fresh vegetables at a cheaper price without any malpractice in weighing. Their investigation prompted them to suggest establishment of telephone facilities, extension of business time (working hours) and working of the market both in the morning and evening.

H.S. Gopal Rao (2000)\(^{69}\) states that “it is only now that the developing countries have increasingly recognized that the agricultural marketing system plays a crucial role in economic development, not only by physically distributing increased production through incentives but also distributing the benefits of growth. As a result, many governments have now tried many approaches to develop the marketing system, with varying degrees of success”.

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H.J. Mittendrof (1998) has emphasized the importance of passing on the benefits of growth to the farmers. He is of the view that “Governments of developing countries and aid donors had recognized increasingly that agricultural and food marketing system played a crucial role in economic and social development not only by distributing the benefits of growth. Thus, Marketing helps passing on the benefits of growth to the farmers which are more important for increasing production. The efforts of the government and other agencies including farmers in increasing the production will yield fruits only if such benefits are passed on to the farmers who actually put in the efforts.

N.L. Agarwal and T.C. Sami (1995) have studied in their article titled, “agencies and channels involved in marketing of vegetables”. As per the study, marketing costs accounted for 8 to 9 percent of the total consumer’s price in Cauliflower and Cabbage in the two identified channels.

Grosh, (1994) believed that since the turn of the millennium, attention has shifted toward more micro-level and institutional policies. In particular, contractual arrangements with downstream processors, agro exporters and retailers, often orchestrated through farmer groups, are increasingly seen as a means of overcoming the market imperfections that led to the failure of macroeconomic and sectoral adjustment policies.

Bhusan, B., (1994) has stated that in the wake of the new economic order based on economic liberalization and opening of Indian Economy, the role of agricultural marketing has become more important and dynamic for sustaining the accelerated growth of agriculture sector and also for improving competitiveness of Indian agricultural commodities in the domestic and international markets. Acharya (1994) mentions that the share of private trade in handling marketed surplus has continued to be large. Taking all agricultural commodities together, the marketed surplus handled by co-operatives has been estimated as 10 per cent, and by public agencies 10 per cent. The Private trade handles around 80 per cent of the total marketed quantities of agricultural commodities.
Henge (1994) found that the prices of all the vegetables indicated an inverse relationship with arrivals in the market. The factors like consumers’ taste and preferences and availability of good substitutes were responsible for a direct relationship between the prices and arrivals of exceptional cases. A greater proportion of variability in the prices of the vegetables depended on the forces other than market arrivals.

D.S.Thakur, Sanjay and D.R. Thakur (1994) in their study, “Economics of off-season vegetable Production and Marketing in Hills” have studied the marketing channels, cost, margins, price spread and problems in production and marketing of off-season vegetables. In their study they have concluded that lack of grading, price regulation and transport facilities are the main problems for the farmers.

Bhupal, (1994) has attempted to find out the share of the producer in the consumer’s rupee through various channels and analysed the role of semi-Government co-operative bodies in maintaining the distribution and price level of vegetables in Delhi.

Dordi, M.C., (1994) revealed that unscientific handling and packing of fresh horticultural produce during post harvest operations account for mega-losses. She recommends the use of corrugated fiber board boxes which are internationally used for packaging of horticultural produce.

Johinder Singh (1993) has analysed the relationship between market arrivals and prices of potato in Punjab. The objectives of the study were to analyze the trends in arrivals and prices of potato, to examine the seasonal pattern in arrivals and prices of potatoes and to suggest measures which would help minimize price fluctuation.

Venkatesa Palanisamy at. al. (1993) found that the cost of production of Alfalfa per hectare worked out to Rs. 24,428 in which variable cost and fixed cost accounted for Rs.29,386 and Rs. 5042 respectively. Among the components of variable costs, human labour accounted for 45.85 percent of the total variable
costs followed by interest on working capital, seeds, plant protection, chemical fertilizers, farm yard manure, bullock labour and other costs in order. Among the various components in the total fixed cost, the rental value of owed Land alone worked out to Rs.4066.31 accounting for 16.55 percent of the total cost of production which was due to higher land value reflected by fertilizer nature of land. The interest of fixed capital, depreciation and revenue accounted for 2.04, 1.73 and 0.21 percent respectively to the total cost of production.

