CHAPTER-IX

CONCLUSIONS AND POLICY IMPLICATIONS

9.1 Introduction
This chapter consists of two sections. The first section highlights the summary of findings of the study as discussed in the preceding chapters and the second section contains some policy implication of the study. In this section, specific policy recommendations are suggested for the overall improvement in implementation of policy.

9.2 Findings and Conclusions
The study has been undertaken by using secondary data on agriculture production and international trade from various published sources. They were compiled and reorganized according to need of the study. The primary data was collected from exporters in accordance with objectives and analysed. The main findings are presented below.

The WTO encompass a wide gamut of rules and regulations, which are complicated and tricky to adhere to and comply with. In response to WTO guidelines each country keeps on changing its own regulations which its trading partner has to adjust with on a regular basis. Agriculture being a sensitive area of trade for most of the countries in particular developed countries it becomes difficult for producers in underdeveloped countries like India to comply with variety of stringent norms and standards like SPSM and TBT and others to trade in agriculture commodities and agri process products.

The growth in the agriculture sector has been most volatile and also the least among the three sectors. The share of total exports in the total GDP was 5.72 percent in the year 1990-91, which increased to 13.89 percent during 2007-08. Similarly, the share of total imports in the total GDP in the year 1990-91 was 7.39 percent, which has increased to 21.28 percent in the year 2007-08.

The direction of agriculture exports has been changing over time. Since WTO implementation East Asian countries have emerged as major agriculture export destination from the country. European countries and Gulf nations are other principal destination for agriculture exports from the country.
In the sixth chapter a detailed analysis has been carried out on trends in agriculture sector with reference to India and Gujarat.

Liberalization of agricultural trade was an important step towards imparting efficiency to Indian agriculture. India has major comparative advantages in diversifying its cropping pattern in favor of high value, export-oriented crops like fruits, vegetables, and flowers.

The state of Gujarat has a variety of agro-climatic conditions which allows one to produce diversified crops. The state of Gujarat is one of the fastest transforming states in India. The increase in land allocated to non-food crops indicates that farmers are ready to adopt high value crops and cash crops which allow them to earn greater income through export. Its performance has always been better than the all India in terms of economic growth.

The food processing industry has an important role to play in linking the farmers to the final consumers in the domestic as well as the international markets. Food processing combined with marketing has the potential of solving the basic problems of agricultural surpluses, wastages, rural jobs, and better remuneration to the growers.

However, increased competition is likely to help Indian Processors to improve quality aspects and become more competitive in the long term and required to improve market access, improve processing, packaging, and transportation. EXIM Policy from time to time contains a comprehensive package, it removes all restrictions on exports and facilitates technological strength and efficiency of agriculture, industry and services, create new employment opportunities, and encourage the attainment of internationally accepted standards of quality. Policy changes have served to allow greater export from the primary sector by institutional support and other direct and indirect measures.
In the seventh chapter a detailed export performance of agricultural commodities and agro based products in Gujarat has been analyzed. Geographical location of Gujarat has endowed it with a long coastal line which makes it a hot spot for international trade. In spite of industrialization majority of population in Gujarat is dependent on agricultural for its livelihood. The production of most of the agricultural crops in Gujarat has been increasing over the years; it is the export of these crops that has significantly picked up during the last decade.

Since 1991 trade policy reform measures were aimed at integration of industrial, trade and exchange rate policies to enhance the efficiency in the economy.

Analysis for post WTO that is (1995-96 to 2008-09) compound growth of area and production of Tobacco the compound growth rate percent was negative. During the overall period 1980-81 to 2008-09 for tobacco area, production as well as yield in Gujarat were negative. The ‘T’ value decreased for Gujarat as well as for India during post WTO period compared to the pre WTO period, indicating variability in production of tobacco compared to India.

