CHAPTER VI

FINDINGS

AND

SUGGESTIONS
6.1 MAJOR FINDINGS

As we have already made an elaborate discussion in the foregoing chapters on the various issues pertaining to the cost and price of sugar industry. Now, herein below, an attempt is made to summarise briefly the main findings of the present investigation.

(1) There are 427 sugar units in our country, out of which, twenty six are located in Gujarat which represents 6.08 percent of the total number of sugar factories of our country. It is interesting to note that the sugar units located in Gujarat are all on co-operative basis.

(2) The total licensed and installed capacity of the sugar industry was 277.83 lakh tonnes and 134.59 lakh tonnes sugar per annum respectively. The total licensed and installed capacity of Gujarat sugar industry was 9.602 and 106.7 lakh tonnes respectively which represents 5.52% and 6.65% of the all India basis.

(3) Out of 427 sugar units, 197 units have more than 10000 TCD capacity, between 5000 to 10000 TCD of 197 units and between 5000 TCD of 51 sugar factories in our country. With regard to the installed capacity of Gujarat sugar units, 01 units have more than 10000 TCD between 5000 to 10000 TCD 21 units and less than 5000 TCD 04 units.

(4) Uttar Pradesh is the highest producer of sugar in our country. The usage ratio for domestic and industrial purposes as also the highest in U.P. The share of Gujarat in the production of sugar was 7.49%.
As reported by the Government of India, the economic viable capacity for sugar factories is 2500 TCD per day. Thus, it is realized that around more than 15 percent sugar units of the country and Gujarat are not economically viable and commercially tenable. It is found that all the selected units for the present study purpose are economically viable in terms of TCD. Shri. Khedut sugar is having the highest TCD and the lowest being Shri. Ganesh sugar.

The total production capacity of sugar industry is around 13450 lack tonnes while the total domestic requirements are not more than 12560 lack tonnes per year. The sugar consumption for household purpose is between 60 to 65 percent of total production. At Gujarat level, all the selected units have more than 60% utilization capacity.

Regarding the usage of sugar, it reveals that 60 to 65% was used for potable purposes, 10 to 20% used for industrial purposes and 10 to 15% for subsidiary industries like biscuit and confectionery purpose.

To measure the efficiency of sugar factories, the yield obtained from the sugarcane through crushing and boiling process is the best measurement for sugar industry. However, it is dependent on crushing period, cane crushed, sugarcane available for crushing purpose, sugarcane acreage etc.

The average sugarcane acreage per hectare per tonnes has been 138 in Gujarat and it has been 4048 at all India level during the period under study. The more the area of sugarcane, the more is likely to increase sugarcane production.
(10) The average sugarcane production in Gujarat was 10600 tonnes as compared to 252380 tonnes at all India level. In percentage, it was 4.20% to the total of all India during the period under study.

(11) The average crushing period was 123 days as compared to 179 at all India level. More the crushing days, the better is the crushing utilisation capacity.

(12) The sugarcane crushed was 7700 thousand tonnes during the period under study on average basis; it was 127698 thousand tonnes at all India level on average, which is 6.02% of all India.

(13) The average sugar production of Gujarat was 850 thousand tonnes during the period under study. The same period reveals 12610 thousand tonnes of sugar production at all India level. In percentage, Gujarat has contributed 6.74% of sugar to the total production at India level.

(14) Recovery of sugar in Gujarat was 10.90% as compared to 9.87% at all India level. Hence, it can be considered better in Gujarat.