Nimala (1992) observed that female labourers were preferred for most of the farm activities. The small farmers incurred more expenses on labour employment compared to large farmers. The input-output ratio per acre in terms of operational cost to total cost was less for small farms than for large farms. The small farmers incurred higher cost of cultivation and obtained larger quantity of output per acre than the large farmers.

Agarwal and Sharma (1992) opined that the marketing cost of red Chillies as percent of consumers’ price was higher when Chillies were marketed as wet compared to semi-dried and dried farms because of higher transport costs for wet and semi-dried ones. The marketing margins were 35.48, 33.11 and 35.76 percent in wet, dried and semi-dried Chillies respectively.

R.K. Biswas and Parasher (1990) have made certain observation and brought to light some facts. According to them during the last few years, the concepts of agricultural produce markets have totally changed. Now, the Government had taken the functions of regulating the marketing practices and providing mandis the market yards.

Vishwanatha Gupta (1990) subscribes that organized market will alone ensure fair price to producers as well as consumers. Farmer's markets operate in the same line. Vishwanatha Gupta opines that, “if marketing of agricultural produce is properly organized, it can fetch a good price to the farmer and he will be inspired to produce more. The interest of the consumer will also be taken care of side by side. An efficient and properly organized marketing should, therefore, insure fair price to the producer as well as to the consumer”.

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Archana Sood (1990)\textsuperscript{94} observed that the arrival of agricultural commodities in the regulated markets is generally on the increase with the growing awareness among the farmers where their crucial role in getting remunerative prices and saving from the exploitation of the middlemen are dominant.

G.R. Bhatia (1990)\textsuperscript{85} emphasized the need for legal framework and infrastructure in his article “Agricultural Produce Markets in India”. According to him the need for providing efficient marketing system was never felt so severe as now since it has a governing impact on sustaining higher levels of production. He opines that “in the absence of a proper marketing machinery to ensure a fair return to the producer the creditable success achieved by the production programmes is bound to suffer a setback. Therefore, strengthening of legal and administrative frame work with a well spread out and regulated infrastructure of agricultural produce markets becomes necessary”.

P. Indrasena Reddy, (1990)\textsuperscript{86} concluded that the consumers’ responses about the fairness of prices in the vegetable markets revealed that majority of the consumers (69.5\%) are satisfied with the prices of vegetables in the selected markets. However, it was expressed that there are price discriminations from shop to shop even in the same market. Regarding the preparation of vegetables for the markets, it was found that most of the farmers do not clean their vegetables before selling in the markets.

Nizamuddin Khan (1990)\textsuperscript{87} has highlighted the various ills prevailing in agricultural marketing. According to him, Agriculture Marketing in India is suffering from different infrastructural, organization and function intersections. It is inefficient and non remunerative to producers, the sellers. Distress sales, especially in villages, were the common practice during the glut seasons. Small and marginal farmers were adversely affected and they were forced to mortgage their surplus to the commission agents in order to obtain loans at the time when they were in distress. Inadequate infrastructural facilities like all weather roads and storage, farmers of small size, marketable surplus, non suitable linkage to the
regulated and rural markets from the villages as well as producers, weak organizations were the significant factors which prevent the growers to fix fair price from their per unit of marketed surplus in the markets. Proper organization of markets of agricultural produce will not only remove the ills of the agricultural marketing but in a way they will help farmers motivated towards higher production and continuance in agriculture.

Chengappa and Ravi (1989) analyzed the competitiveness in the marketing of important commodities, viz., rice, ragi, onion and potato at the Bangalore regulated market. They found that marketing efficiency depends to a certain extent on the performance of the market intermediaries, which, in turn, reflects the competitiveness of the marketing system. The analysis of market share of the top ten intermediaries revealed that marketing system for rice in Bangalore market is most competitive followed by ragi. In the case of potato and onion, there was a high degree of market concentration, thereby providing ample scope for price manipulations. It was further confirmed by the results of Gini ratio that the competition in onion and potato markets was rather low when compared to rice and ragi. The study concluded that there is absence of cooperative marketing agencies in the regulated market as well as higher risk involved in handling perishable commodity appeared to have contributed for the concentration of produce in the hands of few traders with respect to onion and potato.