The Gujarat government has set up Gujarat agro industries corporation limited (GAICL), for providing assistance to food processing units. The government of India has initiated National Mission of Food Processing (NMFP), realizing the need for processing of food items for the growth of farmers and primary sector. The value of Process fruit juice exports recorded an overall growth rate of 14.03 percent for the study period.

**Production and export of Groundnut**

Area under Groundnut cultivation in the country showed a significant positive growth rate of 2.96 per cent per annum. A negative growth rate of Groundnut area was observed in Gujarat and coefficients for area were statistically significant at one per cent level of significance for nation as a whole during pre-WTO.

During post WTO period negative growth rates of area were registered in the country as a whole marginally positive growth rates were recorded in Gujarat. The Groundnut Production had increased from 5005 lakh tons in 1980-81 to 7170 lakh tons in 2009-10. During Pre-WTO the annual growth rate of Groundnut production in Gujarat state and the country as a whole was found to be positive and statistically significant at one per cent probability level.
During post-WTO period, the productivity as well as exports has been increasing. However, there have been fluctuations in production, productivity as well as export performance is concerned. The productivity Growth rates of groundnut were found to be positive and statistically significant at one per cent level of significance in India and in Gujarat state.

**Production and export of cotton**

The state-wise variability in area production and productivity of cotton coefficient of variation was considerably high. For Gujarat on the other hand variability in production and area allocation is less compared to all India. Overall during post WTO era the productivity and production has increased considerably due to adoption of Bt cotton. This has been apparently more pronounced in Gujarat. This can be concluded from the fact that area allocation for cotton as well productivity of cotton has increased a great deal in Gujarat. More land is being allocated to cotton at the cost of less land being allocated to other crops.

During pre-WTO period, the quantity and value of export of Cotton had negative compound growth rate. In post WTO overall period, the quantity of export of Cotton had registering a significant positive growth in principal due to Bt cotton adoption and contribution of Gujarat.

However, the overall performance depends on weather conditions, domestic demand, changing policy regime for export of agriculture commodities and price fluctuations. All these factors determine the quantity and value of exports.

**Production and export of Castor**

The state-wise variability in area, production and productivity of castor shows the coefficient of variation for overall period for the Gujarat state was highest for production instability followed by instability in area and. For the whole nation analysis indicates that the instability in production was on the higher side. Castor is being adopted increasingly in Gujarat. Castor oil is also seen as value added export product.

**Production and export of Sesamum**

During pre-WTO period, the quantity of export of sesame had negative compound growth rate while the export value registered a positive growth rate. During post WTO period and overall period, the quantity of export of sesamum had registered a growth 8.86 percent per
annum. While the value of exports increased with annual average growth rate of 14.7 percent per annum.

Sesamum production and export are also affected by seasonality and uncertainty of agriculture production. Exports are showing a tendency of increase, however, productivity comes as a constraint in improving exports. Coefficient of variation for overall period for the Gujarat state was higher compared to India for production.

**Production and export of Tobacco**

The state-wise variability in area, production and productivity of Tobacco the coefficient of variation for overall period for the Gujarat state was for production instability. The area allocated in Gujarat has been decreasing continuously. The share of production of Gujarat in all India production has declined since WTO implementation. It may be concluded that farmers in Gujarat are shifting away from tobacco cultivation, which has resulted in less land allocated to tobacco and less production in Gujarat.

**Tobacco (Un Manufactured)**

In pre-WTO period, the quantity of export of Tobacco Unmanufactured had negative compound growth rate, while the export value registered a marginal positive growth rate. A high degree of variability in export quantity and value of Tobacco Unmanufactured between (1990-91 to 2008-09) periods was seen by the analysis.

**Tobacco (Manufactured)**

During pre-WTO period, the export value of Tobacco (Manufactured) registering a positive growth rate. The coefficients of value of Tobacco (Manufactured) exports were statistically significant at 1 per cent level of significant. In post WTO and overall period the value of exports increased with annual average growth rate of 13.3 percent per annum and statistically significance at 1 per cent level.