(15) Khedut sugar has crushed 1345852, 1481497, 1238270, 1104362, 1220531, 1100496, 2016052, 1685194, 1449895 and 1700483 tonnes sugarcane during the period under study. Madhi sugar has crushed 625810, 724424, 812836, 1018832, 996565, 862973, 1379854, 1064368, 867231 and 1050802 tonnes of sugarcane, Chalthan sugar has crushed 765380, 1021811, 831485, 918245, 988846, 705770, 1144380, 999865, 815072 and 1004797 tonnes, Sayan sugar has crushed 610543, 826319, 745644, 700592, 926334, 709441, 1072030, 992181, 1017417 and 1048184 tonnes
of sugarcane, Gandevi sugar 358789, 472912, 665907, 667709, 645059, 595052, 961557, 790558, 768717 and 943546 tonnes of sugarcane and Ganesh sugar has crushed 235827, 330616, 273488, 233780, 368377, 418941, 515120, 470702, 403675 and 534288 tonnes of sugarcane. At Gujarat level, it was 6083, 7619, 6763, 6625, 7442, 6512, 10781, 9023, 8306 and 9884 tonnes during the period under study, which means in percentage Khedut's contribution was 18.4%, Madhi's contribution was 12%, Chalthan's contribution was 12%, Sayan's contribution was 11%, Gandevi's contribution was 9% and Ganesh's contribution was 5% on average basis.

(16) The crushing period comparison shows an average of 180 days in Khedut sugar, 186 days in Madhi sugar, 185 days in Chalthan, 200 days in Sayan, 175 days in Gandevi and 190 days in Ganesh sugar during the review period. At Gujarat level, an average crushing period was days for the same period. On average Chalthan has highest no of crushing days and lowest was Gandevi.

(17) The sugarcane crushed per day in tonnes was as follows: Khedut 8007.36, 8115.60, 8196.24, 8315.52, 9572.88, 10286.40, 11131.44, 10771.44, 10912.08 and 10686.72 tonnes per day. Madhi 3346.58, 3205.42, 4195.03, 5660.17, 5727.38, 5360.08, 5947.65, 5946.19, 5820.34 and 5970.47 tonnes per day. Chalthan 5019, 5176, 5259, 5444, 5738, 5909, 5849, 5727, 5857 and 5873 tonnes per day. Sayan 3589, 3878, 3912, 4282, 4671, 5195, 5491, 5531, 5677 and 5741 tonnes per days Gandevi 2336, 2426, 3249, 3756, 4100, 3960, 4266, 4170, 5265 and 5471 tonnes per day and Ganesh
1255.51, 1513.19, 1585.83, 1561.14, 2120.63, 2548.38, 2675.08, 2773.94, 2947.44 and 2929.62 tonnes per day during the period under study.

As compare with Gujarat it was 3664, 3753, 4174, 4600, 5028, 5565, 5300, 5747 and 6340 tonnes per day.

An average of cane crushed in selected units was 9600 tonnes in Khedut, 5117 tonnes in Madhi, 5585 in Chalthan, 5800 in Sayan, 4380 thousand tonnes in Gandevi and 2190 thousand in Ganesh per day.

(18) So far sugar production is concerned, an average of the study period reveals 1604241 quintals in Khedut, 1043545 quintals in Madhi, 1017955 quintals in Chalthan, 961792 quintals in Sayan, 766538 quintals in Gandevi and 401863 quintals Ganesh.

At Gujarat level, during the same period, it was 8599000 quintals. Hence, in percentage contributions from selected units to Gujarat level are as follows

Khedut - 19.46%
Madhi - 12.46%
Chalthan - 12.15%
Sayan - 11.48%
Gandevi - 09.15% and
Ganesh - 74.79%

The highest being Khedut and lowest being Ganesh.
Recovery of sugar in percentage on average of the study period was 11.24%, 11.07%, 11.07%, 11.10%, 11.51% and 10.62% for Khedut, Madhi, Chalthan, Sayan, Gandevi and Ganesh respectively. It was 9.91% at Gujarat level during review period. It was highest in Gandevi and lowest in Ganesh sugar.

