CHAPTER 4

RISK ANLYSIS A CASE STUDY OF JEWARGI UNIT

4.1 Objectives verification :

1. To evaluate the various risks of expanding a business

1. Risk of performance for next 15 years
2. Risk of Management Stability/ Political Environment:
3. Cane Availability Risk
   1 Risk of Availability of water for cane production
   2 Risk of shortage of sugar cane.
4. Risks of farmers shifting to cash crops other than cane.
5. Fuel Risk
   1 Risk of non-availability of bagasse or alternative agro waste fuel and price there of in event of bad season .
6. Technology Risk: technology adopted for high pressure and condering route cogeneration plant is an established technology and in operation in India from past half century.
7. Environment Risk:
8. Performance of Raw Material and Raw Material
9. Cost overrun Risk
10. Risk of sugar sale payment

11. Risk of reduced revenue by sugar and molasses sales

  a. Sugar and molasses both products are subject to suffer the demand supply rule of the market and price does not remain remunerator when the production of cane is very high.

12. Regulatory Risks/KERC's perception

13. Operational Risk

2. To facilitate the management of risks :- This objective is achieved by following the results of various financial techniques used in the study such as Ratios, Break Even Point, Payback Period, Risk Adjusted Rate of Return, Sensitivity analysis etc.,

3. To suggest the ways for stable and continuous earnings by overcoming the risks:- This is achieved by the suggestions given for the present study.

1. Risk of performance for next 15 years

   Ugar Sugar has achieved excellent performance, and subsequently it has received various award for its technical performance.

   Due to availability of potential for cane cultivation in the identified area the USW has planned to set up a sugar factory of crushing capacity 3500 TPD having the experience of 10000 TPD plant at Jewargi the assured supply of cane in the future mitigates the risk of performance of the sugar factory.

2. Management Stability/ Political Environment:

1 The management of the factory is steady .It has been working as one united team. It s relations with factory producer members and members of the staff have all along been very cardinal.

2 The factory has a vast pool or technically qualified staff, which has gained ample training and experience steady management control mitigates the risk or management instability.

3 State support for the sugar industry as a whole mitigates the risk of unfavorable political environment

3. Cane Availability Risk

1 Availability of water for cane production

2 The risk of non-availability of water for cane production is mitigated, as sufficient amount of water is available from down stream of Narayan Dam on as well as irrigation on wells and also Lift Irrigation Schemes (LIS) and irrigation pumps of individual cultivators.

3 Average rainfall in 650mm from June to September. The cannels from Dam are flowing nearer from factory. As a result of availability of water from canal, tank and borewell the sugarcane production is expected above 6 to 7 lakhs tones.

4 Significant potential exist for cane development in the area.

5 Area of operation consists large number of villages from Jewargi Taluka at present cane area is covered by river irrigation and as well as irrigation.

6 Well irrigation area is also benefited by percolations of irrigation tanks. The cane area is also expected to increase due to addition of new wells as well as renovation of old well.

7 In addition, the sugar factory shall have a separate agricultural department headed by qualified Chief Agricultural Officer (CAO). The agricultural department takes complete responsibility of the command area for development of cane

4. Risks of farmers shifting to cash crops other than cane.

1 Farmers are not likely to shift to other cash crops as the sugar factory offers an assured market for cane and take complete responsibility of command area whereas other cash crops are market driven and there is no assured take off.

2 The relative profitability per hectare of different crops in India as per the draft report of World Bank is the highest for sugar cane.

5. Fuel Risk

   1 Risk of non-availability of bagases or alternative agro waste fuel and price there of in event of bad season is mitigated by availability of coal.

   2 Alternate uses of Bagase

   Paper: though bagasse can be used as a raw material for the production of paper, the paer business is a market driven. The high cost of bagasses during poor crushing season makes pear business less competitive. In additional the cost involved in respect of efficient treatment is quite prohibitive which adds into cost of paper marketing.

6. Technology Risk: technology adopted for high pressure and condering route cogeneration plant is an established technology and in operation in India from past half century. The technology is selected for installation is proven and available in digenously. This identical plant is already operating by USW .

7. Environment Risk:

   1 The compliance with the Indian environment standards will be ensured from the time of project design. It is proposed tat ugar sugar's will undertake rapid Environmental Impact Assessment (EIA) and disaster management plan trough a reputed agency.

   2 Future during the construction phase an environment management plan will be designed and will be monitored by the management of USW Ltd.

8. Performance of Raw Material

    1) Performance risk of plant is mitigated by installing established thermal technology.

    2) Procuring the Plant and Machinery from process and established equipment manufactures.

    3) Engaging experienced manpower for the operation and maintenance of the plant.

9. Cost overrun Risk

    1) The annual costs are expected to fall within the estimated range.

    2) The estimated project cost conservatively on the basis of quotes available from the various suppliers and contractors.

    3) Individual components of the project will be executed under EPC with fixed price EPC with fixed price EPC contract thereby minimizing the risk of the cost over ran

    4) The total project cost includes significant amount of contingency premium, which is sufficient to meet the cost associated with any foreseen delays, changes orders and other unforeseen events.

10. Risk of sugar sale payment

    a. Sugar prices are very sensitive and matter of keen interest to common man as well as government. Government observes that sugar prices are controlled to average level. Hence, these are subject to fall down beyond the control of factory. There is no risk or little risk as factory has general policy of selling sugar against payment.

11. Risk of reduced revenue by sugar and molasses sales
    a. Sugar and molasses both products are subject to suffer the demand supply rule of the market and price does not remain remunerator when the production of cane is very high.
12. Regulatory Risks/KERC's perception
    a. The plan has the technological advantage of being close to the load center, there by resulting in reduction in transmission and distribution (T&D) losses.
    b. The plant also provides the advantage of availability of power at the tail end of the system there by improving the quality of power.
13. Operational Risk :

operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events.

The technology of operation of high pressure boiler and turbine is not a new. There will not be any problem of operation as trained manpower is available on contractors are also available on contractual basis in the market.

a. Conservation cost projections mitigates the risk of sharp increase in operating cost ugar sugar will rely on the technical, operating and management expertise of the equipment supplier and is confident of meeting the operating cost target. Even in the unlikely event of operating cost increase, the impact on the project returns is not significant.

4.2 COST OF PROJECT:

The cost of project has been estimated at Rs 12000 lakhs

SL No	PARTICULAR	Total
1	Land	426.87
2	Site Development & Civil Work	1,665.82
3	Machinery & Equipments	8,475.18
4	Computer Systems	15.62
5	CENVAT Credit Receivable	1,341.52
6	Add: Margin for Working Capital	75.00
	Total Project Cost	12,000.00

4.3 MEANS OF FINANCE:

The cost of the project as stated above is suggested to be met trough the following sources.