The manufactured tobacco has been more remunerative in comparison to unmanufactured tobacco in export market.
Production and export Cumin and Fennel

In pre-WTO period, the export value of these products was only small with slow growth. However since implementation of WTO growth rate of exports in case of Cumin and Fennel has shown increase. Thus in future further exports can be increased through concerted efforts by exporters and government.

Thus, it can be concluded that selected agriculture commodities studied, have registered considerable increase in production as well increase in exports. The growth in exports has shown an increasing trend since implementation of WTO, although, production and export, both show considerable variability during pre as well as post WTO period. With more focused approach by exporters and greater efforts for improvement of agriculture infrastructure and institutions, there is further scope for registering more gains in export performance.

Production and export Process fruit juice

The value of Process fruit juice exports recorded an overall growth rate of 14.03 percent during study period. The pre period registered a higher growth rate of 29.4 percent while post WTO period a lower growth rate of 11.7 percent is recorded. The process fruit juice production require capital investment and technology for packaging, hence farmers and producers are slow in adapting to these requirements. This has resulted in slow growth in export of process fruit juice. However, Gujarat farmers and government are making increasing efforts to increase export of Process fruit juice over the years. The export of fruit juice is being undertaken to countries like Saudi Arabia, USA, besides other countries. With increasing horticulture production there is ample of scope for further increase in exports.

Production and export Pickle and chutney

The export of Pickle and Chutney in terms of value showed a growth rate of 8.72 percent for the entire period of study. The pre WTO period recorded a negative growth rate of 5.27 percent compared to post WTO period growth rate of 6.79 percent. Export value of Pickle and chutney is increasing continuously during the study period.

The growth in export of Pickle and Chutney is slow as it caters to need of Indian migrants abroad. However, efforts need to be made to export to more countries where Indians have migrated.
Production and export of Mango pulp

The Mango pulp exports for entire period recorded a growth rate of 14.7 percent. The pre WTO period showed an annual export growth rate was lower than post WTO period and recorded a lower growth rate. The growth of India’s destination wise export of Mango pulp was increased over the years. The export of Mango is undertaken to USA and UK, among others. The coefficient of variation for overall period for the nation was for export quantity (65.05 percent), followed by export value (82.9 percent).

The higher export of Mango pulp require better processing and packaging infrastructure in the country, with improvement in these it is likely to increase in further in future.

Production and export of Castor oil

The analysis of annual compound growth rate of total Castor oil exports in terms of value registered an annual compound growth rate for the whole period to an extent of 7.7 percent while for pre WTO period it grew at higher rate compared to post WTO period during which it grew slowly. The results convey that the export of castor oil in terms of quantity had a better performance in the pre-WTO period. The export behavior in terms of value earnings also corroborated the finding. It showed a comparatively better performance in the first period.

The survey of exporters revealed that they have encountered variety of constraints and problems. The raw material related problems are cited to be a major problem, other infrastructure bottlenecks including power supply, packaging and custom regulations have been cited as major problems faced by agriculture exporters in the state of Gujarat. and majority of oilseed& value added agro products have stated, the EXIM policies of the government had a negative impact at the price level and on the export front especially in the case of items like pickle, Mango. Exporters of agro products have been placing much emphasis on factors like market potentials existing, product specifications export assistance available and profitability. Gujarat exporters adopt different marketing channels and processors are shown by above-mentioned chart.
9.3 Policy Implications

Based on above conclusions following policy implications emerge

**Enhancement of Agriculture export**

1. There is already an excess capacity created in the state for agro-processing through the agro-industry Policy. A right type of policy announcements should be made immediately to support and strengthen the weaker agro processing industries in the state in terms of (i) quality up-gradation so that the products can easily conform to international quality standards like HACCP, ISO 9000 etc.; (ii) marketing of the finished products; (iii) availability of credit; (iv) research and development backed by policy for healthy by-products use to promote maximum possible agricultural biomass use; and (v) other infrastructure facility support, so that a significant part of the fixed cost of enterprises can be absorbed by the state, as the developed countries have been doing under 'green box' coverage to enhance competitive strength of their country's products. This would immediately spur the demand for agricultural products in the state.

