

**FINANCIAL MANAGEMENT OF CO-OPERATIVE SUGAR
INDUSTRY - A CASE STUDY OF DR. BABASAHEB AMBEDKAR CO-
OPERATIVE SUGAR INDUSTRY**

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ABSTRACT

Indian sugar industry accounts around 20 per cent of the sugar mills and 15 per cent of world sugar production. It has been key driver for rural industrialization. Today, sugar industry is at crossroads having opportunities for growth because of liberalization and challenges of global competition. The financial crisis of 2008-09 was the biggest shock to the global financial system. The collapse Lehmann Brothers and other US firms spread the panic all over the world. Indian economy was not exception and the crisis resulted in to slower industrial growth till date not recovered. Sugar industry in Maharashtra has been facing the problems such as lower capacity utilization, poor working capital management, erratic supply of sugarcane and obsolete technology. The major problems of the industry include irregular supply of sugarcane, increasing arrears due to farmers, deteriorating per hectare yield, high cost of production and lower or negative profit margins as a consequence of all these factors. Most of the sugar mills utilize production capacity below 50 per cent. Inadequacy and irregular supply of raw material, increasing losses and decreasing net worth and increasing amount of sugarcane arrears led to sickness in the industry and closer of more than 100 co-operative sugar mills in the country. In view of this scenario, the researcher has decided to study the financial management of a cooperative sugar industry viz., Dr. Babasaheb Ambedkar Cooperative Sugar Industry from Maharashtra state as a case study. The study has examined short term solvency, profitability and activity position of the unit under the study. The study found that Net worth of the unit had a positive growth whereas the net capital employed indicated a mixed growth trend. Short term solvency

position of the unit was found satisfactory. However, because of high cost structure, the profitability position had been negative during most of the years of the study. Having tremendous potential for development of the industry in Maharashtra, the industry needs a new financial and marketing strategical approach competitive edge for sustainability.

Key words: Working capital, Profitability, Solvency, Network

Introduction:

Indian sugar industry accounts around 20 per cent of the sugar mills and 15 per cent of world sugar production. It has been key driver for rural industrialization. Today, sugar industry is at crossroads having opportunities for growth because of liberalization and challenges of global competition. Maharashtra state is one of the leading states in promotion of sugarcane production and sugar mills. There were 214 sugar mills in Maharashtra during 2011-12. Out of 214 sugar mills, 172 were operating and 42 were inoperative. The aggregate sugar cane crushing capacity of the sugar mills was 5,51, 600 TCD/MT per day whereas the sugar production was to the tune of 8.98 million tonnes. Sugar industry has been instrumental for acceleration of agro processing industrialization in India. The industry has benefited the sugarcane growers, generated employment opportunities for local people and also contributed to spread of education in rural areas coupled with construction of canals and roads in villages. However, the industry has been facing a number of problems. In case of Maharashtra, the sugar mills not in operation constituted 9.84 per cent, 25.64 per cent, 28.64 per cent, 20.09 per cent and 19.63 per cent of the aggregate number of sugar mills in Maharashtra during 2007-08, 2008-09, 2009-10, 2010-11 and 2011-12 respectively because of poor financial position (table-1).

Table-1 Position of Sugar Mills in Maharashtra during 2007-08 to 2011-12

Particulars/yr	2007-08	2008-09	2009-10	2010-11	2011-12
No. of installed sugar mills	193	195	199	209	214
Installed capacity ('000' TCD)	470.80	474.70	501.20	534.90	551.60
No. of sugar mills in operation	174	145	142	167	172
No. of sugar mills	19	50	57	42	42

not in operation					
Gross days	182	107	170	186	156
Sugar production(million tonnes)	9.07	4.58	7.07	9.05	8.98

Source: 36th Annual Report, Vasant Dada Sugar Institute, Pune

The research paper is an attempt to understand the financial management of sugar industry during 2002-03 to 2011-12. The logic behind selecting this period is to examine as to how sugar industries managed their capital resources during financial crisis period? The study has good relevance in the present context because the survival of the firms depends on effective and productive use of resources.

The major objectives of the study are as under:

- To study the growth trends of financial resources of Dr. Babasaheb Ambedkar Cooperative Sugar Industry during financial crisis period
- To assess the performance of Dr. Babasaheb Ambedkar Cooperative Sugar Industry on the basis of liquidity, profitability and activity position to make suggestions with regard to problems.