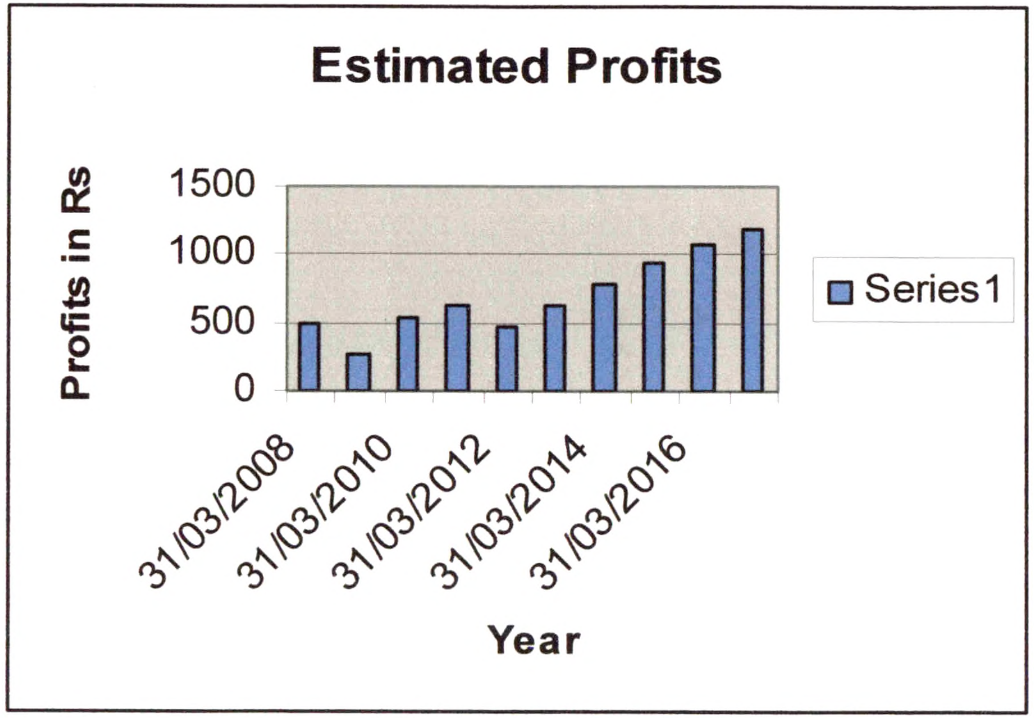
SL NO	PARTICULARS	AMOUNT	PROPORTION
1.	Internal Accruals	1,500.00	12.5%
2.	Term Loan from Bank	8,000.00	66.7%
3.	Term Loan from SDF	2,500.00	20.8%
	Total Means Finance	12,000.00	

4.4 CALCULATIONS AND FINANCIAL ANALYSIS

4.4.1 ESTIMATED PROFITS OF THE PROJECT

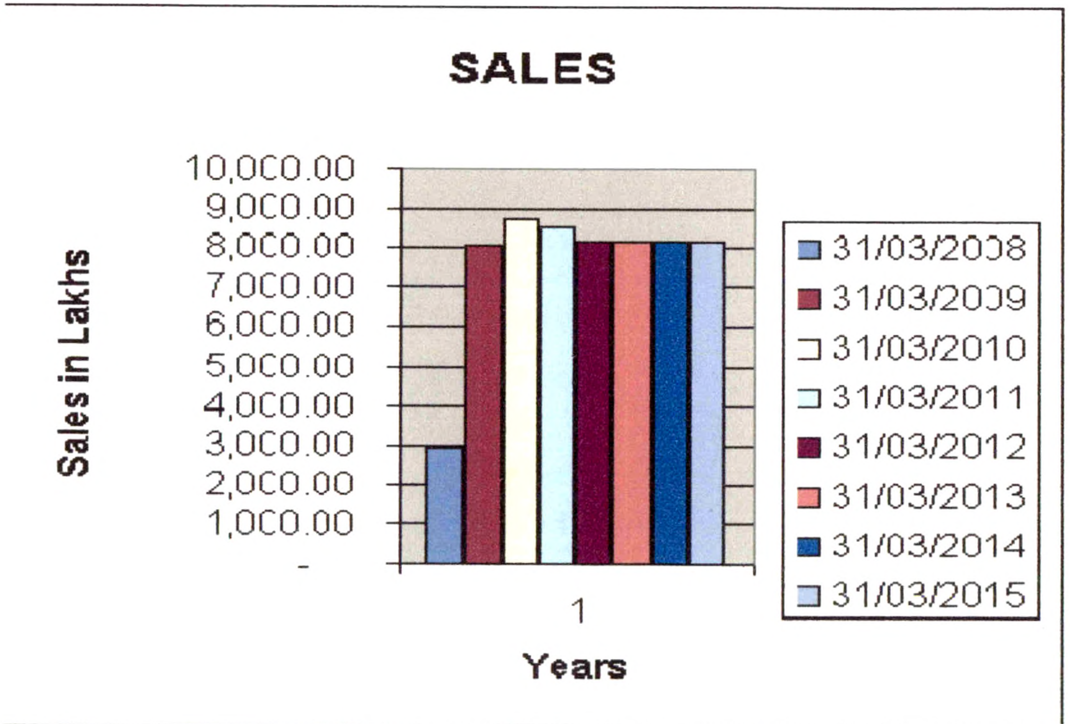
31/03/2008	31/03/2009	31/03/2010	31/03/2011	31/03/2012	31/03/2013	31/03/2014	31/03/2015	31/03/2016	31/03/2017
489.05	261.25	539.48	624.29	479.69	634.87	779.78	945.69	1,066.73	1,184.76

Profits have been fallen in 2009 because of Interest cost increased and in 2012 the company is not enjoying the benefits of CNEVAT Credit



4.4.2 ESTIMATED SALES OF THE PROJECT

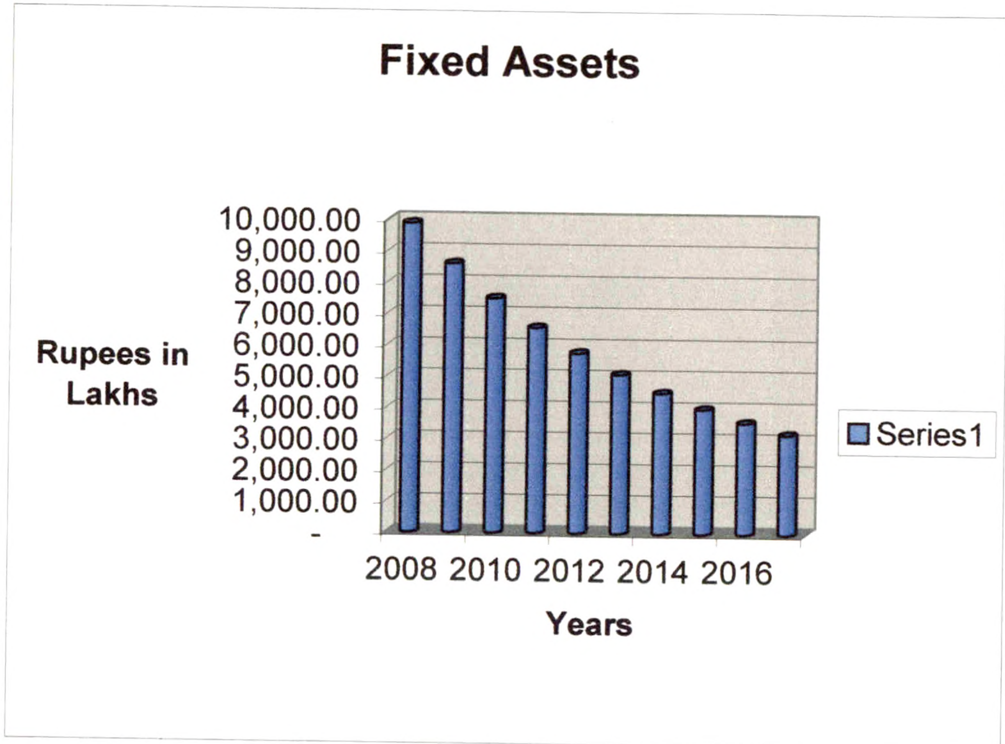
31/03/2008	31/03/2009	31/03/2010	31/03/2011	31/03/2012	31/03/2013	31/03/2014	31/03/2015	31/03/2016	31/03/2017
2,943.26	8,064.68	8,719.74	8,536.11	8,191.42	8,191.42	8,191.42	8,191.42	8,191.42	8,191.42



Sales are less in the year 2008 because of Trial Year of Production.

