3.1 INTRODUCTION
The Agriculture sector plays a vital role in the growth of the Country. It contribute considerable amount in the national income of the Indian economy and also provide large number of employment opportunity in the country. The history of marketing started long before, from barter system of marketing in primitive age to e-commerce in this electronic era. Despite this, various malpractices are still exercised by marketing intermediaries at various stages of marketing. This problem is comparatively more acute in agricultural marketing because it is one of the unorganized and under-managed sectors particularly in India.

Marketing infrastructure plays a pivotal role in fostering and sustaining the tempo of economic development in the country. The green revolution has changed the scenario of agricultural productions in terms of quality, quantity and various. The increased marketable surplus needs efficient and easy disposal to provide remunerative price to the producers otherwise, increased production becomes a burden then a benefit to the farmers. Efficient marketing of agricultural commodities is not easy as there exists number of defects viz, forced sale, unauthorized deductions, false weights, spoilage, excessive market charges, low price paid to the farmers, disputes in markets solution to correct these defects through regulated markets. However, the regulated markets could not dent much in spite of their long history in India due to some shortcomings.

Gujarat Agricultural Produce Market Act- 1963 is in operation after the establishment of State of Gujarat. The very aim of it is to protect the farmers from its exploitation and to provide facilities for marketing to sellers and buyers like open auction, right weight and cash payment. In all the talukas
(227) and big marketing centers (162) of Gujarat, there exists 403 marketing yards including 222 sub-yards. At present, around 196 market committees are functioning and 100 commodities are under regulation. Total turnover in these market yards is around Rs. 8500 crores from the trade of seven million tones of agricultural produces. The state has 1.71 lakhs license holder traders and 2095 cooperative societies. This shows the gross development of agricultural market. But the pace of development of markets in term of its economic performance varied widely across the markets and regions of the state. Critical analysis in this respect may help to identify the problems and to frame a suitable policy for development of agricultural marketing.

3.2 TITLE OF THE PROBLEM

The subject of this study is “A study of managerial effectiveness of selected Agricultural Produce Market Committees (APMCs) of Saurashtra Region.”

This study is based in the secondary data derived from annual published report of selected APMCs of Saurashtra region. Various researches have been done on the agricultural productivity; yield per acre and on the growth of agricultural sector in India. However, no research has been conducted on “A study of managerial effectiveness of selected APMCs of Saurashtra region.” this is the first time an attempt is being made to emphases on the study of “managerial effectiveness of selected APMCs of Saurashtra region. “ Thus, this study would be an original contribution as the problem of the study is unique in every respect.

3.3 SIGNIFICANCE OF THE STUDY

The Agricultural Produce Market Committees brings drastic changes in the interest of cultivators and all those who are engaged in commerce and trade. The present study is significant to the society, APMCs employees of the APMCs and knowledge in the following manner:

The present study shows how the APMCs help in the development of agricultural sector; they are the backbone of the Indian economy.
The present study have compared employees’ productivity and financial effectiveness of APMCs working in Saurashtra region and thereby tries to through the light on actual position of APMCs.

The present study has compared employees’ productivity of different APMCs and thereby helps the employees to know their actual productivity level.

Every research adds something new to the knowledge. Very few research studies are done on APMC. Hence, the present study would surely add knowledge to this area.

3.4 OBJECTIVES
The broader objective of this study is to know the managerial effectiveness in terms of financial performance of Agricultural Produce Market Committee working in Saurashtra region, this objective is sub-divided into :
1. To study the role of APMCs in the development of Agricultural Sector.
2. To examine the financial position of APMCs working in Saurashtra region.
3. To compare financial position of selected APMCs of Saurashtra region.
4. To know effectiveness of various activities of selected APMCs of Saurashtra region.
5. To know profitability analysis of selected APMCs of Saurashtra region.
6. To know working capital analysis of selected APMCs of Saurashtra region.
7. To compare labour productivity of selected APMCs of Saurashtra region.
8. To know the problems and prospects of selected APMCs of Saurashtra region.
9. To make suggestions for development of APMCs.

3.5 HYPOTHESIS
This study is based on following basic assumptions:

$H_0$: There is no significant difference in the financial effectiveness of sampled APMCs during study period.