The research study is a case study and purely based on secondary data tapped from annual reports of the sugar unit selected for the study. The study covers a period of 10 years i.e. 2002-12. The main focus of the study is on studying funds flow trends, liquidity and profitability of the unit. The data has been compiled, tabulated and analyzed with the help of simple percentage and ratios.

Literature review:

Effective working capital management is instrumental in increasing the liquidity and profitability of the organization. It helps in smoothening day to day operations. A number of researchers have studied working capital management and its impact of firm's performance. Some studies have focused on how managing accounts receivables leads to profitability

(Besley & Mayor, 1987) while other researchers highlighted on reduction of working capital and its impact on profitability (Sharma & Kumar, 2011, Rahman & Naser, 2007).

The research studies on working capital management highlight on its significance. Dong (2010) inferred that the relationship between profitability and cash conversion cycle was negative. Deloof (2003) observed that working capital management has deep impact on the profitability of business concerns. Jose (1996) concluded that aggressive liquidity management can increase the profitability of an organization. NCAER(1966) observed that inventory accounted more than 74 per cent of the working capital of the sugar industries under study and remarked that inventory control was a neglected by material management. The study concluded that sugar industry had inefficient utilization of working capital due to accumulated stocks with factories. Vijaykumar (1995) inferred that liquidity, credit and cash management had deep impact on the profitability of sugar mills in Tamil Nadu. In recent years, the sugar industry has undergone a number of policy changes. Mahajan committee (1998) and Tutleja committee (2004) made valuable recommendations such as delicensing and partly decontrolling and latest in the series Rangrajan committee (2012) recommended absolute decontrol of the industry. Santanu Kumar Ghosh and Santi Maji (2003) investigated the relationship between working capital management and organizational profitability and found that there was significant relationship between effective use of current assets and profitability in Indian cement industry. The same observations were made by P.M. Rao and Govind Rao (1990).

Lazaridies (2006) examined the relationship between working capital and profitability of the listed companies in Athens stock market and concluded that profit can be maximized by taking care of every component of working capital. Padachi (2006) observed in his study of small firms that high investment in inventories and receivables results into low profitability. Raheman and Naser (2007) inferred that there is negative relationship between working capital management measures and profitability.

Taghizadeh and others (2012) observed that operating profitability is negatively associated with average collection period, inventory turnover in days, average payment period, cash conversion cycle and net trade cycle. Reddy C.V. (2012) investigated the association between liquidity, profitability and risk factor. Pandey (2012) studied the capital structure of IFCI Ltd. and concluded that the major loan component could not enhance the profitability of the corporation. Singh (2012) studied the cash conversion cycle as a comprehensive measure of

working capital of select IT and Telecom industries in India and found these industries were not managing working capital properly.

A Brief Profile of Dr. Babasaheb Ambedkar Co-operative Sugar Industry:

Dr. Babasaheb Ambedkar Co-operative Sugar Industry was set up at Keshegaon, Osmanabad district in the year 1997. The installed Crushing capacity of the unit is 2500 metric tones per day. Besides sugar production, there is power co-generation project of 26 megawatt, Ethanol unit and fertilizer manufacturing unit. During 2007-12 the average sugar recovery was 11.70 percent and the average price paid for sugarcane was Rs. 2,000 per ton. The average crushing capacity utilization during 2006-13 was 102 percent.

Growth Trends of Capital and Liabilities of Dr. Babasaheb Ambedkar Co-operative Sugar Industry:

During 2002-12, the aggregate funds of Dr. BACSI had shown positive growth during seven years period whereas negative growth was registered during four years period. The overall growth of total funds was 187.59 percent. Share capital, as a major source of funds, grew just by 17.86 per cent over the period of eleven years. The retained profits, term loans and current liabilities recorded growth by 2861.90 percent, 300 percent and 338.41 per cent respectively (table-2). In nutshell, the aggregate funds of the unit registered an impressive growth of 352.49 percent over the period of 10 years of the study.