Regarding installed capacity and utilised capacity of selected units are, Khedut an average of 10000 TCD and 7883 with a percentage of 78.83%, Madhi with 5850 TCD and 5125 TCD with a percentage of 87.61% utilised capacity, Chalthan has 5000 TCD and 4924 with a 80.98% utilised capacity, Sayan has 4550 TCD and 4452 TCD with 97% utilised capacity, Gandevi has 3650 and 3475 with 96% utilised capacity and Ganesh has 2100 TCD and 2036 with 96.2% installed capacity. This reveals that Sayan has the highest utilised capacity and the lowest being Khedut.

Sugarcane cost seems to be a dominating ingredient in all the selected units. During the period of study on an average basis, Khedut Sugar has a sugarcane cost Rs. 12581 lakh, Madhi Sugar’s sugarcane cost was Rs. 7645 lakh, Chalthan Sugar’s sugarcane cost was Rs. 7961 lakh, Sayan Sugar’s cost was Rs. 7501 lakh, Gandevi Sugar’s sugarcane cost was Rs. 6139 lakh, and Ganesh Sugar’s sugarcane cost was Rs. 3397 lakh. If we convert the sugarcane cost of each units into percentage of utilised capacity, it was 159.60% in Khedut, 147.21% in Madhi, 161.67% in Chalthan, 168.48% in Sayan, 176.66% in Gandevi and 166.84% in Ganesh for the review period. It can be seen that it was highest in Gandevi sugar and the lowest in Madhi sugar.
Manufacturing cost also seems to have significantly affected the total cost. On comparison, Khedut shows an average of Rs. 1263 lakh as manufacturing expenses, Madhi shows Rs. 1057 lakh, Chalthan shows Rs. 900 lakh, Sayan shows Rs. 1123 lakh including cost of fuel, power, repairs and maintenance and effluent) Gandevi shows Rs. 616 lakh and Ganesh shows Rs. 415 lakh as manufacturing expenses during the period under study.

Salary is considered as important element in total cost. So far salaries and wages are considered, it was Rs. 179 lakh in Khedut, Rs. 136 lakh in Madhi, Rs. 49 lakh in Chalthan, Rs. 37 lakh in Sayan, Rs. 97 lakh in Gandevi and Rs. 60 lakh in Ganesh on an average basis for the review period. Compared to cost of production with proportionate allocation, it was 0.90% in Khedut, 0.75% in Madhi, 2.07% in Chalthan, 2.60% in Sayan, 0.79% in Gandevi and 0.70% in Ganesh for the same period. Thus, proportionally Sayan paid the highest salaries and wages and the lowest being was Ganesh.

Cost of production includes a vital ingredient of fuel cost. An average of the study period shows 0.33% in Khedut, 0.23% in Madhi, 0.14% in Chalthan, 0.16% in Gandevi and 0.13% in Ganesh.

So far power cost is concerned, it was 0.43% in Khedut, 0.33% in Madhi, 0.38% in Chalthan, 0.49% in Gandevi and 0.22% in Ganesh Sugar for the review period on an average basis.
(26) Effluent cost shows an average of 0.01% in Khedut, 0.01% in Chalthan, where as in case of other units, it was included in manufacturing cost.

(27) Repairs and maintenance is inevitable to smoothly and efficiently conduct production operation. It was Rs. 368 lakh in Khedut, Rs. 293 lakh in Madhi, Rs. 250 lakh in Chalthan, Rs. 137 lakh in Gandevi and Rs. 16 lakh in Ganesh an average of the study period.

(28) Depreciation is also a major item of total cost. It was Rs. 369 lakh in Khedut, Rs. 137 lakh in Madhi, Rs. 180 lakh in Chalthan, Rs. 121 lakh in Sayan, Rs. 176 lakh in Gandevi and Rs. 148 lakh in Ganesh on average for the review period.

(29) Administrative expenses shows Rs. 95 lakh in Khedut, Rs. 102 lakh in Madhi, Rs. 70 lakh in Chalthan Rs. 113 lakh in Sayan, Rs. 66 lakh in Gandevi and Rs. 128 lakh in Ganesh for the period under study on average basis.