$H_1$: There is significant difference in the financial effectiveness of the sampled APMCs during study period.
\[ H_0 \quad : \text{There is no significant difference in the financial effectiveness in between the years among the sampled APMCs during study period.} \]

\[ H_1 \quad : \text{There is significant difference in the financial effectiveness in between the years among the sampled APMCs during study period.} \]

3.6 REVIEWS OF LITERATURE

An attempt has been made to review the research studies pertaining to APMCs are as follow:

Banakar (1992) conducted a study to identify the factors influencing the performance of the regulated markets in Karnataka. In the study principal component analysis was employed in analyzing the performance indicators of the regulated markets during pre and post investment period. It was identified that there were 34, impact indicators for pre investment period and 35 impact indicators for post investment period. These indicators were then grouped into two classes that is physical and financial indicators. For interpretation three dimensions were selected. Out of 18 variables relating to physical performance 12 variables showed higher factor loadings on the first dimension followed by 3 variables in the second and third factors during pre investment period. Among three factors first one explained 56.7 per cent of the variation. Among all the physical variables, number of commission agents, and number of wholesalers influenced the competition in the markets during the pre investment period. With respect to post investment period, utilization of market yard, age of the market, number of commodities notified, average size of the market and average turnover of the selected crops reflected the physical performance. ¹

Thakur and Shandil (1993) conducted a study on steps to increase market arrivals and efficiency of regulated markets in Himachal Pradesh. The study clearly showed the scope for large-scale increase in agricultural produce and market arrival in the regulated markets in future. It is in fact that the lack of efficient regulated markets, poorly equipped both in terms of infrastructure and personnel. Marketing problems faced by farmers
prohibited the increased quantum of arrivals in the regulated markets. The state government and chairpersons of marketing board and market committee must personally ensure and oversee that the staff of the board and committees work and act as the true servants of the farmers and public at large. The involvement and competition of three groups that is Private traders, Cooperatives and Government agencies in the regulated markets will eliminate the malpractices of traders and middlemen and help the free market economy function more efficiently to attract and fetch increased volume of market arrivals for sale in the regulated markets.²

Selvaraj and Sundaravardarajan (1998) conducted study on performance and attitude towards regulated markets in Tamil Nadu, with the objective of knowing the factors determining the farmers’ perception towards functioning of regulated markets. The results of the study revealed that all the regulated markets witnessed positive growth rate in terms of arrivals and receipts. The highest growth rate of arrivals and receipts were noticed in Aranthangi regulated market (44.94 per cent) and Keeramangalam regulated market (30.69). The lowest growth rate of arrivals and receipts were noticed in Pudukottai market (1.25 %) and Aranthangi regulated market (4.65 %).³

Radha Mohan (2001) undertook a study on functioning of regulated markets in Gorakhpur Division (UP). It revealed that with respect to market fee, the justified amount is not charged but on records only 25 -50 per cent fee was entered and rest of the 50 -75 per cent amount was taken away by the mandi workers without giving any receipt. It was crystal clear from observation that without properly knowing the implications of the provisions of the Act, there was a loss to the market committee by way of evasion of market fee.⁴

Anonymous (2002) in a study on efficiency of marketing of fruits and vegetables in India revealed that poor efficiency in the marketing channels and poor marketing infrastructure leading to high and fluctuating consumer prices and only a small portion of the consumer rupee reaching the producer farmers. This paper examines these aspects in regulated
wholesale markets for fruits and vegetables in Ahmadabad City area. These regulated markets were established to improve the marketing efficiency. The system of sale followed in these markets indicated that open auction or secret bidding resulting to significant erosion of marketing efficiency. On an average the share of farmers in consumer rupee was hardly 48 per cent for vegetables and 37 per cent for fruits. The study suggests that regulated wholesale markets can help in improving the marketing efficiency by promoting direct contact with the farmers increasing the number of buyers and sellers in the market, promoting open auction system of marketing and strengthening or introducing facilities and services such as godown, cold storage, transparency and access to internal and external market environment.\(^5\)

Bhag Chandra Jain (2002) study revealed that the regulated markets of Damoh district of Madhya Pradesh could not attract the producers in a broader way, as the market has no proper infrastructure facilities. Authors were of the opinion that special attention should also be given to provide better storage, transport, processing, and financing and standardization facilities to all functionaries. For efficient functioning of regulated markets, there was need for a full-fledged programme of training for the marketing staff at all levels.

Bhag Chandra Jain (2002) studied structural and functional aspects of regulated market in Damoh district of Madhya Pradesh with the specific object of functional, financial and physical marketing facilities. Study reveals that regulated markets of Damoh could not attract the producers in a broader way as the market has no proper infrastructure facilities. Special attention should be given to provide better storage, transport, processing, and financing and standardization facilities to all the functionaries and farmers. Regulated market can play a vital role in developing economic status of the producers as well as the other functionaries. Propaganda and publicity of the benefits of regulated market to the farmers were important aspect of marketing. The farmers should be made
aware of not only regulated market but also be convinced about their benefits.\textsuperscript{6}

Jairath (2002) studied institutional reforms- a case study of agricultural markets in India. Results indicated that the multiplicity of market fees system, existence of wide variation in the rates of market fees and its imposition on the buyers/sellers in different types of crop produce and livestock along with imposition of development fund/cess, substantial market charges and entry tax/octroi inflate the cost of produce and widen the gap between the consumer price and producer price. Study suggested that the policy makers, administrators and planners for free flow of agricultural and horticulture produce and livestock throughout the country.\textsuperscript{7}

Parminder Kaur (2003) study conducted to assess the progress and performance of regulated markets in Punjab with the object of ascertaining the role of regulated markets in the marketing development of the state. The results of the study revealed that over the years it is not only the numbers of regulated markets have increased but the infrastructure facilities required for orderly marketing of agricultural produce have grown at a faster rate with increased arrivals. Income of market committees have also increased significantly which is being flown back for further expansion of infrastructure facilities including development of rural roads and other facilities which were conducive to the interest of primary producers and ultimate consumers.