Table-2 Growth Trends of Capital and Liabilities of Dr. BACSI (Rs. In Lakh)

Year	Share Capital	Reserve fund & Surplus	Long term Liabilities	Current Liabilities	Total
2002	1686.80	355.75	3888.12	1716.74	7647.41
	-	-	-	-	-
2003	1694.76 (0.47)*	868.25 (144.05)	7572.40 (94.76)	1896.94 (10.50)	12032.35 (57.34)
2004	1696.15 (0.08)	1273.62 (46.69)	6223.67 (17.81)	1820.99 (-4.00)	11014.43 (-8.46)
2005	2066.14 (21.81)	1449.82 (13.83)	3740.61 (-39.90)	977.68 (-46.31)	8234.25 (-25.24)
2006	2076.63 (0.50)	2570.58 (77.30)	6309.03 (68.66)	2219.29 (126.99)	13175.53 (-60.00)
2007	2085.13 (0.41)	2981.48 (15.98)	8994.06 (42.56)	2482.00 (11.84)	16542.67 (25.56)
2008	2096.00 (0.52)	3540.50 (18.75)	12257.19 (36.28)	4082.21 (64.47)	21975.9 (32.84)
2009	2099.69 (0.18)	4058.71 (14.64)	8282.18 (-32.43)	2926.09 (-28.32)	17366.67 (-20.97)
2010	2085.67	6629.29	12405.44	5999.45	27119.85

	(-0.67)	(63.34)	(49.78)	(105.03)	(56.16)
2011	2086.74 (0.05)	9165.93 (38.26)	14705.99 (18.54)	7238.02 (20.64)	33196.68 (22.40)
2012	1988.22 (-4.72)	10536.95 (14.96)	14552.65 (-1.04)	7526.28 (3.98)	34604.10 (4.24)

Source: Annual Reports of Dr.BACSI, 2002-2003

Note: ^The figures in brackets indicate annual percentage growth over previous year.

Growth trends of Assets/Properties of Dr. Babasaheb Ambedkar Co-operative Sugar Industry:

As far as employment of funds in various assets is concerned, it was noticed that the assets grew by 270.10 percent, investment outside increased by 813.80 percent and current assets registered an increase by 137.51 percent over the period of eleven years. During 2002-08, negative profitability position was observed because of cyclical fluctuations in raw material availability (table-3)

Table -3 Growth trends of Assets/Properties of Dr. BACSI (Rs. In Lakh)

Year	Fixed Asset	Investment	Current Asset	P&L A/C	Total
2002	3831.61 -	152.08 -	3477.53 -	186.19 -	7647.42 -
2003	3934.37 (2.68)^	406.77 (167.47)	7034.04 (102.27)	657.17 (252.96)	12032.35 (57.34)
2004	4037.27 (2.62)	547.94 (34.7)	5544.45 (-21.18)	884.77 (34.63)	11014.44 (-8.46)
2005	4089.62 (1.3)	652.50 (19.08)	2137.57 (-61.45)	1354.46 (53.09)	8234.14 (-25.24)
2006	4849.48 (18.58)	1020.64 (56.41)	5889.46 (175.21)	1415.95 (4.54)	13175.53 (60.01)
2007	6058.76 (34.94)	1253.57 (22.82)	7423.16 (26.04)	1807.19 (27.63)	16542.67 (25.56)
2008	6532.17 (7.82)	1427.54 (13.88)	12914.69 (73.98)	1101.51 (-39.05)	21975.91 (32.84)

2009	6682.05 (2.29)	1601.54 (12.19)	9083.08 (-29.67)	-	17366.67 (-20.97)
2010	9772.93 (46.26)	13616.56 (750.22)	3730.37 (-58.93)	-	27119.86 (56.16)
2011	11723.46 (19.96)	3249.32 (-76.14)	18223.92 (388.53)	-	33196.70 (22.41)
2012	14180.73 (20.96)	3717.06 (14.39)	16706.32 (-8.33)	-	34604.11 (4.24)

Source: Annual Reports of Dr. BACSI, 2002-12

Note: ^ The figures in brackets indicate percentage change over previous year.

Owned Funds and Borrowed Funds: Growth trends

During 2002-03, Owned funds and Borrowed funds of Dr. BACSI accounted 34.44 percent and 65.56 percent of the aggregate funds of the unit respectively. However, owned funds and borrowed funds constituted 46.26 percent and 53.74 percent of the aggregate funds during 2011-12, showing somewhat equitable balance. There was positive growth in case of owned funds whereas borrowed funds had shown negative growth in four years out of eleven years due to repayment of loans (table-4)

Table- 4 Owned funds and borrowed funds of Dr. BACSI (Rs. in lakh)

Year	Owned Funds*		Borrowed Funds#		Total Funds	
	Amount (Rs)	Percentage	Amount (Rs)	Percentage	Amount (Rs)	Percentage
2002	2042.56	-	3888.12	-	5930.68	-
2003	2563.01	25.48^	7572.40	94.76	10135.41	70.9
2004	2969.78	15.7	6223.67	-15.05	9193.45	-9.29
2005	3515.96	18.39	3740.61	-41.35	7256.57	-21.07
2006	4647.21	32.17	6309.03	80.70	10956.24	50.98
2007	5066.61	09.02	8994.06	34.50	14060.67	28.33

