CONCLUSIONS

In the preceding pages an analytical understanding of marketing of fruits in South Gujarat, with special reference to mangoes, has been attempted. South Gujarat region is the "fruit basket" of Gujarat State, and grows three commercial fruits, namely; Chikoos, Bananas and Mangoes. From acreage point of view, mangoes occupy highest area under fruits in Gujarat State, and hence the analysis of fruit marketing has been attempted with special reference to mango. Also Bulsar district being the main mango growing location, the analysis is restricted to the Bulsar district.

(A) Marketing peculiarities of fruits:

Like all fresh fruits, mango fruit too, possesses certain commodity peculiarities, such as; high perishability; variatal and dimensional variations; high locational concentration of production; high seasonality and unidimensional elasticity of supply. Mango fruit being a long duration perennially yielding fruit crop, these commodity peculiarities in its case are more marked. These commodity peculiarities of fruits impart certain peculiar features to their marketing, such as; temporary market building - structures; market congestions; diversification of market destinations;
heavy reliance on transport; weakening of seller's bargaining position and amenability to co-operative marketing.

(B) Bulsar district: The place for mango growing:

At present, Bulsar district is the highest mango growing district of Gujarat State; also its soil and climatic conditions are very well suited to mango growing and the orchardist's cultivation practices are duly adapted to marginal climatic deficiencies.

Mango growing forms an important ingredient of the economy of the district, as judged in terms of absolute dimensions of total production of mangoes, the input requirements of mango growing and, also, in terms of employment and income provided by mango growing to orchardists and other functionaries.

The consumption of fruits in our country, at present, is deficient and in spite of our attempts at horticultural development under our plans, the per person per day consumption of fruits in India will be $1.1 \frac{oz}{2}$ (31.16 grams) at the end of the 4th plan. However, with rising incomes and increasing population, there are good prospects for development of horticulture, in years to come. Bulsar district, with its advantages in mango growing has good chances of economic advancement by scientific development of its mango-orcharding and mango marketing.
Input output analysis of mango-orcharding, by fitting of Cobb-Douglas production function, reveals that the supply base of mango in the district is sound. The present mango production technique being input-intensive, intensified orcharding, rather than expanding orchard size, would be a more rational approach. Increasing the dose of interculturing operations and consequently the dose of labour, as well as decreasing the number of trees per acre can be recommended for larger returns.

(C) Marketing of mangoes:

On the marketing side, transport bottleneck, and lack of established trade channels are important limiting factors. Till about a decade back, mainly due to a lack of alternative transport facilities, the destination of mangoes from Bulsar was largely concentrated in the Bombay market. However, with the development of road transport, the distribution has turned out to be more diversified and sizeable amount, at present, is sold in the markets of Saurashtra region. Further improvements in transport facilities can help in improving mango marketing by covering wider locations of demand for Mangoes. Also, as the geographical coverage of markets will expand, the reliance of mango-growers on upcountry mango merchants and agents is bound to increase, which may call in for efforts, preferably at institutional level, for providing up-to-date and reliable channel informations.
The study revealed that the local mango markets at Bulsar and Amalsad have been growing at a rapid rate, but they are, till now, temporary and do not provide up-to-date marketing facilities (particularly for Bulsar market). Lack of security; lack of sanitary facilities; lack of loading and unloading facilities; lack of banking and telephonic facilities and lack of regulation of auctions, have been marked. There is a need to establish these markets on permanent basis, with adequate space and equipped with all the elementary physical facilities of marketing, and by so doing turn them into important fruit markets of Gujarat.