Parminder Kaur (2003) undertaken a study on progress and performance of regulated markets in Punjab, it revealed that market possessed all the basic amenities required in market as per market regulation Act 1961. There has been expansion of the facilities along with expansion of market arrivals showing healthy sign of proper development of agricultural marketing system as a whole.\textsuperscript{8}

Pendnekar (2003) in his study seeks to assess the working of regulated markets in Goa during the period of 1986-87 to 2000-01 with specific
Research Methodology

objectives of examining the trends functioning of the market. The study utilized the index method to indicate the expenditure on development activities considering 1986-87 as the base year. Provision of adequate amenities like platform, cattle shed, grading, canteen, toilets etc, were facilities not only clean and hygienic but also attract more producer-sellers. The expenditure on developmental activities has gone up considerable by 835.75 per cent in 2000-01 recording more than eight fold increases over a period of 15 years, while, the income has gone up by 480.0 per cent during the same period. The share of income spent on developmental expenditure increased from 42.56 per cent in 1986-87 to 74.11 per cent in 2000-01. In spite of significant increase in income and expenditure on amenities the market suffers from lack of adequate market area especially during peak season.9

Kulkarni (2004) analyzed the state wise number of principal markets and sub-markets in India and area and number of villages served by these markets. Results revealed that, out of 2,253 principal markets, maximum number of markets were established in Madhya Pradesh (292) followed by Tamil Nadu (270). Goa and Chandigarh have only one principal regulated market. The states like Kerala, Tamil Nadu and Tripura were having only principal markets. The data in respect of area covered by regulated markets revealed that each principal market was 114 sq.kms and that for sub-market was 57 sq.kms in Chandigarh, which ranked first place in the country, which indicated developed marketing system. In case of number of villages served by the principal market, the lowest of 25 villages was observed in Chandigarh as against the highest of 2428 villages in Himachal Pradesh by each sub-market. As regard sub-markets in India, on an average 127 villages were served. The lowest, (12) villages were served by each sub-market in Chandigarh. The data pointed out that, there is a need for the establishment of more regulated markets so as to extend marketing facilities to large number of producer and seller in amounts spent on development activities in the market yard and bottlenecks in the efficient Rangi and Sidhu (2005) studied role of commission agents (CA) in agricultural marketing in Punjab with a specific objectives of role of commission agents in marketing of farm produce, supply of inputs and credit

90
Research Methodology

to the farmers. The data were collected from 144 principal Regulated Markets in Punjab. About 25000 Commission agents (CA) operates in the principal yards, sub-yards and purchase centers, sample of 135 C.A had been taken from nine Regulated Markets. The results revealed that the market arrival of paddy, which was just 3.71 lakhs, tones in 1967-68 increased to about 128 lakhs tones in the year 2002-03. On the market arrivals of wheat and paddy, the total commission received by the CAs was worked out at Rs. 337.86 crores in the state during the year 2002-03. The average amount of credit given to the farmers by the selected CAs was as high as compared to the institutional sources. The total estimated credit to the Punjab farmers given by the CAs was to the extent of Rs. 7415 crores during the year 2002-03. About 19 per cent of the selected farmers reported the cases of purchase of agricultural land of the farmers by the CAs. This problem is going to be aggravated in the years to come, which would have wider social, economic and political implications for the Punjab economy in general and agriculture sector in particular.10

Sing (2004) undertaken study on a growth in marketing infrastructure and related economic benefits over the years in Haryana, based on the secondary data from various issues of statistical abstracts of Haryana. It was observed that the number of regulated markets has increased from 88 in 1981-82 to 106 during the year 2002-03. The regulated markets have regularized the market fee structure, commission agents and fairness in weighing of goods. The number of sub-yards has also increased from 92 in 1981-82 to 177 in the year 2002-03. The infrastructure development has taken place at a higher rate in relative terms, during the last two decades. The decline in number of villages and area covered per regulated market both in absolute and relative terms is a good sign for market infrastructure development. The cold storage facility created has benefited the state farmers as the storage of perishable agricultural commodities has been facilitated. The distress sale of some of the commodities just after the post harvest season has been reduced and farmers could reap the benefit of off-season price fluctuation. The market infrastructure has benefited the farmers by providing remunerative prices through storage facilities and reducing
malpractices in the transaction and weighing of the products. The marketing cost, margins and other charges has been regularized through regularization of markets and thus, efficient marketing of agricultural products is being practiced. Still there is a wide scope for further development of market infrastructure to reap the benefits of globalization.\textsuperscript{11}