4.4.3 ESTIMATED VALUE OF FIXED ASSETSSALES OF THE PROJECT

31/03/2008	31/03/2009	31/03/2010	31/03/2011	31/03/2012	31/03/2013	31/03/2014	31/03/2015	31/03/2016	31/03/2017
9,879.58	8,595.12	7,500.42	6,566.30	5,768.26	5,085.63	4,500.98	3,999.56	3,568.91	3,198.45



Value of the fixed Assets decreased due to depreciation.

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Year Ended on

Particulars	2008	2009	2010	2011	2012	2013	2014	2015	2016	3/31/2017
Profit Before Tax	549.62	293.61	606.29	701.61	539.10	713.50	876.35	1,062.82	1,198.84	1,331.49
Less: Tax Provision	60.57	32.36	66.81	77.32	59.41	78.63	96.57	117.12	132.11	146.73
Profit After tax	489.05	261.25	539.48	624.29	479.69	634.87	779.78	945.69	1,066.73	1,184.76
Depreciation	703.90	1,284.45	1,094.70	934.12	798.04	682.63	584.65	501.42	430.66	370.46
Interest on Term Loan	417.50	909.14	818.02	663.87	488.27	306.70	130.68	33.38	3.74	-
Sub-total (A)	1,610.46	2,454.85	2,452.20	2,222.28	1,766.00	1,624.20	1,495.11	1,480.49	1,501.12	1,555.22
Interest on Term Loan	417.50	909.14	818.02	663.87	488.27	306.70	130.68	33.38	3.74	-
Principal Repayment	-	106.06	1,583.72	1,583.72	1,583.72	1,583.72	1,346.92	212.14	-	-
Sub-total (B)	417.50	1,015.20	2,401.74	2,247.59	2,071.99	1,890.42	1,477.60	245.52	3.74	-
DSCR	3.86	2.42	1.02	0.99	0.85	0.86	1.01	6.03	.40	-

4.4.4 Calculation of Debt Service Ratio:

Debt service coverage ratio = Net profit before interest and tax

Interest + Principal payment installment

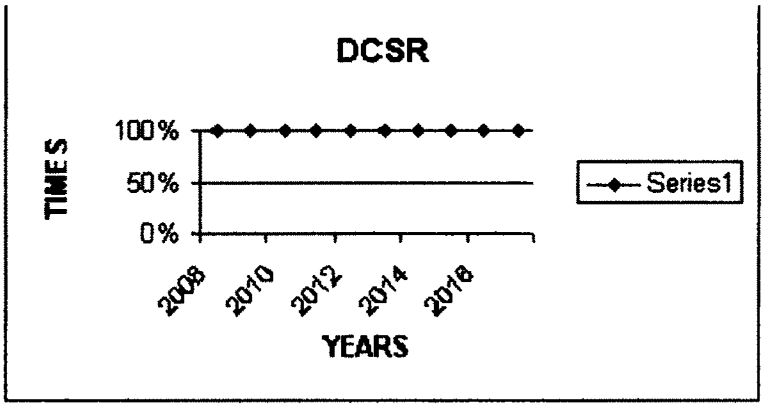
1 – Tax rate

Note: Higher the ratio, better it is

This DSCR shows that company's position to pay the interest payment and principal sum repayment in a particular year.. This is safety indicator for lenders money. There is no need of calculating DCSR for the Year 2016 as there is no principal amount due for the repayment . The standard DCSR us 1.5 times, which means the net profit before tax and interest (PBIT) is adequate to cover both interest and the tax.For calculating DCSR only long term Loan(Term Loans) is considered and the interest on working capital loan is ignored on the assumption that the Company able to recover the interest on working capital from daily operations.

According to many leading institutions an average DSCR of 1.5 is very good. This is safety indicator for lenders money. In the first two years company generate required funds to pay interest and principal amount. It will decrease gradually up to 5 years, because in these 5 years repayment of principal amount is more and also required fund is not available in the company to meet this obligation

Graph and Table for DCSR



YEARS	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
DSCR	3.86	2.42	1.02	0.99	0.85	0.86	1.01	6.03	-	-

4.4.5 Calculation of Earning Per Share:

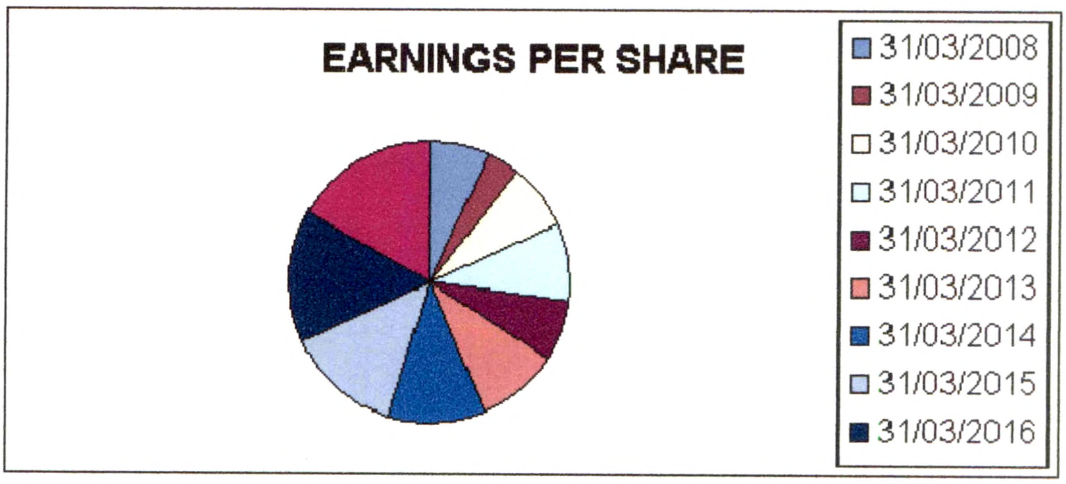
$$\frac{\text{Profits After Tax}}{\text{Number of Equity of shares}}$$

This indicates how much returns the equities are getting on their contribution to the capital. Naturally the EPS should be equivalent to the average of the alternative investment proposal available to the Investors, in order to keep the Interest of the Investors.