(D) Structure, Conduct and Performance of Mango markets:

The analysis, in the last three Chapters, has been directed to understand market structure, conduct and performance, of two selected mango markets, as well as to point out the relationship, between the market structure and the performance. Such an analysis has certain inherent limitations, in view of a number of variables involved and non-availability of the data in the desired form. Inspite of such limitations the approach is useful as it is of vital interest to economists; firstly, as it contributes to our scientific knowledge by establishing the nature of relationship between structure and conduct. Secondly, it may furnish factual information that is essential as a guide in formulating public policies, and lastly, it gives better insight into the working of market mechanism.
(i) **Structure of mango markets**: Looking into some of the important elements of market structure, such as concentration, product differentiation, distribution of market information; and barriers to entry, both on the producer-seller and buyer-merchant ends, the study reveals an interesting contrasting picture between the two talukas namely Bulsar and Gandevi. In Bulsar taluka, the atomistic seller-producer faces mildly oligopsonistic buyer-merchant; the situation is thus that of mild-oligopsony; whereas, in Gandevi taluka there is mild oligopoly on both the buyer and the seller ends, and the situation is that of bilateral oligopoly. In Gandevi taluka, it is mainly the co-operative selling organization which gives strength to the seller-side by raising seller-side concentration to the level of oligopoly.

(ii) **Conduct of mango markets**: As expected, the seller-producer behaviour in Bulsar taluka is individualistic and selective. The orchardists who do not sell to certain markets, do so because of their dissatisfaction with prevalent market practices; however, instead of attempting to mitigate those adverse circumstances, they prefer to abstain from selling to such markets. But, in contrast to this, the behaviour of Gandevi taluka orchardists was found to be group behaviour. Most of the reporting orchardists discarded other markets mainly because they were satisfied with their present local market operations.

In Gandevi taluka co-operative marketing of mango occupy
an important place in mango marketing. More than half of the sample respondents and nearly 1/3rd of their produce was handled by the co-operatives. As against this, in Bulsar taluka, there is no co-operative marketing society and sales are mainly through merchants. Lack of co-operative spirit among producer-sellers and lack of co-operative leadership have inhibited the promotion of co-operative fruit selling in Bulsar taluka.

Prices, in both the markets are not, as a rule, determined by open auction. Higgling and bargaining is common. However, in Gandevi taluka it is the top first trader and the co-operatives that play an important role in price determination; and their price policies are interdependent.

As regards buyers procurement policies, it was seen that big merchants have wider coverage of market area, and more number of regular suppliers, as compared to small merchants. In Amalsad market, in contrast to Bulsar market, the merchants do not pay any advances to orchardists and there are no village purchases. Here out of 6, only the top two merchants had only direct procurements, whereas the rest 4, had also to depend on the first 2, for procurements.

The coverage of second point markets by the Amalsad merchants is much wider than those of the Bulsar market merchants. In both the markets, large sized firms receive greater number of second point buyers than small sized firms, but with a difference that in Bulsar taluka, even small sized firms receive second point buyers, whereas in Gandevi taluka, only the bi oer ones receive such second point buyers.
Thus the seller-producer and merchant-buyer behaviour in both the talukas differed; in Bulsar taluka it was in consonance with its mild oligopsony whereas in Gandevi it was in consonance with its mild bilateral oligopoly.

(iii) Performance of mango markets: The performance scores:

1) Price performance.
2) Cost performance.
3) Profit performance.
4) Effect of market on production.

1) Price performance: On the price performance score, it is observed that, though Bulsar taluka produces superior variety of mangoes and takes greater care at appearance, packing and grading of mangoes, as compared to Gandevi taluka, yet, on an average, the prices procured by the Bulsar orchardists are lower than those procured by Gandevi orchardists.

Better handling of time and agency of sale and greater quantity of production for sale enables the Gandevi orchardists to obtain higher prices than the Bulsar orchardists; whereas the Bulsar taluka orchardists are able to improve their price performance by better handling of place of sale.

The important point to be noted here is that the co-operative sales do not help in procuring higher prices; its efficiency rests with cutting down the cost of marketing rather than procuring very high prices for the orchardists. Thus
the co-operative sales caters to the consumers interest as well.

Comparing the $\lambda$ values of different variables, indicating the association of prices with those variables, as well as the comparisons of fluctuations of prices received in both these talukas, suggests that market imperfections are lesser in Bulsar taluka as compared to the Gandevi taluka.

2) **Cost performance**: Per unit production and marketing costs in Gandevi taluka are lower than those of Bulsar taluka, indicating that both production and marketing in Gandevi taluka are technically more efficiently organised than that in Bulsar taluka.