2. The agricultural export zones by commodities need to be commissioned without losing any time. It will help procurement and sale of agricultural produce from the state. The state government has a plan to propose such export zones by agricultural commodities;

3. As soon as possible develop the agro-jetties at selected ports for exports. The ports should be selected on the basis of the hinterland potential and good road connectivity and other infrastructural facilities.

4. There is a proposal for developing cold storage facility for perishable cargo at the Ahmedabad international airport. Here the participation from the private sector is envisaged. Whatever approvals and permissions are needed should be expedited and the supporting infrastructure needed to make it operative should be quickly provided.

5. Similarly, the cold storage chain should be established at different points in the state to facilitate storage of perishable agro-products.

6. Provide more information to the farmers on the prices prevailing at different local, national and international markets for various commodities so that the farmers can take considered decisions on selling their produce or on entering into sale contracts in different markets.
Computer networking and spread of telecommunication facilities should be effectively and efficiently used for this purpose.

7. It is important to provide correct and candid information on several new technologies with their expected yield under different agro-climatic conditions and application of specific inputs at specified time. The Department of Agriculture should also clearly mention other requirements of the new technologies to the farmers in order to facilitate their adoption. Again several media of communication can be effectively and efficiently used for this purpose.

8. This is opportune time to initiate and facilitate contract farming as a major institutional reform. This is because the farmers have bumper crop in their hand. They can bargain for remunerative terms with the agro processor. They would be better placed at present than at any future time. Secondly, contract farming does not mean only a fixed price contract for the sale and purchase of the crop output. It would also cover the whole vertical chain of value addition, e.g., input supply including credit, fertilizer, pesticides (if any), seeds, etc. on one side; and the share of bonus in the profit or loss of the agro-processor, on the other side. In short, the state needs to facilitate smooth working of the system of contracts, which would make the two contracting parties as longer-term partners in each other's business with a clear stake established on both sides.

9. Necessary policy support needs to be provided because women groups, trade union organizations are greater control over the distribution channel of their products as well as outside products they consume. Second, greater control over the distribution channel by farmers and their allies will result in not only maximum price realization on their products, but also minimum price payment on their purchases, thus augmenting income and employment increase (rather than leakage of such opportunities to outsiders) at the local level.

As already mentioned above, the state government needs to look at agricultural production as the production of biomass, rather than getting constrained by linking only one product to each crop. Thus, there is a need to use the R&D efforts already successfully implemented world over to diversify the uses to which an agricultural crop is put. This can happen at two levels: (i) the crop may have several by-products like stalks, stems, etc. apart from the main product, e.g. paddy which has rice and another by-product, husk that can be used to generate electricity. Similarly, sugarcane can result in production of sugar, biogases and molasses, (ii) the product of the crop itself can have several uses, e.g. rice can be used directly as food and
indirectly as biscuits from rice bran, etc. In both these cases, the demand for the basic agricultural product would become more price elastic because now it has several uses and the flexibility of its demand would hence increase with respect to its price.

2. The government should facilitate immediate establishment of several futures trading and futures markets in different agri-products. This would increase the price responsiveness of the demand for agri-products by the industrial consumers and traders. This will be to the ultimate advantage of the farmer because his bargaining power would also increase.

Gujarat has strength in agro-based industry in terms of natural resources, established industrial infrastructure, and vast pool of technically skilled manpower, hardworking and enterprising farmers

1. Lack of technical assistance, lack of availability of fertilizer, disease problem, lack of credit facility among the marketing problems, non-availability of grading facility, were the major constraints opined by farmers.