4.4.5 CALCULATION OF EARNING PER SHARE

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.33	0.17	0.36	0.42	0.32	0.42	0.52	0.63	0.71	0.79

During the second year 2009 profits are less because of increased interest cost as a result EPS is very low as compared to other years



4.4.6 Calculation of Current Ratio

$$\textbf{Current Ratio} = \frac{\textbf{Current Assets}}{\textbf{Current Liabilities}}$$

This ratio indicates the firms ability to pay its current liabilities. Rules of thumb or arbitrary standard of liquidity for a firm of 2 : 1 is considered to be satisfactory. More than 2 : 1 indicates sound solvency position. Less than 2 : 1 indicates inadequate working capital.

CALCULATION OF CURRENT RATIO

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current ratio	6.76	6.13	5.82	5.52	5.57	5.48	5.55	5.73	6.12	6.47

The Standard Current Ratio is 2:1 that is current Assets 2 and Current Liabilities 1. In at the given case study the Company is far much better than and above the standard it is god symbol of liquidity.
But very high current ratio is not desirable since it means less efficient use of funds. This is because of a high current ratio means excessive dependence on long term sources of raising funds. Long term liabilities are costlier than current liabilities and therefore this will result in considerably lowering down the profitability of the Company.

4.4.7 Calculation Break Even Point:-

$$\text{BEP} = \frac{\text{fixed costs x Sales}}{\text{Contribution}}$$

Break even Point is that point which explain no profit no loss, means all cost are covered in this point.

In case of new projects the company may not be in a position to reach BEP because of gestation period and not able to recover variable cost itself. But the Company can achieve the BEP in the subsequent years by generating more sales revenue Through this analyses, If pessimistic situation occurs the % decrease in profits will be more than % decrease sales and in case of optimistic situation the % increase in profits will be more than the % increase in sales.

Break Even Analyses:

Years	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Sales	2,943.26	8,064.68	8,719.74	8,719.74	8,719.74	8,719.74	8,704.68	8,704.68	8,704.68	8,704.68
BEP (Rs)	(2,951.42)	9,474.11	6,755.65	6,088.90	5,955.78	4,988.94	3,964.70	3,057.41	2,506.81	2,111.41
BEP% to sales	-100.28	117.48	77.48	71.33	72.71	60.9	48.4	37.32	30.6	30.6

Here, in the first year company is not in position to reach BEP because of gestation period and not able to recover variable cost itself. In the second year, because of previous year company must generate 17.48% more sales revenue than only company reaches break even point and in further years company reaches at 77.48%, 71.43% and so on of the sales generated.

CALCULATION OF BREAK EVEN POINT

Rs in lakhs

PARTICULARS	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Net sales	2,943.26	8,064.68	8,719.74	8,536.11	8,191.42	8,191.42	8,191.42	8,191.42	8,191.42	8,191.42
Variable cost										
Raw material	3,421.39	5,313.75	5,313.75	5,313.75	5,313.75	5,313.75	5,313.75	5,313.75	5,313.75	5,313.75
consumables	220.72	231.76	243.35	255.51	268.29	281.70	295.79	310.58	326.11	342.41
power and fuel	42.00	42.84	43.70	44.57	45.46	46.37	47.30	48.24	49.21	50.19
wages	116.50	206.13	226.74	249.41	274.35	301.79	331.97	365.17	401.68	441.85
administration exps[70%]	41.21	112.91	122.08	119.51	114.68	114.68	114.68	114.68	114.68	114.68
sellingpackaging & distr[90%]	13.24	36.29	39.24	38.41	36.86	36.86	36.86	36.86	36.86	36.86
Repaires & maintainance	84.75	88.99	93.44	98.11	103.02	108.17	113.58	119.25	125.22	131.48
interest (on woking cap)	155.79	94.59	56.76	56.76	151.35	227.02	287.56	227.02	132.43	-
Total Rs	4,095.60	6,127.26	6,139.04	6,176.03	6,307.76	6,430.35	6,541.48	6,535.56	6,499.94	6,431.23
Contribution	(1,152.34)	1,937.42	2,580.69	2,360.08	1,883.65	1,761.07	1,649.93	1,655.86	1,691.48	1,760.19

Fixed cost										
Administration exps[30%]	17.66	48.39	52.32	51.22	49.15	49.15	49.15	49.15	49.15	49.15
selling salaries[10%]	1.47	4.03	4.36	4.27	4.10	4.10	4.10	4.10	4.10	4.10
interest (on term loan)	417.50	909.14	818.02	663.87	488.27	306.70	130.68	33.38	3.74	
wages	15.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Depriccition	703.90	1,284.45	1,094.70	934.12	798.04	682.63	584.65	501.42	430.66	370.46
Total Rs	1,155.53	2,276.02	1,999.40	1,683.47	1,369.56	1,072.57	798.58	618.04	517.64	453.70
Break Even Point										
Fixed Exps*Sales										
------------------	(2,951.42)	9,474.11	6,755.65	6,088.90	5,955.78	4,988.94	3,964.70	3,057.41	2,506.81	2,111.41
contribution										
B.E.P % to estimated Sales	-100.28	117.48	77.48	71.33	72.71	60.9	48.4	37.32	30.6	25.78

4.4.8 Calculation of Payback Period.-

This is calculated to find out within which period the value of the capital investment in asset is recovered. This helps the company to take the decisions regarding replacement of assets and acceptance of capital budgeting decisions.

Calculation of Pay Back Period

Year	Out flow	PAT	CFAT	cum freq
3/31/2007	12000			
3/31/2008		489.05	1,192.96	1,192.96
3/31/2009		261.25	1,545.70	2,738.66
3/31/2010		539.48	1,634.18	4,372.85
3/31/2011		624.29	1,558.41	5,931.25
3/31/2012		479.69	1,277.73	7,208.98
3/31/2013		634.87	1,317.50	8,526.48
3/31/2014		779.78	1,364.43	9,890.91
3/31/2015		945.69	1,447.11	11,338.02
3/31/2016		1,066.73	1,497.38	12,835.41
3/31/2017		1,184.76	1,555.22	14,390.62

Payback period is=8.538years=2016

4.4.9 Calculation of Sensitivity Analysis.

Needs to be made by considering some% less in sales revenue for pessimistic situation and some% increase in sales revenue for optimistic situation and stability for realistic situation.

Assumptions for Sensitivity Analyscs

1) for pessimistic situation I considered 20% less in sales revenue.
2) For optimistic situation 20% increase in sales revenue.
3) P-pessimistic, o-optimistic, r-realistic.