2008	5636.51	11.24	12257.19	42.37	17893.7	27.26
2009	6158.4	09.25	8282.18	-31.41	14440.58	-19.3
2010	8714.96	41.51	12405.44	64.20	21120.4	46.26
2011	11252.68	29.11	14705.99	19.22	25958.67	22.91
2012	12525.17	11.30	14552.65	-0.61	27077.82	4.31

Source: Annual Reports of Dr. BACSI, 2002-12

Note: ^ Indicates percentage change over previous year.

*Owned funds constitute share capital plus reserves and surplus.

Borrowed funds constitute long term loans.

Net Capital Employed and Net worth:

Net Capital employed of Dr. BACSI had shown negative growth during 2004, 2005, 2009 and 2010. This indicated towards shortage of capital which affected the manufacturing activities of the unit. However, it registered a remarkable growth by 317.72 per cent in 2012 over the year 2002. Increasing Net worth of sugar units indicates sound financial position of business organization as it carries almost negligible cost. Cooperative sugar units do not declare dividends and reserves and surplus with the unit is almost cost free. In case of Dr. BACSI, Net worth had shown positive growth by 513.21 percent over the period of eleven years of the study (table-5).

Table-5 Net Capital Employed and Net Worth of Dr. BACSI

Year	Net Capital Employed*		Net worth#	
	Amount (Rs)	Percentage	Amount (Rs)	Percentage
2002	5592.41	-	2042.56	-
2003	9071.46	62.21	2563.01	25.48
2004	7760.73	-14.45	2969.78	15.87
2005	5249.51	-32.36	3515.96	18.39
2006	8519.65	62.29	4647.21	32.17
2007	10999.92	29.11	5066.61	9.02

2008	15364.65	39.68	5636.51	11.25
2009	12839.04	-16.44	6158.4	9.26
2010	7503.85	-41.55	8714.96	41.51
2011	22709.36	202.64	11252.68	29.12
2012	23360.77	2.87	12525.17	11.31

Source: Annual Reports of Dr.BACSI, 2002-12

Note: ^ Indicates percentage change over previous year.

*Net Capital Employed is sum total of Fixed Assets+ Current Assets-Current Liabilities.

Net worth is sum total of Share capital+ Reserves and Surplus.

Sales Cost of goods sold, operating profit and Net profit of Dr. BACSI:

Sales of sugar and by products are the major source of revenue for a sugar unit. It was disclosed from table-5 that sales of sugarcane and byproducts of Dr. BACSI had witnessed increasing growth during the study period except 2004-05 due to shortage of sugar cane and water shortage.

Table- 6 Sales, Cost of goods sold, operating profit and Net profit of Dr. BACSI

(Rs. In Lakh)

Year	Sales	Cost of goods sold	Gross profit	Operating costs	Operating profit	Non-operating income	Net profit
1	2	3	4	5	6	7	8
2002	2867.25	2554.92	312.33	507.87	-195.54	9.34	-186
2003	4865.81	3805.92	1059.89	1548.29	-488.4	17.43	-470.97
2004	3383.83	2170.87	1212.96	1744.83	-531.87	304.28	-227.5
2005	3080.21	2808.04	272.17	964.07	-619.90	150.03	-541.87
2006	5640.30	4704.35	935.95	1560.17	-624.22	617.1	-7.12
2007	6241.96	5589.28	652.68	1451.44	-798.76	407.55	-391.21
2008	10070.68	8118.54	1894.49	2298.05	-403.66	1075.03	671.37

2009	10013.03	7466.49	2546.54	1907.92	638.62	1429	2067.6
2010	15636.31	14359.95	1276.36	1553.09	-276.73	1169.97	893.24
2011	19505.85	17661.01	1844.84	1696.95	147.89	1258.57	1406.5
2012	23353.54	21682.21	1671.33	2487.02	-815.69	841.1	25.41

Source: Annual Reports of Dr. BACSI, 2002-12

Sales of the unit grew by 714.49 and cost of goods sold also increased by 748.65 per cent over the period of the study. During 2002, cost of goods sold and operating costs accounted 89.11 percent and 17.71 percent of the sales leading to huge operating loss to the unit. At the end of 2011, cost of goods sold and operating costs were 92.84 per cent and 10.65 per cent of the sales resulting in to operating loss of Rs.815.69 lakh. Due to high costs i.e. direct and indirect, operating profit of Dr. BACSI was negative except two years (table-6). In spite of negative operating profit, the unit could generate considerable income from non operating activities which contributed to net income of the unit during 2008-12.