(30) So far selling and distributing expenses are concerned, it was 0.14% in Khedut, 0.22% in Madhi, 0.30% in Chalthan, 0.09% in Sayan, 0.19% in Gandevi and 0.23% in Ganesh for the review period on average basis.

(31) Interest charges show 6.70% in Khedut, 10.88% in Madhi, 6.56% in Chalthan, 7.30% in Sayan, 8.14% in Gandevi and 6.21% in Ganesh for the period under study on average basis.
(32) The other expenses show 0.13% in Khedut, 0.43% in Madhi 0.38% in Chalthan, 0.08% in Gandevi and 0.03% in Ganesh on average basis for the review period. No such information was available for Sayan Sugar.

(33) There is a scope for technological improvement existed for better economics.

(34) Regarding the valuation of inventory, the units have used market price for the valuation of inventory.

(35) It is heartening note that all the units are cost conscious and have used cost control techniques i.e. standard costing and cost reducing techniques i.e. by saving in fuel cost through using bio-gas, baggase, steam water etc. by the examined units.

(36) It is realized that all the units have used stock level inventory control techniques

(37) The main reason to attain or not to attain the production capacity of sugar is availability of sugarcane. From the study, it is realised that out & the total sugarcane produce in Gujarat and some portion from other parts, the availability of it to the sugar units. This fact proves our hypothesis that operating efficiency of main raw material i.e. sugarcane and on the capacity of the sugar factories.

(38) Operating efficiency is also dependent on the policies of State and Central regarding the prices of sugarcane. It should not be too exorbitant and unremunerative as well. If we compare the SAP or SMP with actual price paid by the sugar factories to the sugarcane growers, actual price is
unbelievably higher than SAP/SMP. Hence, this creates unnecessary burden on the part of sugar units and this has either resulted into reduction of profits or incurring losses. In this regard; it is interesting to compare it with SAP/SMP. The SMPs during 1989-90 to 1998-99 was Rs. 220, Rs.230, Rs.260, Rs.310, Rs.345, Rs.391, Rs.425, Rs.459, Rs.484 and Rs.527 per tonnes respectively. Let us compare these prices with actually paid by each selected units during 1989-90 to 1998-99.

Khedut has paid Rs.545, Rs.591, Rs.719, Rs.1025, Rs.955, Rs.902, Rs.986, Rs.1031 and Rs. 1001 respectively, Madhi paid Rs.546, Rs.540, Rs.542, Rs.690, Rs.920, Rs.885, Rs.845, Rs.920, Rs.1030 and Rs.826 respectively. Chalthan paid Rs.540, Rs.601, Rs.589, Rs.744, Rs.1050/1026, Rs.911, Rs.875, Rs.996, Rs.1096 and Rs.1011 respectively. Sayan paid Rs.513, Rs.581, Rs.583, Rs.721, Rs.1001, Rs.916, Rs.871, Rs.928, Rs.1046 and Rs.871 respectively.

Gandevi paid Rs.525, Rs.581, Rs.591, Rs.726, Rs.1016, Rs.955, Rs.906, Rs.991, Rs.1115 and Rs.1005 respectively.

Ganesh paid Rs.527, Rs.555, Rs.575, Rs.735, Rs.1051, Rs. 1001, Rs.946, Rs.961, Rs.1064 and Rs.912 respectively.

On an average basis the SMP was Rs. 365 for the period under study. The same was Rs.775 in Khedut, Rs.774 in Madhi, Rs.740 in Chalthan, Rs.716 in Sayan, Rs. 841 in Gandevi and Rs.832 in Ganesh.

From the above, it is cleared that the prices paid by each selected units were more than double either in terms of individual years or on average basis. This supports our hypothesis that operating efficiency is dependent
on the States as well as Central policy pertaining to the prices of main input i.e. sugarcane and losses are due to social costs borne by the sugar factories in the form of various concessions like higher price of sugarcane, loan, seeds, fertilisers etc.