CALCULATION OF SENSITIVITY ANALYSES

Particulars	2008			2009				2010	
	P	R	O	P	R	O	P	R	O
Gross Sales	2,354.61	2,943.26	3,531.91	6,451.74	8,064.68	9,677.62	6,975.79	8,719.74	10,463.69
Less: Excise Duty	169.47	211.83	254.20	384.37	480.46	576.55	422.66	528.32	633.98
Add: Cenvat Credit on Assets									

			169.47	211.83	254.20	384.37	480.46	576.55	422.66
Net Sales	2,354.61	2,943.26	3,531.91	6,451.74	8,064.68	9,677.62	6,975.79	8,719.74	10,463.69
Increase in Finished Stock	2,266.00	2,832.50	3,399.00	485.76	607.20	728.64	-	-	-
Other Income	20.00	25.00	30.00	20.00	25.00	30.00	20.00	25.00	30.00
Total Income	4,640.61	5,800.76	6,960.91	6,957.50	8,696.88	10,436.26	6,995.79	8,744.74	10,493.69
Raw-Material & Bought-out items		2,913.69	3,642.11	4,370.53	4,436.41	5,545.51	6,654.61	4,445.68	5,557.10
Staff Costs	108.20	131.50	154.80	194.90	236.13	277.35	211.39	256.74	302.09
Manufacturing Expenses	101.40	126.75	152.10	105.46	131.83	158.20	109.71	137.14	164.56

Depreciation & Amortisations			703.90	703.90	703.90	1,284.45	1,284.45	1,284.45	1,094.70
Administration Expenses	50.62	58.87	67.11	138.71	161.29	183.87	149.98	174.39	198.81
Selling Expenses	12.07	14.72	17.37	33.07	40.32	47.58	33.58	43.60	51.45
Interest & Financial Costs	542.13	573.29	604.45	984.82	1,003.74	1,022.66	863.42	874.78	886.13
Total Expenses	4,432.02	5,251.14	6,070.26	7,177.82	8,403.27	9,628.73	6,908.47	8,138.45	9,366.26
Profit Before Tax	208.59	549.62	890.65	(220.32)	293.61	807.53	87.32	606.29	1,127.43
Tax	22.99	60.57	98.15		32.36	88.99	9.62	66.81	124.24
Profit After Tax	185.60	489.05	792.50	(220.32)	261.25	718.54	77.70	539.48	1,003.19

CONTINUE…………..

Particulars	2011			2012				2013	
	P	R	O	P	R	O	P	R	O
Gross Sales	6,975.79	8,719.74	10,463.69	6,975.79	8,719.74	10,463.69	6,975.79	8,719.74	10,463.69
Less: Excise Duty	422.66	528.32	633.98	422.66	528.32	615.92	422.66	528.32	633.98
Add: Cenvat Credit on Assets			275.76	344.69	413.63	-	-	-	-
Net Sales	6,828.89	8,536.11	10,243.33	6,553.13	8,191.42	9,847.76	6,553.13	8,191.42	9,829.70
Increase in Finished Stock	-	-	-	-	-	-	-	-	-
Other Income	20.00	25.00	30.00	20.00	25.00	30.00	20.00	25.00	30.00

Total Income	6,848.89	8,561.11	10,273.33	6,573.13	8,216.42	9,877.76	6,573.13	8,216.42	9,859.70
Raw-Material & Bought-out items	4,455.41	5,569.27	6,683.12	4,465.63	5,582.04	6,698.45	4,476.36	5,595.46	6,714.55
Staff Costs	229.53	279.41	329.30	249.48	304.35	359.22	271.43	331.79	392.15
Manufacturing Expenses	114.15	142.68	171.22	118.78	148.48	178.17	123.63	154.54	185.45
Depreciation & Amortisations	93412	934.12	93412	798.04	798.04	798.04	798.04	682.63	682.63
Administration Expenses	146.82	170.72	194.62	140.89	163.83	186.76	140.89	163.83	186.76
Selling Expenses	35.00	42.68	50.36	33.58	40.96	48.33	33.58	40.96	48.33

Interest & Financial Costs	709.27	720.62	731.97	609.35	639.62	669.89	488.32	533.72	579.13	
Total Expenses	6,624.30	7,859.50	9,094.71	6,415.77	7,677.32	8,938.87	6,216.85	7,502.92	8,788.99	
Profit Before Tax	224.59	701.61	1,178.62	157.36	539.10	938.89	356.29	713.50	1,070.71	
Tax	24.75	77.32	129.88	17.34	59.41	103.47	39.26	78.63	117.99	
Profit After Tax	199.84	624.29	1,048.74	140.02	479.69	835.42	317.02	634.87	952.72	

CONTINUE……

Particulars	2014			2015			2016		
	P	R	O	P	R	O	P	R	O
Gross Sales	6,963.75	8,704.68	10,445.62	6,963.75	8,704.68	10,445.62	6,963.75	8,704.68	10,445.62
Less: Excise Duty	410.61	513.27	615.92	410.61	513.27	615.92	410.61	513.27	615.92
Add: Cenvat Credit on Assets			-	-	-	-	-	-	-
Net Sales	6,553.13	8,191.42	9,829.70	6,553.13	8,191.42	9,829.70	6,553.13	8,191.42	9,829.70
Increase in Finished Stock	-	-	-	-	-	-	-	-	-
Other Income	20.00	25.00	30.00	20.00	25.00	30.00	20.00	25.00	30.00

Total Income	6,573.13	8,216.42	9,859.70	6,573.13	8,216.42	9,859.70	6,573.13	8,216.42	9,859.70
Raw-Material & Bought-out items		4,487.63	5,609.54	6,731.45	4,499.46	5,624.33	6,749.20	4,511.89	5,639.86
Staff Costs	295.57	361.97	428.36	322.13	395.17	468.20	351.35	431.68	512.02
Manufacturing Expenses	128.70	160.87	193.05	134.00	167.50	201.00	139.54	174.43	209.31
Depreciation & Amortisations			584.65	584.65	584.65	501.42	501.42	501.42	430.66
Administration Expenses	140.89	163.83	186.76	140.89	163.83	186.76	140.89	163.83	186.76
Selling Expenses	33.58	40.96	48.33	33.58	40.96	48.33	33.58	40.96	48.33
Interest & Financial									

Costs	360.73	418.24	360.73	215.00	260.40	305.81	109.68	136.17	162.65
Total Expenses	6,031.77	7,340.06	8,533.34	5,846.49	7,153.60	8,460.71	5,717.59	7,017.58	8,317.57
Profit Before Tax	541.37	876.35	1,326.36	726.65	1,062.82	1,398.99	855.54	1,198.84	1,542.13
Tax	59.66	96.57	146.17	80.08	117.12	154.17	94.28	132.11	169.94
Profit After Tax	481.71	779.78	1,180.20	646.57	945.69	1,244.82	761.26	1,066.73	1,372.19

CONSOLIDATED SENSITIVITY ANALYSES

YEARS	PROFIT AFTER TAX		
	PESSIMISTIC	REALISTIC	OPTIMISTIC
2008	185.60	489.05	792.50
2009	(220.32)	261.25	718.54
2010	77.70	539.48	1,003.19
2011	199.84	624.29	1,048.74
2012	140.02	479.69	835.42
2013	317.02	634.87	952.72
2014	481.71	779.78	1,180.20
2015	646.57	945.69	1,244.82
2016	761.26	1,066.73	1,372.19
difference	359.05		369.72

of average profit change 55.51% 57.165%

Pessimistic Optimistic

Average % change in profit 55.51% 57.16%

Through this analyses, If pessimistic situation occurs suppose 20% decrease in sales revenue than on an average up to 9 years 55.51% decrease in profit or optimistic situation occurs than 57.16% increase in profit.