Liquidity and Activity Position:

In order to understand the short term liquidity position of the unit under study, Current and Quick ratios are perfect measures. Current ratio and Quick ratio of Dr. BACSI (table-6) indicated towards strong liquidity position during 2002-12 except the year 2010. The calculated values are much more than the norm i.e. 2:1 for Current ratio and 1:1 for Quick ratio. On this basis it can be inferred that working capital position of the unit is enough sound to meet its obligations in time and no adverse effect was observed on short term solvency position of the unit during recession observed all over the world.

Table-7 Liquidity and Activity Ratios:

Year	CR*	*QR	*STR	*DER
2002	2.02:1	1.92:1	13.58	1.90:1
2003	3.71:1	3.37:1	5.92	2.95:1
2004	3.04:1	2.82:1	5.21	2.09:1
2005	2.18:1	2.04:1	0.25	1.06:1
2006	2.65:1	2.45:1	10.56	1.35:1
2007	2.99:1	2.82:1	13.32	1.78:1

2008	3.16:1	3.05:1	17.03	2.17:1
2009	3.10:1	2.67:1	5.85	1.34:1
2010	0.62:1	0.30:1	7.44	1.42:1
2011	2.51:1	2.33:1	13.18	1.31:1
2012	2.22:1	1.80:1	6.81	1.16:1

Source: Annual Reports of Dr. BACSI, 2002-12

Note: *Current Ratio= Current Assets/Current Liabilities, Quick Ratio= Quick Assets/Current Liabilities- cl. stock, Stock Turnover Ratio= Cost of Sales/Av. Stock, Debt Equity Ratio=Debt Funds/Shareholders Funds

Debt-equity ratio of Dr. BACSI ranged between 1.16:1 to 2.95:1 during 2002-12. It was higher than the standard value 1:1. In initial years of any organization, the debt component is higher than the owned funds in the capital structure. Overall long term solvency position of the unit was quite satisfactory, particularly during 2009-2012. Nowadays, Debt-equity ratio of 2:1 is taken as satisfactory in case of manufacturing concerns.

Stock Turnover Ratio during 2002-12 was in the range of 0.25 times to 13.58 times. Higher Stock Turnover Ratio during 2002, 2006-08 and 2011 indicated that the sales department of Dr. BACSI was active to speed up the sales of sugar. However, lower STR was observed during 2003-05, 2009 and 2010 which indicated lower movement of stocks resulting in to blockage of working capital.

Table-8 Profitability Ratio: (in percentage)

Year	*GPR	*OPR	*NPR	*ROCE
2002	10.89	-6.82	-6.49	-3.32
2003	21.78	-10.04	-9.68	-5.19
2004	35.85	-15.72	-6.72	-2.93
2005	8.84	-2.01	-175.81	-10.32
2006	16.59	-11.07	-0.13	-0.08
2007	10.46	-12.80	-6.27	-3.56
2008	18.92	-4.01	20.65	4.37

2009	25.43	6.38	20.65	16.1
2010	10.91	-1.73	4.88	11.9
2011	9.46	0.76	7.21	6.19
2012	7.16	-3.49	0.11	0.11

Source: Annual Reports of Dr. BACSI, 2002-12

Note: *Gross Profit Ratio= Gross profit/Sales, Operating Profit Ratio= Operating Profit/Sales, Net Profit Ratio= Net Profit/ Sales, Return on Capital Employed= Net Profit/ Net Capital Employed

Gross profit ratio of Dr. BACSI was positive ranging between 7.16 to 88.31 per cent during eleven years of the study, but Operating profit ratio was found negative in nine years out of eleven year indicating high cost structure. As the operating profit of the unit had been negative during 2002-08, 2010 and 2012, and positive in the years 2009 and 2011, the negative profitability cannot be said the effect of recession or financial crisis. Net profit margin was found negative during 2002-07 and positive during 2008-12 because of non operating income of the unit. The data analysis clearly indicated towards unsatisfactory performance of the unit on profitability front. Return on capital employed of the unit had been negative during 2002-07 and too lower during 2012. It was found somewhat satisfactory during 2008-11. Negative and lower rate of return on capital employed reflected towards ineffective management of resources and loss to stakeholders i.e. shareholder farmers of the unit. As an adverse result of this, the unit did not pay the dividend to shareholders.