Pawar (2004) made an attempt to study the present status in respect of operational area, infrastructural facilities, and market arrivals with financial status of Parbhani Agricultural Produce Market Committee. The data were collected from annual reports published by Parbhani APMC for the year 2001-02. The study indicated that Parbhani APMC is the oldest one covering 125 villages as operational area along with three sub-markets. The main market is well developed with infrastructural facilities like market space, fencing, roads, lights, shetkari niwas etc,. However, sub-markets are in need of creation of more marketing facilities. Zari sub-market is the most underdeveloped one. During 2001-2002, 3,72,668 qtl of agricultural produce (excluding cotton) was arrived, amounting to Rs. 37,68,80,720. The cotton worth of Rs. 17,62,58,328 was procured in Parbhani APMC. The major means for transport of produce was through bullock cart. The total receipt of the APMC was Rs. 44,22,895 through market and other fees. Thus, main market is well established while, other three sub-markets require further attention. Zari sub-market needs to be given prime attention for the benefit of producers in the area.\textsuperscript{12}

Barman (2004) in their study have mainly focused on the availability of marketing infrastructures in terms of market users, operational facilities, service facilities, market information, roads and transportation, in three selected regulated markets in Assam, situated in three different districts. The study revealed that despite the non-availability of required infrastructure, most of the farmers of Assam used to sell their produce in traditional “hattis” or weekly bazaar instead of carrying their products to the regulated markets. The organized and moneyed traders in the present system of agricultural marketing exploited the weak and unorganized peasant class. Further, the infrastructure facilities required for efficient working of regulated markets are
lacking and hence the market regulation in Assam has failed to eradicate market imperfections, especially in the food grains marketing. Lack of improved village middlemen and inadequate service facilities found in the regulated markets stand in the way of efficient marketing system. The minimum requirement of infrastructure facilities like storage facilities, auction platform, buying and selling complex, grading, drainage facilities, electrification, drinking water, and provision of parking loading and unloading space should immediately be provided by the respective market committees so as to strengthen the efficiency of regulated market.13

Pant (2004) examined the utilization of infrastructural and other facilities by traders and farmers created in the primary regulated market yard in Nagaur district. Kurchamancity primary regulated markets was purposively selected as it has sound position in respect of arrivals of commodities brought by producer-sellers among all the primary regulated markets of the district and possess most of the infrastructural facilities and amenities. Fifteen per cent of market functionaries and 15 farmers, who came to the market for sale of their produce, were randomly selected to obtain the desired information. The utilization of physical facilities such as shops, auction platforms, bank, communication facilities and post office, market committee office etc. by the traders was poor in some cases and moderate in others. There was less utilization of shops as all the existing shops were not allotted to the traders (only 78% allotted). The existing godowns facility was fully utilized but considered inadequate. Rural warehouse was not utilized by any agency, which shows poor management of market committee. There was no proper canteen facility, toilets, urinals and bathrooms were not cleaned regularly. The awareness among the producer-seller about godowns and rural warehouses, bank facility, communication facility and post office, market committee, farmers rest house, cattle shed with rest house and dissemination of market news was 13.32 per cent, 13.32 per cent, 20.00 per cent, 40.00 per cent, 40.00 per cent, 53.00 per cent and 26.00 per cent respectively. The utilization of these facilities by the farmers was very poor as they considered that these facilities were not helpful to
them. This is probably due to illiteracy of the farmers and poor functioning of the market extension wing of the market committee.\textsuperscript{14}

A study on growth and development of agricultural marketing infrastructure in Haryana based on the secondary data for the periods 1980-81 to 2002-03 on important parameters relating to marketing infrastructure was conducted by Goyal (2004). The Coefficient of Variation (CV), Compound Growth Rates (CGR) and tabular analysis were employed to derive the inferences of the study. The number of regulated markets rose from 80 in 1980-81 to 106 in 2002-03. With regulations of markets, volume of market arrivals of important crops increased substantially over the years. The increase in market arrival results in increased income of the market committee, a part of which is invested for further expansion of market infrastructural facilities in the state.\textsuperscript{15}

Alka Singh (2004) was of the opinions that physical infrastructural facilities as well as market information were not adequate in selected markets of Puri and Cuttak districts of Orissa. All these contribute to make the State’s agricultural marketing system inefficient; hence, the farm producers suffer. The farmers are deprived of reasonable/ remunerative price for their produce in the absence of or weak dissemination of marketing information among producers. Results on market integration analysis showed the importance of Bankura market for price formation of rice in local markets of Orissa as compared to Kakinada market of Andhra Pradesh. However, the extent of long run integration is the highest in Jeypore and the lowest in Balasore with Bankura market. The index of market connectedness shows low degree of short run market integration of local market of Orissa with respect to the reference market. Hence, there is a need to improve the efficiency of food markets through improvement of transport facilities, telecommunication and market information in the state to make the agricultural markets more efficient in the state.\textsuperscript{16}