An important conclusion emerging from the study is that, marketing expenditures play an important role in determining technical efficiency of production. Exclusive of marketing costs, the optimum size of orchard, in Gandevi taluka, falls in the size group 15.00 acres and above; but inclusive of marketing costs, the optimum size turns out to be in the orchard size 5.00 to 9.99 acres. In Bulsar taluka also the optimum size orchard is in the size group 5.00 to 9.99 acres.

Judging the technical efficiency from the view point of the total quantity produced by the firms in optimum size group, it was observed that in Bulsar taluka about 46 percent of the production is undertaken by optimum size group firms; whereas in Gandevi taluka only about 34 percent of the production is undertaken by such technically efficient firms. Thus
judged from this point of view production in Gandevi taluka is inefficient. But there is a difference; in Bulsar taluka, major portion of the inefficient production is undertaken by firms that are smaller than the optimum size firms, whereas in Gandevi taluka, major portion of such inefficient production is undertaken by firms that are smaller than the optimum size firms. This is suggestive of atomistic seller structure in Bulsar taluka and oligopolistic seller structure in Gandevi taluka.

As noted earlier, the advantage of co-operative selling lies not so much in achieving higher price, as it lies in achieving lower marketing costs for the producer-seller. The co-operative’s marketing costs were found to be almost 1/8th of the marketing costs of the terminal dalals.

3) Profit performance: Exclusive of marketing costs, the excess profit rate ratio in both the talukas is positive; being +0.27 for Bulsar taluka and +0.48 for Gandevi taluka. But, inclusion of marketing costs changes the picture substantially. Inclusive of marketing cost, the ratio turns out to be +0.01 for Bulsar taluka, and +0.33 for Gandevi taluka. In Gandevi taluka, the important point to note is that, none of the orchard size groups have a negative excess profit ratio, whereas in Bulsar taluka, orchards of more than 10 acres have a negative ratio, the ratio becoming more adverse as the orchard size increases to more than 15 acres. Thus the above excess profit
rates ratio corroborates with our earlier finding that seller concentration in Bulsar taluka is atomistic whereas in Gandevi taluka it is oligopolistic.

4) Changes in production and marketing: In contrast to Bulsar taluka, the Gandevi taluka orchardists are seen to be static as regards their place and agency of sale. In Bulsar taluka, small orchardists are prone to such changes, and the changes are towards local markets and direct sales, which are beneficial, not so much in terms of prices, but, in terms of lower costs and convenience.

As regards changes in area under mangoes, it is noted that there has been no decrease in area over a period of five years, back from the reference year; whereas almost every year there has been increase in area under mangoes; the increase in Gandevi taluka (15.55 per cent) being more than that in the Bulsar taluka (12.9 per cent). In view of high positive excess profit ratio in Gandevi taluka, the increase in area is a welcome trend. But in Bulsar taluka, in higher orchard size groups, there is increase in area, in spite of present negative excess profit ratio; however, it was found that the increase in these groups was taking place at a decreasing rate over this period.

Non availability of grassland is an important constraint for expansion of mango cultivation. In Bulsar, where the availability of grassland is comparatively easy, the entire shift to mango orchards is from grassland; but in Gandevi taluka, the shift is mostly from vegetables and food crops.

Also it could be said that by and large the effect of
marketing on production was slow.

(E) Policy Recommendations:

The major conclusion that emerges from the present study is that agricultural producers need not necessarily be atomistic. Producers organizations, namely co-operatives, play an important role in raising the agriculturists position to mild oligopoly, so as to be a proper match to buyer-merchant strength. The benefit of co-operative societies is not so much in terms of giving higher prices, as is in terms of reducing marketing costs, and hence is in the interest of consumers as well. Also the effect of marketing is, by and large, slow on production and is not powerful enough to carry out organizational changes in the market system. Efforts are therefore called for, for organization of co-operative marketing societies, in such a way so as to give mild oligopoly power to farmers but not taking them to monopoly position.