(39) Profitability also depends on the cost of production, total cost and prices of the final product. As in India, the price of sugar is subject to Government control and direction, the sugar factory are to sell sugar even in free sale market as per the quota fixed and prices fixed by the Central Government. Hence, this restriction adversely affects the profitability of the sugar factories. If we compare total cost with the prices of sugar i.e. in terms of total sales, the positive difference (i.e. profits) between sales and cost is negligible and this is on account of prices. The same is also true in case when the negative different is seen, i.e. total costs exceeding total sales. Hence, this also supports our hypotheses that losses (or low profits) are due to unremunerative pricing policy of the sugar.

(40) An overall examination of the cost structure of sugar industry, it is found that the sugarcane was the chief determinant in smooth working of the sugar industry followed by manufacturing expenses, salaries and wages, repairs and maintenance, depreciation, administrative expenses and interest in the investigated units during the period of study.

(41) And, the last but not least, it reveals that the weightage of the various elements of cost to total cost, cost of production, cost per unit and sales were different from one unit to another, from one period to another in the
examined units of sugar factories of Gujarat during the period under study due to the following responsible factors.

(1) Utilisation of installed capacity.
(2) Availability of main input i.e. sugarcane.
(3) Location of sugar factories for example in a wet/dry area
(4) Manufacturing process of the factory.
(5) Crushing and boiling capacities of the plant.
(6) Age of the plant.
(7) Technological development or improvement in the factory plant.
(8) SMP/ SAP of the Government.
(9) Compulsory quota of sugar to the Government for PDS
(10) Pricing policy of the Government.
(11) Release of the sugar.
(12) Utilisation of fuel such as Coal, Furnace oil, Wood, Power etc.
(13) Availability of funds.
(14) Natural calamity.
(15) Inconsistency in rain
(16) Availability of irrigation facilities
(17) Taxes
(18) Technical staff
(19) Lack of research and development facilities
(20) Politics
(21) Financing mix etc. are responsible for disparity in the cost structure and cost of production of sugar of the units of Gujarat during the period of study.
6.2 CONCLUSION

The study of sugar units of Gujarat broadly supports our hypotheses and we can derive the facts evidenced by the following:

Firstly, from the earlier discussion and also revealed that out of total production of sugarcane, only 50% of the crop is available for sugar production where as the rest is channelised towards seeds, feed, chewing etc. and production of Gur and Khandsari. Hence, one account of insufficient availability of sugarcane for sugar production does not help sugar factories to attain the maximum crushing capacity of the plant. If we compare the installed capacity and utilised capacity Khedut has attained 78%, Madhi 87%, Chalthan 98%, Sayan 97%, Gandevi 96% and Ganesh 96% installed capacity. This proves our H0 and H03 that operating efficiency is dependent on the availability of the main raw material i.e. sugarcane.

Secondly, hugh price paid by the sugar factories to the sugarcane growers for sugarcane produce and unremunerative price of final product i.e. sugar have lead to a situation in which sugar factories do not get many profits or even incur losses. (detailed discussion is given in chapter VI para. 38). This also supports our H02 and H04.

Finally the compulsion of the Government to follow the price suggested it also hamper the efficient and efficacy of the factories. Here in this regards, the sugar factories not only have to supply 40% of sugar quota to the Government for PDS but also have to follow pricing policy prescribed tine to tine by the Government, even for selling nest quota in free market. And the prices are unremunerative also. This again supports our H05 that losses are due to unremunerative pricing policy of the Center.
This also becomes clear if we compare the total cost with total sales of each selected units for the period under study.

6.3 SUGGESTED PLAN OF ACTION

To overcome from the existing situation and for smooth and efficient operation of the sugar factories, the following recommendations which are based on detailed investigation and analysis of statistical information for sugar units of Gujarat would immensely be helpful to the sugar industry.