The division of Economics and statistics of Indian Institute of Horticultural Research, Bangalore (1989) has released a bulletin on Economics of Cultivation of Horticultural crops in South India. The Bulletin aims at providing the basic information such as cost of cultivation, cost of production, fair prices, marketing practices followed and the cost of returns for fruits and vegetables and flowers.

Sujatha et.al. (1989) studied the market share of the top ten wholesalers/commission agents and the results revealed that the top ten intermediaries handled 36.92 percent, 62.59 percent and 71.46 percent of the total
market arrivals in the case of rice, ragi, onion and potato respectively. They also studied the size distribution of wholesalers/commission agents by Gini ratio and found that the more or less competitive market structure for rice and ragi and oligopolistic market condition for onion and potato.

Kirsur, Hiremath, and Sharada, (1989)\(^9\) analyzed the problems prevailing in the existing system of production and marketing of vegetables in Dharwad district of Karnataka State. It was found that tomato and Brinjal were relatively more profitable crops when compared to onion and potato. The study also found that bulk of the marketed surplus was sold through commission agents-cum-wholesalers by a majority of the producer-sellers; the producer’s net share in the consumer’s rupee was relatively much higher in the case of regulated marketing as compared to unregulated commodities and markets.

Narasimhan and Ravindra (1989)\(^9\) have studied the performance of cooperative marketing of vegetables in Bangalore City. The study found that the prices were favourable and remunerative for the produce sold through the society when compared with those of open markets. It was found that the operative cost of the society was as high as 85 percent to the net income and the society could not mobilize the resources for the expansion of its activities.

Seidhar.E and Shepherd.A (1988)\(^9\) had indicated that it has been accepted that for the farmers to increase production, adequate attention needed to be paid to the fact that their increased output must be marketed at a rewarding price. Commercialization of the small farm agricultural sector essentially means the development of market-oriented production as opposed to the occasional sale of subsistence surpluses. Success in commercializing this sector would depend on the orientation of production to meet market demand and on the removal or reduction of a broad range of marketing constraints. Proper organization of markets for agricultural produce will not only remove the ills of the agricultural marketing but in a way they will help farmers motivated towards higher production and continuance in agriculture. Commercialization of agricultural and market oriented production are the prescription of the authors. Farmers market is
an attempt in this direction namely commercialization as well as market oriented production. Hence the study is focused to understand how the farmers produce to meet the market.

Sara Gopalan (1988) reviewed the present status of designing and planning vegetable wholesale markets in India. She observed that market regulation is more important and urgent in the case of fruits and vegetables. While the need for regulating the fresh fruit and vegetable trade in the assembling market is urgent, there is greater urgency to regulate trading in terminal markets.

Sharma and Pant (1988) revealed that the imparted features for a regulated market were hardly in practice in the vegetable markets. They concluded that the producer’s share in consumer’s rupee can be increased by construction of a proper market yard and making the supervision of Market Committee effective.

Parthasarathy and others (1988) analysed the behaviour of prices and relationship between arrivals and prices of vegetables with reference to tomato and Brinjal in Hyderabad markets. The analysis revealed that increase in arrivals in general had not exhibited of decline in the prices. Wise fluctuations were noted in arrivals and prices from month to month. Their analysis revealed that the price variation with respect to Brinjal was more in Subzi Mandi. In the case of tomato, price variations were found in Mir Alam Mandi. They concluded that for minimizing price fluctuations, the growers should form themselves into growers association.

Tikkar and others (1987) found that total marketing cost for selling all the vegetables in Pune market (Rural) were comparatively lower than that for selling in Bombay market (Urban). Further, they concluded that the number of marketing channels differed for different vegetables including the types of buyers.

Bipins Bihari Agarwal (1986) In his article “Agricultural regulated markets in Uttar Pradesh” stresses the immediate need for improvement in their
working and the government’s desire to uplift the regulated market to be a real
dynamic centre for socio – economic transformation of the state agriculture.

Nagaraj and Chandrakanth (1985)\(^9\) conducted a market appraisal study
for a few vegetables. They pointed out that the cost for all the commodities is
redundant in all the marketing channels. It was suggested to regulate the market
and equip it with amenities.