4.4.10 Calculation of Weighted Cost of Capital:-It is calculated by assigning the weights to the each source of cost of capital on the basis of proportion of contribution of each source and thereby multiplying the proportionate weights by the cost of each source. Proportion Of Each Source x Cost of Each Source = Weighted Average Cost Of Capital

Cost of Internal Accrual is 12.5%,WACC is 8.5% Company will enjoy the benefit of Borrowed Fund.

CALCULATION OF WEIGHTED COST OF CAPITAL

PARTICULARS	AMOUNT	PROPORTION	COST	WACC
Internal Accruals	1,500.00	12.5%	0.0733333	0.0092
Term loan from CBI & BOB	8,000.00	66.7%	0.095	0.0633
Term Loan from SDF(6%)	2,500.00	20.8%	0.06	0.0125
Total Means of Finance	12,000.00			0.085
	WACC=8.5%			

4.11 Calculation of Risk Adjusted Discount Rate:

This is calculated to find out the present value of future Investment or Initial Investment, which is very essential to know the time by which the company can recover its investment. The initial investment is discounted by some % that is generally the cost of capital.

Initial investment	xxxx
Less: Present values	xxx
Net present values	xxx

If 3% is considered as risk factor company is not able to get back the invested amount of 1200 lakhs.

CALCULATION OF RISK ADJUSTED DISCOUNT RATE:

Here I considered 3% risk factor, so I considered 12% NPV

YEARS	CFAT	12%NP	PRESENT VALUES
2008	1,192.96	0.893	1,065.31
2009	1,545.70	0.797	1,231.93
2010	1,634.18	0.712	1,163.54
2011	1,558.41	0.636	991.15
2012	1,277.73	0.567	724.47
2013	1,317.50	0.507	667.97
2014	1,364.43	0.452	616.72
2015	1,447.11	0.404	584.63
2016	1,497.38	0.361	540.56
2017	1,555.22	0.322	500.78
	TOTAL NPV		8,087.06
	Less:INITIAL INVT		12000
	NET PRESENT VALUE		(3,912.94)

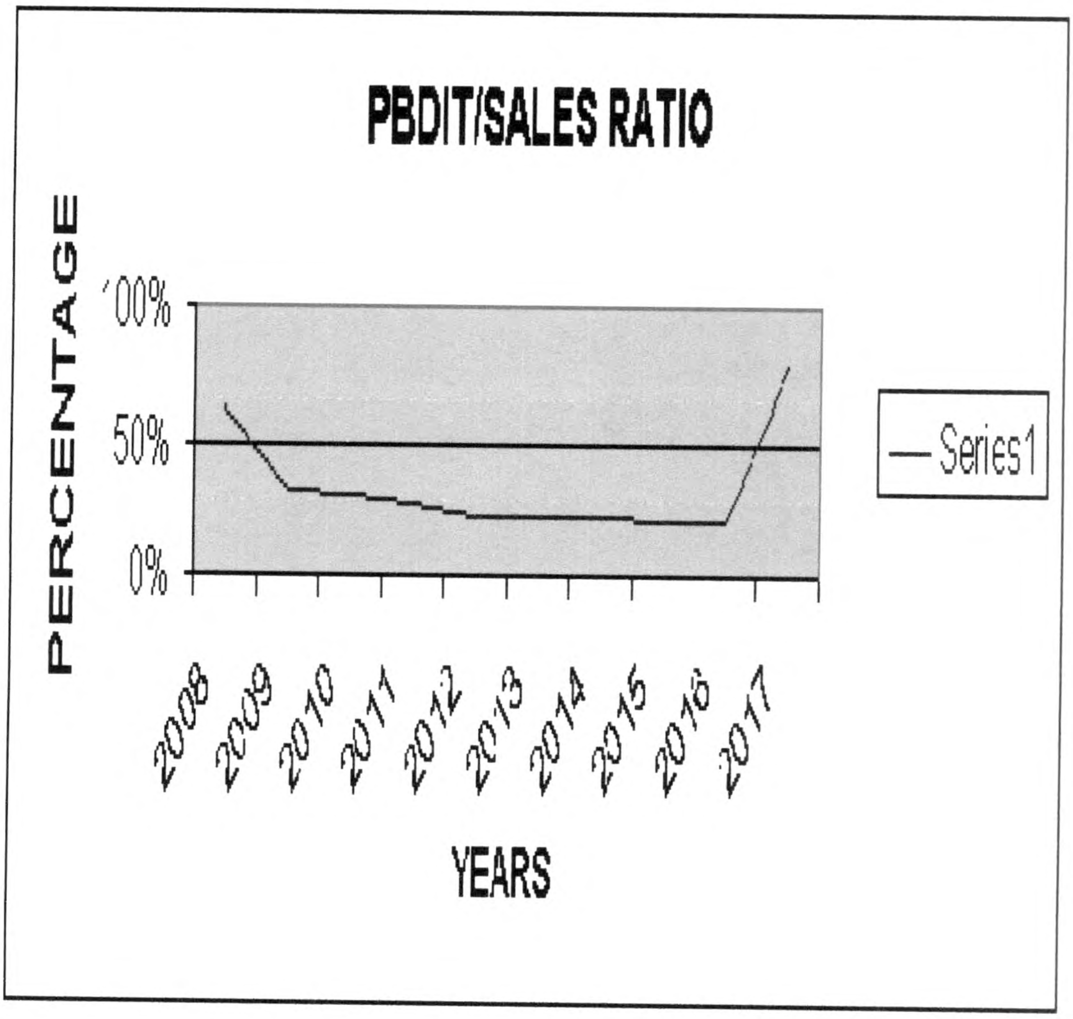
4.4.12 OTHER ANALYSIS

1.During the first Year that is 31-03-2008 the construction period is 180 days during this period there will be much capital expenses, then out of 360 days balance is 180 days out of which 143 days us crushing and 37 days are non crushing days as a result of this the administration and selling expenses are very low in comparison with the other Years.

2..The Gross Profit Ratio is 40% in the first year there after it is between 16 to 19% this is b because of lower cost of production of Rs1771.07 lakhs as compared to the subsequent years. Similarly the same is the case with PBDIT/Sales because the PBDIT/Sales is 62% in the first year and thereafter it is in between 20 to 32%. and PBT/Sales is19% in the first year subsequently it is between 4 to 15 % which is an indication of little fall in the cost of production has lead to increase in the PBT/Sales Ratio.