A study by Kshirasagar (2006) revealed that farmers faced formidable constraints in using marketing infrastructure facilities such as pre-cooling,
cold storage, grading, packing, transportation and marketing. The study is based on primary data collected in four major states (Maharashtra, Karnataka, M.P and Punjab) of India covering 444 sample farmers. In Karnataka, results revealed that lack of adequate information was the major problem faced by farmers (92 %) and 60 per cent of farmers complained about deduction of more charges in the form of commission by the commission agents from the proceeds. About 28 per cent farmers reported the constraint of delay in payments of proceeds. Finally, the paper concluded by suggesting policy measures to overcome the constraints faced by the farmers in using the market information facilities and for developing and revitalizing the Market information (MI) system in the country. Public sensitivity towards resolving these constraints on priority basis through proper planning will have implications for not only enhancing the MI development and its use but also increasing the availability of horticulture produce in the country for domestic consumption and exports.\textsuperscript{17}

Dr. R.L. Shiyani & Dr. H.R. Visawadia (2006) have examined “Impact of equation on vegetable marketing in Saurashtra. Major findings are: The major problem confronted by vegetable growers in regulated markets included spoilage, inadequate infrastructure facility. In unregulated vegetable markets, the major problems confronted by the growers were high commission changes luck of grading facilities and inadequate infrastructure facility. Reduction in commission changes, provision of cheap and efficient transport facilities, establishment of regulated vegetable markets at taluka level, strengthening the co-operative marketing institutions, innovations in packing and storage technology are the major suggestions of their study.\textsuperscript{18}

Dr. R.L. Shiyani & Dr. K.A. Khunt (2007) analyzed production and marketing of major summer vegetables in Saurashtra, major finding of than are (1) The area and production of all the major vegetables grown in Gujarat have increased considerably during the period from – 1996-97 to 2004-05. (2) The net return per hectored was found positive in the entire vegetable crop except –musk Mellon. The net return per hector over cost was found the highest in case of cauliflower and lowest in cucumber (3) High prices of pesticides, high
in Gestation of pest and diseases and high prices of seeds were the major constraints Faced by 89.54 and 81.53% of vegetable growers, respectively other important constraints were high wage rates, high cost of transportation and spoilage of vegetable in their order. (3) The value of marketing efficiency was found greater then unity in all the vegetables but highest marketing efficiency was observed for cluster bean while lowest was in case of bottle gourd. On the whole, besides the problems of high prices of pesticides and seeds, high infestation of pest and disease, cultivation of summer vegetable is profitable business. In marketing cost of these vegetable, commission changes and transportation cost were the major marketing costs. Efficiency of vegetable marketing was found better.  

Dantwala Committee (1950) reviewed the working of regulated markets and found certain defects such as prevalence of forward sales, mock auctions sales in the functioning of regulated markets.  

Kahlan (1970) studied mainly the examination of the magnitude and direction of chances in the structure, organization and operation of grain markets in Punjab.  

Barbara Harris (1980) examined the effects of market regulation in reducing the imperfections in the markets and concluded that regulated markets had failed to curb the market imperfections.  

Narasimha Murthy (1984) had studied the performance of regulated agricultural markets in Andhra Pradesh with special reference to warangal district. He found that only 26.2 (1540 per cent of the regulated markets (588) in the state could provide minimum facilities. The allocation of resources for improving the amenities in the market was very low as competed to the establishment of grading at market level and farm level was the most neglected aspect and some irregularities like faulty weights delay in payment and extra commission and unauthorized deduction, etc.  

Yadav (1987) studied aspects like production, arrivals, marketed surplus, price response to market arrivals and price parity. He found that production and
arrivals were widely fluctuating and marketed surplus had never crossed 13.19 percent in any year during 1975-76 to. He also found that there was a high degree but negative relationship between supply and prices. His study revealed that there were many irregularities in regulated markets, like extra commission, unauthorized deductions, poor amenities and no grading facilities as per Agmark standards.\textsuperscript{24}

The above studies were on agricultural marketing covers the following aspects:

- The studies are crop specific and area specific
- They throw light on trends in market arrivals and price fluctuations in terms of seasonal and cyclical variations.
- They focus attention on prices spreads and marketing margins.
- They discuss benefit of alternative marketing channels to the farmers.
- They describe composition of market committees, Market Regulation Act and the rules and regulations of regulated markets.
- They examine the impact of marketing on cropping pattern and marketable surplus.

Therefore it is necessary to study managerial effectiveness (in term of financial performance) of agricultural produce market committee of Saurashtra region.