Hugar and Hiremath (1984)\(^10\) concluded that cooperative society was
showing a better performance than private agencies from the viewpoint of the
prices made available to the farmers.

Subrahmanyam (1982)\(^11\) concluded that growing of vegetables is capital
intensive and hence adequate credit facilities should be provided. As vegetable
cultivation is quite profitable, the author felt that the marginal farmers should be
encouraged to take up the cultivation of vegetables. He has also found the
dominance of Commission Agents in the vegetable trade. In view of high
proportion of commission charges in the marketing costs, the author suggested
creation of alternate marketing channels of trade like vegetable marketing boards
cooperative societies, etc.

Hugar (1982)\(^12\) while estimating the price-spread of vegetables in
Belgaum city found that the price-spread was relatively higher for sales through
commission agents as compared to co-operative societies. They observed that
retailer’s share formed a significant constituent of total marketing margin.
Marketing cost per quintal incurred by the producer-seller was the highest in
tomato. The costs were lower when marketed through co-operatives than through
commission agents.

J.P Jadhar and V.T. Varma (1982)\(^13\) review the comparative analysis
of grading units working under the regulated markets. They suggest the
betterment of these grading units, so that the farmers could be rewarded well for
their filling work.
L.P. Singh (1981)\textsuperscript{104} In his dissertation “regulated markets in Bihar An appraisal of their working”, enlightens the agricultural marketing scenario of the country in general and defects associated with agricultural marketing practices in India and Bihar in particular. He critically examines the malty - dimensional appraisal of the working of regulated markets in the state of Bihar. He stressed the need for an effective, purposeful, and result – oriented regulated markets.

S.C.Raghubanshi and R.C.Tewari (1981)\textsuperscript{105} revealed that transportation cost accounted for 49 percent of total marketing cost for sales in Delhi market. For Chandikar market, this cost accounts for about 36 percent of the total marketing cost.

Sandesena (1980)\textsuperscript{106} emphasizes that there was no relationship between innovation of farmers and the utilization of incentives scheme. The district agricultural canter oriented programme was started from 1\textsuperscript{st} May,1978, Jha (1980) in a country where capital is scarce and manpower is going waste, the plea for relying much more on labour- intensive techniques of production than one those, which necessitates heavy capital outlay is entirely sound. He, therefore, advises proper appreciation of the role of the technology for improving the productivity of labour, which he considers to be as important as the provision of new jobs in agricultural.

Tamil Nadu Agricultural University, Coimbatore, in 1980 conducted a research and submitted its report on regulated markets in Tami Nadu. The specific objectives of the study were to assess the response of farmers to the regulated markets, to assess the respond to traders and their attitude towards regulated markets,to understand the physical organizational , technical and financial problems of the regulated markets and to suggest suitable remedies to the problems faced by the regulated markets.

The report suggested the following measures for improving regulated markets.

1. Demonstrating the benefits to the farmers.
2. Appointing block-level staff with training in marketing.
3. Training local bodies to persuade the farmers to use regulated markets.
4. Opening sub-markets and sending agents to regulated markets to the Villages to procure produce.
5. Extension of banking service in the market yard.
6. Enforcement of rules strictly to avoid sales outside the market.

**Babara Harris (1980)** made a case study in Coimbatore. The three driest Districts of Avinasi, Palladam, and Tirupur were taken for investigation. She was supreme in the high degree of concentration in Tirupur. She closely watched the financial link of the state financial institution with the Regulated Market in cotton. Barbara Harriss (1980). “Conducted another study and this time on the total turnover of cereals and pluses through regulated market and drew a comparison of the total revenues in Andhra Pradesh and Karnataka in this realm. The author advocates the state bureaucratic apparatus and insisted the need for well organized market committees to deal with the agriculturists’ products.

**Diwaker and Muralidharan (1980)** pointed out that the small farmers have a tendency of selling vegetables at village level whereas large farmers were disposing them of in terminal markets. The study also found a positive relationship between the size of holding and use of tractor trolley for transport.