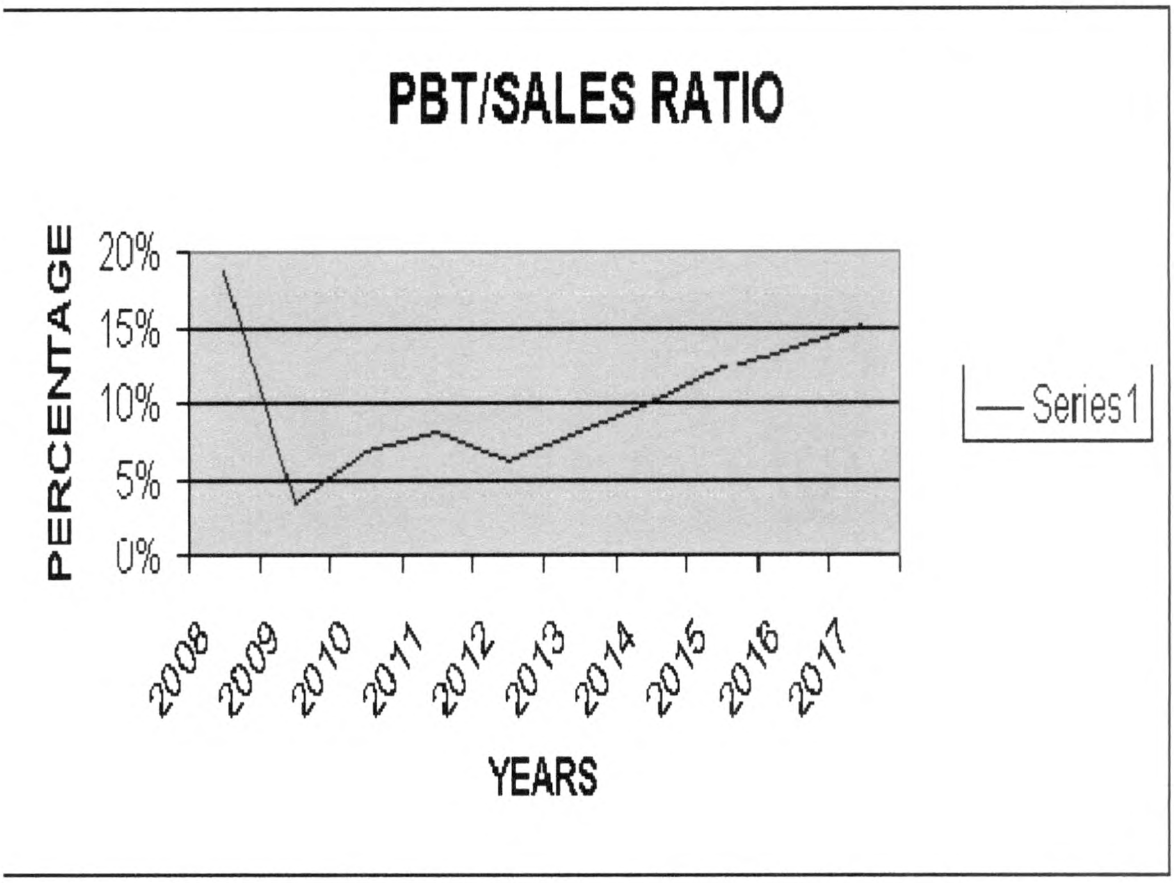
PBDIT/SALES

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
62%	32%	30%	27%	23%	22%	22%	21%	20%	0.79 %

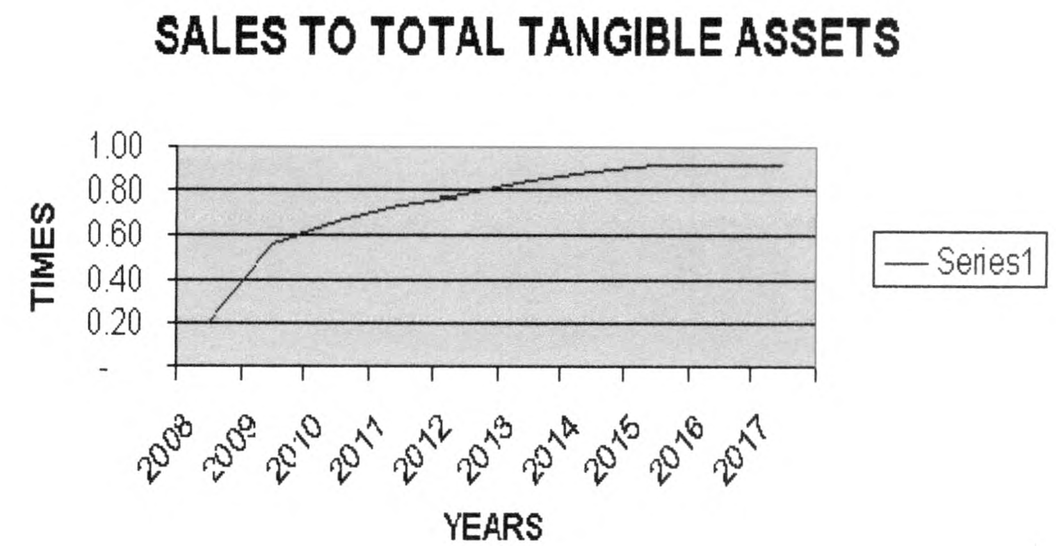


PBT/SALES

			PBTSALES						
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
19%	4%	7%	8%	6%	8%	10%	12%	14%	15%



3. Sales/total Tangible Assets Ratio is increased subsequently which indicates the efficient utilization of Assets.



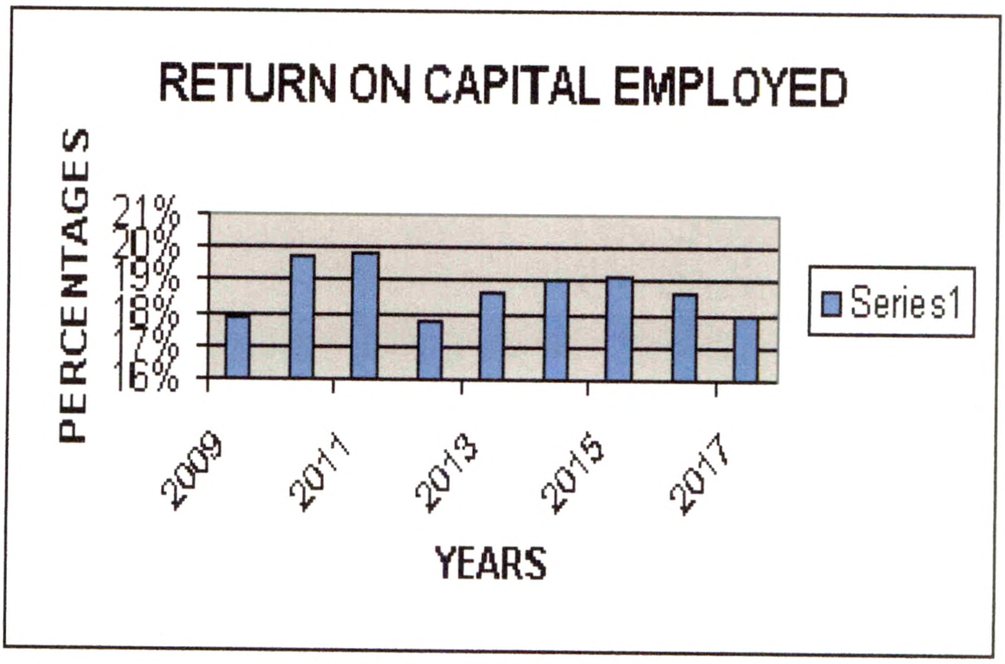
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.20	0.56	0.67	0.73	0.78	0.84	0.88	0.91	0.92	0.92

4. ROCE (Return on Capital Employed is very low in the first year that is 13% subsequently it is in between 18 to 20%. The reasons are that

a) The Depreciation up to 4 years increases after that it is decrease.

b) Interest is also increased up to 5 years

c) Value of Current Assets remained but Fixed Assets are decreased .