Observations and suggestions:

As far as capital structure of Dr. BACSI is concerned, it was found that owned funds and borrowed funds constituted 34.44 percent and 65.56 percent respectively of the aggregate funds in the year 2002. At the end of the year owned funds and borrowed funds constituted 46.26 percent and 53.74 percent respectively of the aggregate funds (table-3). Debt-Equity ratio of the unit ranged between 1.06: 1 to 2.90:1 during 2002-12 (table-6). It can be inferred that the capital structure of Dr. BACSI had a good balance between borrowed funds and owned funds. The capital structure of the unit had not preference share capital and debenture capital as the constituents.

In order to improve the productivity of the unit, for modernization purpose additional capital investment is required. The sugar industries should tap the sources such as, debentures and long term finance.

The study disclosed that the Sugar Sales of the unit grew by 714.49 percent during 2002-12 whereas the cost of goods sold and operating costs increased by 748.65 percent and 389.70 percent over the period of 11 years of the study (table-5). Naturally, the operating profit had been negative during nine years out of eleven years of the study. Net profit ratio was negative during 2002-07 and improved satisfactorily during 2008-11 and slowed down in 2012. However, the fact is that the Net profit ratio was found positive because of inclusion of non-operating income. It was noticed that in spite of recessionary period observed during 2007-11, the income of the unit was found satisfactory. Return on capital employment had the same growth trend as the profitability had during eleven years period of the study (table-7). Increased Sugarcane procurement cost, fluctuations in sugarcane supply and low price of sugar were found the factors responsible for negative profitability and return on capital employed. Negative profitability for a long period is dangerous for very existence of the unit.

With regard to high sugarcane procurement costs and fluctuations in sugarcane supply, it is suggested that road infrastructure should be created and maintained properly in rural areas where sugarcane is grown on large scale. Harvesting machines should be used for sugarcane harvesting. The time gap between harvesting and crushing of sugarcane should be minimized to 3-4 hours in order to reduce weight loss and recovery loss. Byproducts such as, spirit, ethanol, paper, fertilizer and power should be added to the product line to use the resources effectively and increase the overall profitability of the unit. One of the significant observations of the study is that the short term liquidity position of the unit under study was quite satisfactory as both the ratios i.e. Current ratio and Quick ratio were found much above the standard values of 2:1 and 1:1 respectively during 2002-12 except 2010 (table-6). As far as long term solvency of the unit is concerned, the Debt-Equity Ratio was found much more than the standard value of 1:1 which indicated toward satisfactory long term liquidity position of the unit over the period of the study. It should be noted that Debt-equity ratio of 2:1 is taken as satisfactory in case of manufacturing concerns.

Stock Turnover Ratio during 2002-12 was in the range of 0.25 times to 13.58 times. Higher Stock Turnover Ratio during 2002, 2006-08 and 2011 indicated that the sales department of

Dr. BACSI was active to speed up the sales of sugar. However, lower STR was observed during 2003-05, 2009 and 2010 which indicated lower movement of stocks resulting in to blockage of working capital. Sale of Sugar has been decontrolled to a great extent. Now, the sugar unit can sell 90 percent sugar in open market. So, the sugar industries should manage to speed up the sales of sugar to avoid piling stocks with them. By this way they can reduce carrying costs and undue blockage of working capital. Sugar units should expand their capacity, modernize the mills and add more byproducts to product line for obtaining the benefits of large scale operations.

Conclusion:

Cooperative sugar industry is one of the major agro based industries in Maharashtra supporting to the sugarcane growers, agriculture labor on one hand and supplier of molasses, baggasses, spirit/alcohol and ethanol to chemical industries. In addition, sugar industry contributes substantially to government exchequer by way of various duties and taxes. The disclosure of the study is that in spite good potential for development, sugar industry has not reached to the expected scales and still largely is depended on government packages for debt waivers. Cooperative sugar units are not in position to offer cost based price to sugar cane growers and this issue has become a burning issue for number of years leading to conflicts. Negative profitability for a long period causes incidence of industrial sickness. The number of closed sugar units is increasing in Maharashtra due to mounting losses, shortage of sugarcane and blockage of working capital. Sugar industries, for their sustainability, should apply effective cost cutting mechanism, enhance efficiency and quality at every level of activity and adopt best marketing strategies.

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