**Shate et.al. (1980)** observed that the producer’s share in the consumer’s price was low at 52.57 percent and 56.33 percent in case of rain fed tomatoes and irrigated tomatoes respectively. This was due to excessive profit margins of itinerant traders, commission agents and retailers in the trade. Lack of transport facilities, malpractices of commission agents and itinerant traders, lack of grading and weighment practices, perishability of tomatoes and lack of market intelligence facility formed the major problems faced by the producers in the marketing for tomatoes.
Subralimanyam and Mruthyunjaya (1979)\textsuperscript{110} concluded that the marketing costs of tomato accounted for 36 percent of the total cost. The total marketing costs varied from Rs. 19.26 per quintal in Kharif to Rs. 14.81 in Rabi per quintal. Commission fee constituted the bulk (37.49\%) in the former whereas transport costs (30.38\%) had a large share in the latter.

Gupta and Ram (1978)\textsuperscript{111} have revealed that the producer received a very low share of 36 percent in the consumer rupee whereas the retailer’s margins and marketing costs were quite substantial, each appropriating 25 percent of the consumer rupee. They also stated that location played an important role in influencing retail margin.

Bhatia and Ram (1977)\textsuperscript{112} studied the marketing efficiency in retail vegetable markets in Delhi through marketing lost and margins, consumer prices, availability of physical marketing facilities and market competitions. They found that the retailer’s margins accounted for about 50 percent of the consumer’s price and the consumers were to pay high prices due to the perishability and bulkiness of the product. Among the different classes of retailers, pavement sellers got the lowest average percentage of net retail margins.

The Agro-Economic Research Center, Andra University, Waltair (1977)\textsuperscript{113} has prepared a mimeograph on the production and marketing of vegetables-constraints on small farmers.

Rammooorthy and Srinivasan (1975)\textsuperscript{114} observed that in the wholesale market tomato was sold on volume basis in bamboo baskets and the retailers sold tomato on weight basis. The farmers were not aware of the ruling price for tomato in the retail markets which led to a low share of consumer’s rupee to the farmers.

Krishnamurthy (1974)\textsuperscript{115} says that price spread is made up of various costs incurred and margins of intermediaries in the various processes such as those of assembling, processing, storage, transport, wholesaling and retailing.
Koppardekar (1974)\textsuperscript{116} Observes that agricultural marketing is considered lower compared to the units in the engineering and chemical industries.

Balakrishnan (1974)\textsuperscript{117} States that during the second Five Year Plan, significance of the agricultural sector was emphasized in order to ensure that former producers do not drew up on scarce resources of the society, which were needed for fast expansion of the agricultural sectors.

Tinbergen (1974)\textsuperscript{118} felt that in a country like India the strategy of agricultural development should lay emphasis on labour-intensive industries, which will create maximum employment and will also maximize income.

Shirkov (1973)\textsuperscript{119} emphasized the need for the development of agriculture in rural areas, which was realized by the government from the very beginning.

Verma (1973)\textsuperscript{120} concludes that the origin of the agricultural movement in India was traced to the agricultural policy resolution of the government.

Pathak (1972)\textsuperscript{121} these problems are really traceable to the fundamental weakness stemming from limited understanding of some of the elementary concepts of costing.

Habib (1972)\textsuperscript{122} it is only agricultural sector through which economic prosperity my reach the remote sections of the society. He concluded that the agriculture play an important role in the economic development by providing numerous chances of income and improving the standard of living of the masses.

Jain (1971)\textsuperscript{123} observes that financial agencies have developed a preference of investing their founds in the medium and large scale and the bigger once among the agricultural projects.

Benjamin et. al. (1971)\textsuperscript{124} emphasizes that one of the main aspect of the practice of rural agricultural development through group action, is the development of relatively large farming on a region basis.
**Vepa (1971)** Agricultural development in India are distinct from traditional and village industrial activates. Agriculture is generally modern and small formers employing modern techniques to produce lucrative produces.

**Mayur (1971)** due to vast changes in the political sphere and rapid agricultural growth, there were the following three major efforts in the Indian scene (i) few farmers belonging to particularly social strata dominated the agricultural centers, (ii) agricultural growth was restricted in a few agricultural centers, and (iii) only the development, which met the result of war grew fast and in the case of others, the growth rate was restricted.

**RESEARCH GAP**

From the above review of literature, the following conclusions and drawn.