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
13%	18%	20%	20%	18%	19%	19%	19%	19%	18%

4.5 PROJECT SWOT ANALYSIS

STRENGTHS

1.1 The project is being executed by Ugar Sugars who are pioneers in this field having several decades of exposure to the vagaries of the sugar industry and during the last decade exposure to the Co-Gen power plant too. The plant will be run under the overall guidance of Ugar Sugars Team whose help is always available to Jewargi Unit for recruitment of its operating and other personnel and also in commercial aspects.

1.2 The Project is an integrated one with Sugar and Co-Gen power. The by product of the sugar plant, i.e. bgasse becomes the main fuel or raw material for the Co-Gen power plant free of cost during the season and also partly during the season and also partly during the off-season, thereby increasing the profitability.

1.3 Excellent irrigation facilities are now available in the proposed command area of the project from where the sugarcane is to be purchased, due to the recently commissioned Upper Krishna Cannel Project from Narayanpur Dam on the River Krishna.

1.4 The Shiragaonkar Family has a strong hold and influence in the District due to their Name in sugar Factory. They have deployed the net Work of Agriculture Officers to develop & maintain good relationship with the local population especially in the rural areas and that too the farmers, which are very essential for succeeding in the agro based industry.

1.5 Availability of Reliable Technology, Plant & Machinery indigenously, both with proven track record normally helps in commissioning the project without any difficulty.

WEAKNESSES

2.1 Sugarcane processing is a cyclical industry subjected to vagaries of the nature. Diversion of cane for Khandasari or Gur manufacturing cannot be ruled out depending on their end prices.

2.2 The Command Area proposed for this project will have to be developed for sugarcane growing as the frames in this region are not comfortable with sugarcane for want of irrigation facilities earlier. Hence, their mindset has to be charged to adopt new practices for sugarcane. Many farmers may resort to Paddy which can be harvested faster than sugarcane, requires less maintenance and quicker returns, though less.

2.3 Availability of procured bagasses or other equivalent biomass or other fuels may be limited or cost may become prohibitive. Some extent of imported coal can be used but its price may vary according to Government import policy.

OPPORTINITES

3.1 There is scope for diversification to a distillery to manufacture alcohol, ethanol and Indian made foreign Liquor, using in house produced molasses.

3.2 There is scope for expansion of the sugarcane crushing capacity to 5000 TCD along with additional Co-Gen power plant, as there is no Sugar factory within a radius of 50 KMs.

3.3 There is scope for setting up a sugar refinery to manufacture refined sugar with value added, which has greater acceptance in hotel industry, pharmaceuticals, exports etc. in addition, there is also scope to import raw sugar and refine the same.

3.4 There is scope for getting the project approved under the Carbon Credit Program to obtain additional income by trading the Carbon Credits in the international market.

THREATS

4.1 Several new units, especially with very large capacities, are coming up besides the existing ones going in for massive expansion; this might lead to unhealthy competition if the supply exceeds the demand.

4.2 The domestic sugar price depends heavily on the international market price for sugar, which is difficult to predict.

4.3 Attrition rate among the experienced manpower especially at middle and senior levels, which might affect the working of the factory.

4.4 Improper cane management program may result in insufficient sugarcane availability.

RISK MANAGEMENT

5.1 The following are the risk that can be perceived for a project of this nature and size.

- Experience & Capability of the Promoters- Inducing Ugar Sugars, this has mitigated.
- Time Overrun – The Management has already taken several steps to ensure timely completion. They have already placed firm orders for plant and machinery to the extent of 90% of the total required by value which are long delivery items commenced the civil works. They have applied for most of the statutory clearances, which the management is hopeful to get shortly. They have a planned the commissioning by 27th Jan 2007, which has kept only four months in hand. This is very difficult, but not impossible also. The close follow up & monitoring as well as timely financial help will make it possible.
- Raw Material Availability – The Management with the experience of Ugar Sugars and their Cane Development Personnel should immediately embark upon cane development in their proposed command area. This will help sugarcane being planted this year to ensure availability when the plant is commissioned & the trial season commences.

- Government Policies Risk – The Government has reduced the Levy sugar quantity, which had to be supplied to the designated distributor at concessional rates over the years from 40% to 10%, and even this is likely to be done away with in the coming years. Similarly there have been discussions on ending the Government Sugar Release Quota system, which has not yet been implemented. Any adverse policies in this regard may affect the project. The Management should explore the possibility of long term exports tie up which can to some extent guard against these adverse policies.

- Cost Overrun – Since majority of the plant and machinery has already been ordered at fixed cost and civil works contracts have also been awarded, this risk has been mitigated to a great extent. However, the Management should ensure timely availability of finance to complete the project in time.

4.5 TO QUANTIFY THE BENEFITS OF THE PROJECT TO THE DIFFERENT USERS.

SHAREHOLDERS: The real owners of the company have prospers growth in the regular return and capital appreciation which is presented in the following table and graph

Table Showing Anticipated EPS

Years	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
EPS	0.33	0.17	0.36	0.42	0.32	0.42	0.52	0.63	0.71	0.79

Secured Loans: - The suppliers of Debt Fund viz., the Bank of Baroda & CBI are assured of their funds supplied to the company regarding the principal amount and interest on due dates as the debt servicing capacity of the company is satisfactory, which is evident from the Debt Service Ratio and Current Ratio and they are as under.

Years	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
DSCR Ratio	3.86	2.42	1.02	0.99	0.85	0.86	1.01	6.03	-	-
Current Ratio	6.76	6.13	5.82	5.52	5.57	5.48	5.55	5.73	6.12	6.47

Government: - It is evident from the estimated statements of the company that the Government is benefited in the form of Taxes and Duties which are spread over all the years and periods under the project the Government is assured of the following amount of Taxes and Duties from the Proposed Company.

Years	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Duties	-	-	-	-	528.32	528.32	513.27	513.27	513.27	513.27
Taxes	60.57	32.36	66.81	77.32	59.41	78.63	96.57	117.12	132.11	146.73

Farmers: - The formers of the Jewergi and near by area are assured of generating and yield for the cultivated sugarcane as the company is supposed to spend for Research and Development Activity Rs100 lakhs. And also because of this company Jewargi and around Jewargi farmers are getting assured returns for their crops.

Employees: - It is rightly said that The Growth of an organization is the bye product of Management and Employees. As the company is under going the process of merger and acquisition the employees of the company will be surely benefited in the long run.

At present the Employees are guaranteed of their salaries and other payments as the Current Ratio of the Company is

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current Ratio	6.76	6.13	5.82	5.52	5.57	5.48	5.55	5.73	6.12	6.47

Society In General: - The Ugar Sugar Works the Parent Company of Jewargi unit is in race for a quiet long time in the sugar industry and is much aware of Social Responsibility hence it will take care of social obligations like Employment generation, avoiding Pollution, Establishment of Educational Institutions and Hospitals.

Vth CHAPTER SUMMARY, CONCLUSIONS AND SUGGESTIONS