1. Ever since the Government of India have adopted decontrol industrial policy and pronouncement of decontrol of sugar order, the situation of the sugar factories has further deteriorated than ever before in the country particularly in Gujarat. The capacity utilisation of industry ranges between 5 to 25%. Therefore, it is advisable that the government should not allow any fresh licenses or additions to the existing capacities until the fuller utilisation of capacity.

(Paragraphs 1.13 and 4.14)

2. It is observed that the major portion of existing capacity comes form old and uneconomical batch type of sugar units. With the ongoing liberalisation measures and policy charges affecting the major environment, and hence, the economical viability capacity factor has been increasing owing to the escalation in the inputs of sugarcane, steam (fuel), electricity the cost of plant & machinery and the cost of capital itself. In addition to these, the modern effluent disposal arrangements newly insisted by the Government of India its pollution
control programme, the economic viable capacity has put a 2500 TCD per day so that it is suggested to convert uneconomic size into economic viable capacity in the existing framework of the sugar factories as early as possible.

(Paragraph 4.14)

3. When the supply position of sugar improves, it is advisable to export it. Further, it is suggested that the export of sugar by the sugar factories units at the expense of the sugar industry should be discouraged. It is also recommended that the import duty on sugar be increased substantially to withstand competition from the interventional markets. Another reason to increase import duty on sugar is logically true because at present import duty rate, the imported sugar is priced much lower than the prices of sugar produced and supplied by indigenous factories. Hence, it is urgent need of an hour to safeguard the domestic sugar industry.

(Paragraph 2.11)

4. Sugarcane is an essential and basis raw material for the production of sugar. It is better to see that area under sugarcane be increased better yield of sugarcane etc. Hence the efforts should made to attract the sugarcane growers, to given them loans, providing them seed, fertilisers, pesticides at moderate rate, cash subsidy, timely payment of the remuneration and more importantly, CACP should recommended higher SMP to the growers. (Paragraphs 2.2 and 5.2.1)
5. It is observed that the policy of molasses decontrol announced in June 1993 has not been uniformly implemented by the State Governments. Hence, it is advisable on the part of the Government to effectively implement it so that the growers and consumers both are beneficial because molasses is a negative item of cost in the computation of levy sugar price.

(Paragraph 2.16)

6. It is seen that sugar is used as an edible item. It is also used for confectionery, biscuit and pharmaceutical industries. Hence, any deterioration in the quality affects the users. It is, therefore, necessary for manufacturers to note complaints made by the users and take quick and effective remedial actions. The Central Government as well as States should also set-up a separate department which would supervise the quality and standard of sugar produced by the sugar factories. It is essential to have standardizations like ISI/BSI or ISO-9000 in the changing scenarios of the world markets as our Government has also adopted free market policy where the sugar factories have to compete for their survival. The export import agencies like STC and the manufacturing associations like ISMA, ISA should also impose stringent norms for export of sugar so that the goodwill can be created in an international market.

(Paragraph 1.17)

7. As stated in above that our country cannot compete in the world markets owing to an inferior quality of sugar. The ISMA / NFSI should
continue to collect information about technical improvements and development abroad and pass it on to the sugar units for their benefits.

(Paragraph 1.17)

8. As it is known fact that the Government undertakes a populist scheme known as Public Distribution System through which along with other commodities, sugar is also being distributed among the especially weaker and poorer sections of the society. The prices of the PDS commodities are lower than free sale prices. The Government procures sugar i.e. 40% of the total production from the manufacturers at even below cost of production. Hence, the loss on account of this is to be borne by the sugar factories. However, with a restriction by wag of quota monthly release for sale, the sugar factories are not free to sale all the remaining 60% quota at once. Hence, it is recommended that such restrictions be gradually lifted increase the profitability of the sugar factories. The Government should allow the subsidy at present allowed in supply of sugar through PDS could be distributed among the beneficiaries by adding to the subsidy at present allowed on foodgrains.