1. The studies relating to marketing of agricultural commodities are organized at macro level.
2. There are very few studies which are conducted at the micro level.
3. There are very few studies which have considered the views of farmers, middlemen and consumers.

It is in this context, the present study on “Marketing of agricultural commodities in Tumkur District” in Karnataka is undertaken.

**NEED FOR THE STUDY**

Indian vegetable growers are considered to be the bad marketers not only because of their ignorance towards modern methods of marketing but also due to the peculiar structure of marketing over which they have no control under this situation, they are forced to accept the prices offered by the traders. Though some attempts are made to regulate the market practices, a major part of vegetable marketing remains unorganized and defective. The issues in vegetable marketing can be broadly grouped into two categories i.e. economic and managerial. It is important to study both the aspects as they are interdependent and interrelated aspects in improving the efficiency of vegetable marketing.
In view of vital importance attached to vegetable marketing there is a need to investigate the economic as well as managerial aspects of vegetable marketing in order to identify the problems and improve the production and marketing methods of the vegetables. So far, except for a few official reports, no serious attempts have been made to probe into these aspects systematically. The proposed study is an attempt in this direction.

NATURE AND SCOPE OF THE STUDY:

The nature of the study is descriptive in nature as it this to describe the functions and problems of farmers and middlemen. Besides the consumer satisfaction towards the agricultural products is also examined.

STATEMENT OF THE PROBLEM

In agricultural marketing, the scope for exploitation and defrauding exists. The major players in agricultural marketing are farmers, middlemen and the ultimate consumers. More specifically, the study of vegetable marketing and its practices is the need of the hour. Hence this study raises various research issues from viewpoints of the major players of vegetable marketing. As far as the producer is concerned, what are the various functions performed by him? How is he financed? How does he market the vegetables? What are the various problems faced by him? Similarly the middlemen also face trials and temptations in their business. This leads to the queries such as what are the various functions of middlemen? How do they facilitate and organize their functions? And what are the general problems as well as the specific problems faced in the functional areas? Finally, the king of the vegetable markets is the consumer who perceives the vegetable marketing in different angles such as fair price, uninterrupted supply and the quality of vegetables. The preferences of the consumers and the problems faced by the consumer from salesmen in the vegetable market have led to a thorough investigation of the marketing of the vegetables in Tumkur district.
OBJECTIVES OF THE STUDY

1. To study the importance of agricultural marketing in Indian economy.
2. To study the various marketing functions performed and problems faced by the farmers.
3. To elicit the views of middlemen on the marketing activities discharged and problems encountered by them.
4. To identify the factors determining the behaviour of vegetable buyers and their level of satisfaction.
5. To offer suitable suggestions to overcome the problems faced by the farmers, middlemen and consumers.

HYPOTHESES

H1. There are no significant functional areas mushroomed to contribute to the performance of farmer and middlemen.
H2. There are no significant problems emerging from reducing the performance of farmer and middlemen.
H3. The salesmen behavior and the consumer preference were not significantly affecting the performance of vegetable market.

METHODOLOGY

It is a sample survey to evaluate the functions of farmer, middlemen and the assessment of the behaviour of the consumers in Tumkur District

Sources of Data

This study has primary as well as secondary data. But the study relies more on primary data. However, to clarify certain points and to know the general details relating to vegetable marketing system and practices in Tumkur districts statistical officials, Government of India, Ministry of water resources, Ground water information, Tumkur District Census 2011 data are some data of general nature were collected from them.
Sampling Framework

The researcher adopted purposive sampling method to select the sample observation for the producer, middlemen and consumers. In this research study 103 farmers, 107 middlemen & 204 consumers are studied.

Determination of Sample size

The Sample size for this research study was scientifically determined by substituting the sample standard deviation (S) computed from the pilot study regarding the performance of the farmers (S₁=0.2589), middlemen (S₂=0.2638) arid satisfaction of consumers (S₃=0.364) in the following formulae.

\[ n_i = \left( \frac{Z \times S_i}{e} \right)^2 \quad (i=1,2,3,\ldots) \] ..........................(1)

Where \( n_1 \) is the required sample size of the farmers
Where \( n_2 \) is the required sample size of the middlemen
Where \( n_3 \) is the required sample size of the consumers
Where \( Z \) is the standard normal variate value at 95% confidence level
Where \( e \) is the allowable sampling error at 5% level

By substituting the value of \( S_1, S_2, S_3, Z \) and \( e \) in (1) we get the required sample size of farmers (103), middlemen (107), consumers (204) and the sample size computed in the lower limit for this research study.