### 3.7 UNIVERSE

The universe of study consists of all the APMCs working in Saurashtra region. The study of all APMCs working in Saurashtra region is obviously not possible an individual researcher hence it is proposed to follow sampling method and cover six important APMCs For the purpose of study, the researcher has tried to study the managerial effectiveness of APMCs of Saurashtra region.

### SAMPLES OF THE STUDY

(1) APMC Amreli
(2) APMC Bhavnagar
(3) APMC Junagadh
(4) APMC Hapa (Jamnagar)
(5) APMC Rajkot
(6) APMC Wadhwan (Surendranagar)

1. APMC Rajkot
APMC Rajkot was regulated in 1964 under the Gujarat Agricultural Produce act 1963. The area of the market is 40.38 acre. The notified area of market committee extends over Rajkot city and 19 villages around the Rajkot city and named Shri Sardar vallabhbhai Patel Market yard and Shri Popatbhai Sorathiya Vegetable Market Yard. It handles as many as 94 commodities which include food grain, vegetables and fruits. There are 562 shops in the market. There is also provision for administrative office, water, Bank, electricity, sanitary block, post office, godowns, Weight Bridge, parking, telephone, fax, fire safety etc. There is a special auction platform with roof for different commodities. The Rajkot APMC is only an APMC in Saurashtra Region in which cold storage facility is also available. It also provides the facility of guest house and canteen to the farmers and traders. The market committee publishes daily arrivals and prices in daily newspapers for the kind information to the farmers and concerned traders. In short the market committee has created all the necessary facilities for the market yard.

2. APMC Bhavnagar
APMC Bhavnagar was constituted in 1981 under the Gujarat Agricultural Produce act 1963 and started functioning from 13th October, 1986. The area of the market is 22.00 acre. The notified area of market committee extends over Bhavnagar Taluka city and 16 villages around the Bhavnagar city. There are total 246 marketing agencies functioning in the market yard. It handles as many as 48 commodities which include food grain, spices, pulses vegetables and fruits. There are 390 shops in the market. There is also provision for administrative office, water, Banks, electricity, toilet, post office, Weight Bridge, parking, telephone, fax etc. There is a special auction platform with roof for different commodities. It also provides the facility of guest house and canteen to the farmers and traders. The market committee publishes daily arrivals and prices in daily newspapers for the kind information to the farmers
and concerned traders. In short the market committee has created all the necessary facilities except cold storage for the market yard.

3. APMC Amreli
APMC Amreli was constituted in 1953 under the Gujarat Agricultural Produce act 1939 and started functioning from the year 1953. The area of the market is 12.95 acre. The notified area of market committee extends over Amreli city and 20 villages around the Amreli city. There are total 594 marketing agencies functioning in the market yard. It handles as many as 60 commodities which include food grain, spices, pulses vegetables and fruits. There are 253 shops in the market. There is also provision for administrative office, water, electricity, toilet, post office, Weight Bridge, parking, telephone, fax etc. There is a special auction platform with roof for different commodities. It also provides the facility of guest house and canteen to the farmers and traders. The market committee publishes daily arrivals and prices in daily newspapers for the kind information to the farmers and concerned traders. In short the market committee has created all the necessary facilities except cold storage and bank for the market yard.

4. APMC Hapa/Jamnagar
APMC Hapa/Jamnagar was constituted in 1989 under the Gujarat Agricultural Produce act 1963 and started functioning in the same year. The area of the market is 32.05 acre. The notified area of market committee extends over Jamnagar city and 35 villages around the Jamnagar city. There are total 250 (wholesalers and commission agents) marketing agencies functioning in the market yard. It handles as many as 25 commodities which include food grain, spices, pulses vegetables and fruits. There are 458 shops in the market. There is also provision for administrative office, water, bank, electricity, toilet, fire safety, post office, telephone, fax etc. There is a special auction platform with roof for different commodities. It also provides the facility of guest house and canteen to the farmers and traders. In short the market committee has created all the necessary facilities except cold storage, Weight Bridge, godowns and parking for the market yard.
5. APMC Wadhwan/Surendranagar

APMC Wadhwan/Surendranagar was constituted in 1967 under the Gujarat Agricultural Produce act 1963 and started functioning from 15\textsuperscript{th} March 1969. The area of the market is 27.70 acre. The notified area of market committee extends over Wadhwan/Surendranagar city and 10 villages around the Surendranagar city. There are total 802 (wholesalers and commission agents) marketing agencies functioning in the market yard. It handles as many as 39 commodities which include food grain, spices, pulses vegetables and fruits. There are 721 shops in the market. There is also provision for administrative office, water, bank, electricity, toilet, fire safety, post office, bank, telephone, fax, parking, Weight Bridge, godown etc. There is a special auction platform with roof for different commodities. It also provides the facility of guest house and canteen to the farmers and traders. The market committee publishes daily arrivals and prices in daily news papers for the kind information to the farmers and concerned traders. In short the market committee has created all the necessary facilities except cold storage for the market yard.