(Paragraph 2.7)

9. There should be a consistency and co-ordination between SMP determined by CACP and SAP declared by State Government. It should be based mainly on the cost of production of sugarcane and return to the growers from alterative crops and it should be delinked
from market price of sugar. A premium can be given on the qualitative aspect of the sugarcane. (Paragraph 2.10)

10. The sugarcane is the single largest expense in the conversion cost, therefore, it is suggested to provide an escalation clause for any variation in the price of sugarcane. It is assumed that all the sugar units consume top quality of sugarcane in a required quantity. (Paragraph 5.5)

11. To ease the situation from the long-term point of view, it is therefore essential to adopt technology up gradation for sugar industry. This may be proved panacea for all ills or at least mitigate the problems created owing to massive effluent cost. For this purpose the Government should provide all possible assistance to the sugar industry. (Paragraphs 2.11 and 4.15)

12. As we know that the effluent treatment is a bottleneck for the sugar industry as well. Hence, it is necessary to undertake a pragmatic assessment and readjustment of standards prescribed by the pollution control board for treatment of effluent should be revised. (Paragraphs 3.11 and 5.15)

13. The major inputs like sugarcane and fuel costs play dominant role in cost of production, therefore the purchase department (or purchase personnel) in the organisation should control over material specification, quality control, procurement, storage and usage. This
would show positive results in controlling the cost of production of sugar.

(Paragraph 5.1)

14. Interest is the next important element of cost affecting the profitability of sugar units of Gujarat and perhaps the sugar industry as a whole. Therefore the units should make systematic planning of capital and revenue expenditure of linking with an effective budgetary control system. Moreover, the units should use fund flow management practices so that the fund can be used properly and revised adequately.

(Paragraphs 4.15.1 and 5.4.7)

15. The last but not the least, it is strongly recommended that due importance should be given to sugar industry like other industries. The sugar manufacturers feel that the Government should support sugar as a feedstock based on its “supremacy” based on the following grounds:

1. It is a renewable feedstock for many commodities such as biscuits, confectioner, pharmaceutical etc.

2. It involves no foreign exchange only.

3. It can always remain affordable to the users, non-inflammatory and cost effective.

4. It may immensely be helpful in the socio-economic development because (a) it has immense scope employment in the remote areas of the country. (b) balance development if rural areas and (c) hence, the rural development. Thus it is suitable to the Indian condition. All these factors support our contention in favour of “Sugar Industry” as it is recognised as a vital industry.
6.4 LIMITATION OF THE STUDY AND DIRECTION FOR FURTHER RESEARCH.

The present study is limited to only six units of Gujarat State. All the units including the examined units are set-up on co-operative basis. The study is base mainly on the annual audited reports of the examined units and primary and secondary information collected through questionnaires including schedules, by interviewing the key personnel of the selected units of Gujarat. There are also limitations in regard to the memory and knowledge of the respondents. Due to inflationary trend in the economy during the study period, the effectiveness of data may be questioned. It is true that all such limitations are common to any type of research, but the probability of errors has been minimised through a logical combination of questionnaire, literature relating to subject and direct interview method.

However, analysing the above limitations and based on the present research study, a few recommendations for the further studies on the related subjects may be made are as follow:

1. A major study may be undertaken in the other states of the country.
2. A specific research study may be undertaken on sugarcane, fuel, fund management, cost-benefit analysis of efficient treatment plant etc. of the sugar industry.
3. A study may be well on the impact of inflation on cost and prices of sugar based products like biscuits, confectionery etc.
4. In the present context, a study may be undertaken for determining the economic site of the sugar unit.
A comparative study may be undertaken the recently declared decontrol of sugar order and its impact on the sugar industry of Gujarat as well as other states.

For the present study, the investigation has tried to put the scattered pieces of information pertaining to costs and pricing of sugar industry in an appropriate sequence to enable one to inter reliable and valid conclusions, and hence, an effort has also been made in the present study to do the needful to the extent it has been possible that the policy recommendations contained in the thesis will improve the situation of the sugar industry particularly of Gujarat and all units in general. This chapter will be followed by Appendices and Bibliography.