2. The outbreak of pest and disease was the major cause for the reduction in productivity of Tobacco and cotton. Therefore it is necessary to develop pest and disease resistant. Government should also think of establishing disease forecasting centers in major selected growing areas so that outbreak of disease can be controlled.

3. The village merchant was exploiting the farmers by way of making more profit. This could be eliminated by the producers who could sell their produce in the regulated market through co-operative marketing society. Hence, the primary co-operative society’s should be encouraged to arrange for sale of product.

4. In the study area, most of the farmers had expressed high commission charges recovered by commission agents. The producer need not pay commission charges to the commission agent. Only the buyer or purchaser has to pay commission, but the Commission agents collect from both. Hence, regulated market may take up comparing to enlighten the farmers about the act and provision that commission shall be collected from buyers and not from sellers.

5. The wide variations in arrivals and prices affected the returns to the groundnut, cotton, sesame, tobacco, castor growers. In order to encourage growers to continue its production,
price needs to be stabilized and hence Government should announce minimum support price for the above agro commodities.

6. Indian Ground nut, sesame, castor exports are competitive; there is a higher instability in its export in the International market. Therefore, to capture the higher share in the world trade, much emphasis need to be given on sanitary measures and standardization of packing and simplification in export procedure so that gain of export to the different countries.

7. About 75 percentage of the farmers expressed the lack of technical knowledge in cultivation. Therefore, Agriculture department should arrange periodically training programs and technical know-how of recently developed research for the sake of farmers to improve the technical knowledge.

8. About 50 per cent of the traders expressed the problem of inadequate storage facility; Government should look into the matter of strengthening storage and other infrastructural development along with credit support to the different growing areas.

9. About 78 per cent of the processors expressed a serious problem of inadequate Power supply. Government may think of adequate and regular power supply which certainly will help in profitability of processors.

10. It was observed that the yield levels of groundnut, Tobacco, Cotton in the state as a whole were declining over time and that of cotton too was not encouraging. Hence, there is an immediate need to take appropriate yield raising measures for sustained production of oilseeds in the state.

11. The study has provided enough evidence that the area allocation decisions in respect of agri crops have been governed by their relative profitability, indicating that price factors are more important than non-price factors. Hence, the ongoing price policy should be directed towards assuring appropriate remunerative prices to oilseed producers in the state.

12. The results have indicated that our exports of groundnut were mainly concentrated in Indonesia and Malaysia. A high dependence on one or two export markets would increase the trade risk in long-run especially if these countries also set high standards. Hence, appropriate export promotion strategies are to be evolved to diversify the geographical concentration.
13. Gujarat enjoys export competitiveness in both groundnut and Sesame, Cotton, Castor; hence all efforts should be made to increase the production and productivity of these oilseed crops. State should encourage enhancing the export of above agro-products.

14. It is apparent from the results presented in the Table 8.1 that the major problems faced by the groundnut, sesame, cotton, castor, tobacco growers in the study area Non-availability of labor (62 per cent) was the common problem, at the time of harvest. About 62.25 percent of the total respondents surveyed against this; about 15 exporters have been found ensuring processing through outside units which is about 37.5 percent.

15. It can be concluded from the results presented in the Table 8.1 that price fluctuation, lack of market information and location of processing units far away from production place were expressed by more than 75 percent of the farmers. Moreover, farmers cannot afford to store the produce for a long period and get the advantage of rise in the price in the future. Hence, they could express lot of fluctuation in price. Whereas, 75 percent of the respondents non-availability of grading facilities as a severe problem faced by them.

16. The exporters and all the processors were facing the challenge of lack of faster maturing varieties for replanting, high overall and local taxes, fluctuation of prices in international market, lack of incentives, inadequate market information and inadequate physical facilities in the market were the major problems. Whereas, quality of the produce meant for export was deteriorated, low production in relation to processing units available, high competition in the world market and decline of share of India in international market. Lack of domestic support for export, stiff competition from other countries and lack of appropriate physical facilities at the ports.