6. APMC Junagadh

APMC Junagadh was regulated in 1979 under the Gujarat Agricultural Produce act 1963 and started from 1981. The area of the market is 15.50 acre. The market committee has also started sub-marketing yard for vegetables and fruits from 15\textsuperscript{th} November, 1990. The notified area of market committee extends over Junagadh city and 71 villages around the Junagadh city and named Shri Sardar Vallabhbhai Patel Marketing yard. It handles as many as 40 commodities which include food grain, pulses, vegetables and fruits. There are 300 shops in the market. There is also provision for administrative office, water, Bank, electricity, sanitary block, post office, godowns, parking, telephone, fax, internet etc. There is a special auction platform with roof for different commodities. It also provides the facility of guest house and canteen to the farmers and traders. The market committee publishes daily arrivals and prices in daily news papers for the kind information to the farmers and concerned traders. In short the market committee has created all the necessary facilities except weight Bridge and fire safety for the market yard.
3.8 PERIOD OF STUDY, DATA COLLECTION AND DATA ANALYSIS
The study is based on secondary data taken from published annual reports of APMCs. The published annual reports of APMCs of Saurashtra region are collected from the offices of APMCs, Various publications of the APMCs would also be considered for data collection purpose.

The present study has been made for ten years from 1999-2000 to 2008-2009. Various reports and publication is used for this purpose. Other information related to the APMCs has been collected from Economic time, financial express, other periodicals, Journals and from various relevant Websites.

The collected data and information is duly edited, classified and analyzed using all type of relevant statistical tools and Techniques and employing the most appropriate parametric and non-parametric. The data were presented through simple classification and with the help of percentage, average dispersion, co-relation and association the data were analyzed and the hypothesis were tested at 5 % level of significance by employing F-test, Chi-square test etc.

3.9 TOOLS AND TECHNIQUES FOR STUDY OF MANAGERIAL EFFECTIVENESS
For the present study following tools have been used for study of managerial effectiveness of selected APMCs of Saurashtra region.

3.9.1 Ratio analysis
A ratio expresses mathematical relationship between one numbers to another number. The ratio analysis is the best known and widely used tool of financial analysis. In financial analysis, a ratio is used as a yardstick for evaluating the financial performance of a firm. The ratio can be expressed as percentage, fraction and a stated comparison between the numbers. Ratio of any business firm may be compared with ratio of other business firms existing in same industries. Analysis of enterprise by financial ratios enables the management
as well as interested external parties to evaluate the firm’s financial performance and reasons of ratio obtain from the firm with ratios obtained from the comparable firms.

Financial ratios are classified as under:

(1) **Activity ratios**
Activity ratios are used to indicate the efficiency with which assets and resources of the firm are being utilized. These ratios are known as turnover ratios because they indicate the speed with which assets are being converted into sales/revenue. These ratios, thus, express the relationship between sales and various assets. Following are the main ratios:

- Fixed assets turnover ratio
- Total assets turnover ratio
- Current assets turnover ratio
- Income activity analysis
- Analysis of operating expenses

(2) **Profitability ratios**
Profitability ratios are calculated to measure the overall efficiency of management. Various interested parties like shareholders, creditors, investors, financial institutions are interested in analysis of profitability of business. The following are the main ratios:

- Net profit ratios
- Operating ratios
- Return on capital employed
- Return on permanent fund

(3) **Liquidity ratios**
The liquidity means ability of firm to meet its current obligations. The liquidity ratios therefore try to establish a relationship between current liabilities, which are the obligations soon becoming due and current assets, which presumably provide the source from which these obligations will be met. Following are the main liquidity ratios:
- Current ratio
- Quick ratio
- Acid test ratio

3.9.2 ANOVA (Two factors and F-test)

The analysis of variance, one of the most important tools of statistical analysis, has been developed specially to test the hypothesis whether the means of several samples have significant differences or not. The analysis of variance furnishes a technique for testing simultaneously the significance of differences among several means. From these techniques one is able to determine whether the samples have the same mean as the population from which they have been drawn. In the words of Levin, “Analysis of variance is the test for the significance of the difference between more than two sample means. Using analysis of variance, we will be able to make inferences about whether our samples are drowning from populations having the same mean.”

Levin describes the following three in analysis of variance:

- Determine one estimate of the population variance from the variance among the sample means.
- Determine a second estimate of the population variance from the variance within the samples.
- Compare these two estimates. If they are approximately equal in value, accept the null hypothesis.

3.9.3 Trend Analysis and Index Numbers

Trend analysis makes it easy to understand the changes in an item or a group of items over a period of time and to draw conclusion regarding the changes in data. For this purpose, a base year is chosen and the amount of that item relating to the base year is taken equal to one hundred and index numbers are calculated for other years based on the amounts of that item in those years. It is a dynamic method of analysis showing the changes over a period of time. For proper trend analysis, the trend should be studied at least over a period of not less than five years. This method of analysis indicates the
direction in which a concern is going and upon this basis for future can be made.