Pilot Study

A draft questionnaire was compiled which comprised various questions regarding the various functional areas of producer and middlemen. To evaluate the performance of producer, the researcher raised 50 questions under three, functions of the producer namely financing and pre-cultivating functions, cultivating functions and selling functions. Similarly for the middlemen, 60 conceptual questions were raised by the researcher under two major functions such as exchange and physical function and facilitative function. As far as the consumer is concerned, 25 conceptual questions visualizing under two different factors such as salesman behaviour and consumer preference were raised. After the pilot study the researcher discussed with experts and utilized judgment validity procedures to refine and purify the draft questionnaires.
Collection of Data

A structured questionnaire was prepared to scrutinize the functional areas of producers, middlemen and behaviour of the consumers in vegetable markets. The questionnaire was prepared in the regional language of the farmers, middlemen and consumers. The questionnaires of the farmers were categorized into 5 different parts. Part I elucidates 13 questions about the profile of the farmers, parts II and III shows 9 conceptual questions on financing and pre-cultivating functions, and 9 questions on cultivating functions respectively. Similarly in part IV the researcher raised 10 questions to measure the selling functions of the farmers. Moreover, the researcher also identified 8 problems in financing and pre-cultivating functions, 9 problems from cultivating functions, 10 problems in selling functions and he also highlights 9 general problems faced by the farmers. The questionnaire for the middlemen was classified into 4 parts. Parts I and II include 5 questions regarding the general profile of the middlemen and 6 questions on the profile of business respectively. Similarly in parts III and IV, 19 conceptual questions were raised about exchange and physical functions and 10 questions on facilitative functions. Likewise, the problems were also identified in the functional areas of the middlemen namely exchange and physical functions (6), facilitative functions (7) and general problems (5). Finally the questionnaire for the consumers was segregated into 4 parts. Part I described 8 questions and they were about personal and demographic background of the consumers and 16 different questions were raised to identify the rational background. Parts III & IV show 5 questions and 10 questions to capture the salesmen behavior and consumer preference respectively. Similarly the researcher also made a survey physically and identified 9 general problems faced by the consumers in vegetable market. The conceptual questions raised to measure the performance of functional areas of farmers and middlemen were of categorical type. But the problems were anchored in 5 point scale and it is uniformly followed by the questions raised to the consumers.

Analysis of Data

After the Final data collection was over, the researcher organized the collected data from farmer, middlemen, consumers and analysed them with the
help of recommended statistical package namely SPSS version 15. The analyses were done in 3 different phases. In phase I, simple frequency table was prepared and it shows the position of the farmer, middlemen and customers. In phase II, classification and regression tree was used to identify the functions of farmer, middlemen and consumers on the performance respectively. Finally Multiple Regression analysis was used to scrutinize the impact of problems on their performance.

SIGNIFICANCE OF THE STUDY
The present study assumes significant help in the following ways:

- The study provides an insight into the various aspects relating to functions and problems of farmers and middlemen and hence, the policy makers can make appropriate policies towards this direction.
- This type of studies are more useful to academicians and other research scholars to make an in depth into the various aspects of marketing agricultural commodities.

LIMITATIONS OF THE STUDY:
The study has the following limitations.

1. Time and cost factors are the major limitation.
2. The study is limited to Tumkur district in Karnataka.
3. Few statistical tools are used to reduce the effect of bias in the study.
4. The sample of farmers, middlemen and consumers in also one of the limitation.

PRESENTATION OF THE STUDY
Following are the various chapters organized in this research study.

Chapter I Introduction and research methodology
Chapter II Profile of Tumkur District
Chapter III Functions and Problems of Farmers - An Analysis
Chapter IV Functions and Problems of Middlemen - An Analysis
Chapter V Consumer Preferences and Satisfaction - An Analysis
Chapter VI Findings, Suggestions and Conclusion
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