According to Croxton and Crowden “Index numbers are devices for measuring differences in magnitude of a group of related variables”.

While as per Morris Hamburg: In its simplest form and index number is nothing more than relative number, or a “relative” which expresses the relationship between two figures, where one of the figures is used as a base.

3.9.4 Diagrammatic and Graphic Presentation of Data

Diagrams and graphs are visual aids, which give a bird’s eye view of a given set of numerical data. They present the data in simple readily comprehensible and intelligible form. Graphic presentation of statistical data gives a pictorial effect to what would otherwise be just a mass of figures. Diagrams and graphs depict more information that the data shown in the table. These clarify the existing trend in the data and how the trend changes.

3.9.5 Mathematical Techniques

The use of various mathematical techniques is also made frequently for financial effectiveness. The mathematical tools generally applied are – Programme Evaluation and Review techniques (PERT, Critical Path Method (CPM), Linear Programming, Etc. These techniques could not be applied in present study for want of necessary data.

3.10 LAYOUT OF CHAPTER PLAN

The present study is divided into eight chapters which are as follow:

Chapter - 1
AN OVER VIEW OF AGRICULTURE AND APMCS IN INDIA
This chapter deals with introduction-Agricultural Marketing in India-Objectives of Agricultural Marketing-principles of scientific marketing- Agricultural Marketing produce committees in India- constitution of market committee etc.
Chapter - 2
CONCEPTUAL FRAME WORK OF MANAGERIAL EFFECTIVENESS
This chapter includes the meaning of effectiveness- managerial effectiveness- areas of managerial effectiveness- analysis of activity-analysis of profitability- technique for measurement of managerial effectiveness- analysis of working capital-analysis of productivity etc.

Chapter - 3
RESEARCH METHODOLOGY
This chapter includes introduction-title of the problem-rational of the study-objective of the study-hypothesis of the study-review of literature-universe of the study-data collection and data analysis-period of the study-tools and techniques for financial effectiveness-references.

Chapter - 4
AN ANALYSIS OF ACTIVITY
This chapter includes introduction-analysis of revenue income-analysis of components of total income -total assets turnover ratio-fixed assets turnover ratio-current assets turnover ratio-current assets turnover ratio-operating expenses ratio-component of total expense ratios

Chapter - 5
ANALYSIS OF PROFITABILITY
This chapter deals with Introduction-Concept Profitability-Measurement of Profitability-Importance of profitability-Analysis of Profitability of APMCs-Net Profit Ratio-Operating Profit Ratio-Return on Capital Employed-Return on Permanent fund.

Chapter - 6
ANALYSIS OF WORKING CAPITAL
This chapter includes Introduction-Concept of working Capital-Requirement of Working Capital-Importance of Working capital-Analysis of working capitals of APMCs-Analysis Current Assets-Current Liabilities-Current Ratio-Acid Test Ratio/Quick Ratio.
Chapter - 7
AN ANALYSIS OF EMPLOYEE’S PRODUCTIVITY
This chapter includes Introduction-Meaning and Definition of Productivity-Objectives of Productivity-Gains of higher productivity-Importance of Productivity-Labour Productivity-Analysis of labour productivity in APMCs

Chapter - 8
SUMMARY, FINDINGS AND SUGGESTIONS
This chapter includes introduction-summary of all eight chapters-findings based on analysis and suggestions.

3.11 LIMITATIONS OF THE STUDY

- This study is based on secondary data taken from published annual reports of APMCs and other publications. Its findings depend entirely on the accuracy of such data.

- There are different methods to evaluation of managerial effectiveness of business. This study has used the financial effectiveness aspect only. In this connection views of experts differ from one-another.

- The present study is based on managerial effectiveness of selected APMCs of Saurashtra region only.

- The present study is largely based on ratio analysis has its own limitations which also applies to the study.

- The measurement of managerial effectiveness gives diagnostic indicator but practical reform package can not be specific without a throughout cats canning is done. Researcher being out side external analyst obviously has no assess to internal data. Therefore inside view of organization cannot be given.
• Researcher has tried best to remain faithful and keen but after all being a
human physical constrains may affect the result and as such the result of
the analysis may not be cent percent correct to be relied upon.
3.12 REFERENCES


5. ANONYMOUS, 2004b, Building up of an efficient marketing system to obviate the need for large state intervention in Maharashtra. Agro Economic Research Center, Gokhale Institute of Policies and Economics. Agricultural Situation in India, 60(10) : 685- 692.


11. SINGH, V K, KHATKAR, R K KARWASRA, J C AND SUSHIL
KHARINTA, 2004, Growth in marketing infrastructure and related economic benefits over the years in Haryana, Indian Journal of Agricultural Marketing (Conf. spl), 18 (3) : 67


19. A study on Economic analysis of production and mar4keting of major summer vegetables in saurashtra, 2007


