PROJECT REPORT

Of

MUSHROOM CULTIVATION & PROCESSING

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Mushroom Cultivation & Processing.**

The objective of the pre-feasibility report is primarly to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

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PROJECT PROFILE

ON

'MUSHROOM CULTIVATION & PROCESSING'

PRODUCT AND APPLICATIONS

Mushroom is a nutritious vegetarian delicacy and has many varieties. It contains many vitamins and minerals but is low on sugar and fat. It can be grown in artificially created and controlled environment. It needs a temperature between 20 and 30 C and a relative humidity of 55 to 75%. It can be ideally grown in hilly areas or in in artificially controlled sheds in plains. Fresh mushrooms can be readily sold in market or processed and dried. There are two main varieties of mushroom Button type or the oysters' variety. Oyster mushrooms are easy to cultivate and process and do not require huge investment.

Mushroom is and exotic and nutritious source of vegetarian diet. It is a major horticulture product all over the world. It is also becoming popular in our country. Fresh mushroom has very limited shelf life, but processed and dried mushrooms properly packed can be stored over a long period. Under the present conditions and with know- how developed by CFTRI it is possible to cultivate in any part of the country. The technology is available with CFTRI. Compliance with PFA Act for such a unit is essential.

INDUSTRY PROFILE AND MARKET ASSESSMENT

Mushroom is a vegetarian delicacy and a suitable substitute for meat and eggs. It is easily digestible. It is very popular in most of the developed countries and is being accepted in many developing countries. Market for mushroom is growing rapidly because of ots rich nutritional value and special taste aroma, flavor etc. Many exotic preparations are made from them like soup, pickles, it can be cooked in traditional

way as standard vegetable. It is also used as stuffing for various food preparations and for garnishing. Its consumption is basically confined to the urban region. It has a very short life after being harvested and are sold in fresh form. Their shelf life is enhanced by processing and properly packing in good quality polythene or proper canning. This can then be stored and transported for selling in far of markets. It is mainly consumed in hilly areas but as the nutritional awareness is increasing people from other regions are also taking it up. It is a very popular item in most of the star hotels and in urban households. Thus, there is a good market for the product in metropolitan cities and centre for tourists. The rural rich with changing lifestyle are also catching up with the urban tastes and eating habits. Processed and preserved mushrooms will ensure the availability throughout the year. It is a good substitute for standard vegetables and a good replacement for meat or eggs. The major limitation with the bulk of Green vegetables is that they are grown in a limited period only lasting for 3-4 months and thus their availability is restricted to this period. Properly preserved packed and canned mushrooms results in it being easier to handle. This also helps in exporting the product to other countries where ever Indian cuisine is popular. It has a good demand in urban areas and metropolitan cities. Once the product establishes its Brand, export opportunities can also be explored. Middle East countries and other western countries with Indian population are places where it has demand.

MANUFACTURING PROCESS & KNOW HOW

PROCESS OF CULTIVATION

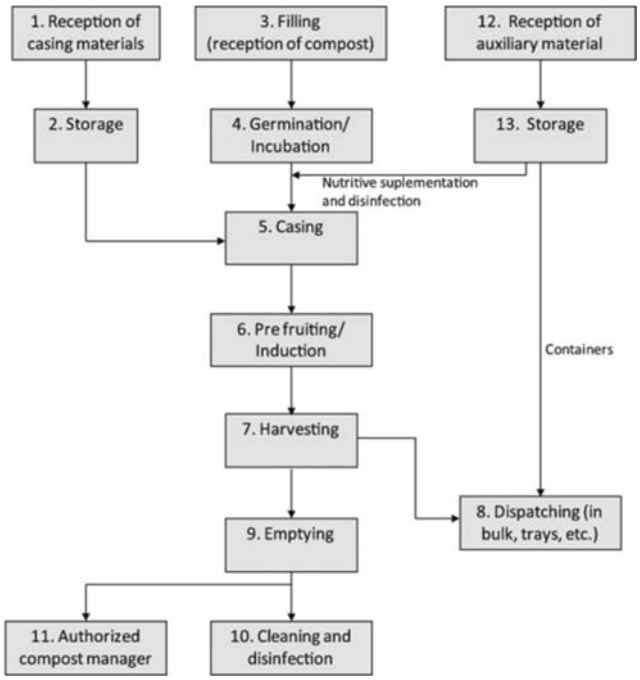
Three aspects are to be taken care off for a successful cultivation of mushroom. These are good compost, reliable spawn and right temperature during growing period. Natural compost is prepared from horse dung and wheat or barley straw. Some quantity of chicken manure may be added. Compost preparation is very crucial. Mushrooms are grown in wooden trays or boxes. They are filled with compost and pressed firmly leaving a small space on top of the tray. The spawn is

scattered on the surface which is covered with a thin layer of compost. The trays are then covered with old newspaper and water is sprayed to provide humidity. The trays are then stacked vertically. At a temperature 24-25 C white cottony mycelium spreads and permeate through the compost. It takes around 12 to 15 days for the complete spawn running. Ultimately the surface of the compost is covered with half to one-inch level of casing soil. It is sterilized to kill insects. The casing soil is spread over plastic sheet and treated with formalin and stirred frequently for a week to remove formation of fumes. After casing the temperature has to be maintained at 24-25 C for three days after which it must be lowered to 18 C. Thus, batches of trays must be arranged in such a way that there is a regular daily production. The process chart is as follows:

MUSHROOM PROCESSING

Fresh mushrooms have very limited life hence processing is recommended to enhance the shelf life. Initially mushrooms are washed in cold water then blanched in boiling water for 3-4 minutes. They are then dehydrated in drier and packed. It is advisable to pre-treat mushroom in brine solution to prevent discoloration. Packing is very crucial as formation of moisture contaminates mushroom very quickly. The yield depends on many factors as moisture content in fresh mushroom, type of drier, process employed, moisture content requires in the finished product etc. Average yield is 25%. Plain cans and brine of 2% salt and 0.2% citric acid are used for packing. The cans are vacuumed before sealing at 19 Cfor 7-8 minutes, sealed and processed under pressure for 20-25 minutes. The process flow chart is as under:

Fig. 1 Flow chart of the mushroom cultivation line



Know how is available with Central Government research Laboratories. The machinery is all indigenously available.

The production capacity envisaged is 90 tonnes per year. It is assumed that the proportion of fresh mushrooms will be twice that of canned mushrooms.

LAND AND BUILDING

Land admeasuring to around 200 sq. mtrs. with built up area of 100 sq. mtrs. is adequate. (Land may cost Rs.10 lacs whereas cost of building could be Rs.12 lacs.) The cost of land and building is indicative For the sake of the project; it is presumed that the land and building is owned.

PLANT & MACHINERY /CAPACITY

It is advisable to undertake thorough market survey before finalizing actual capacity. Assuming capacity of 300 kgs. Per day, the annual capacity would be 90 tonnes considering 300 working days.

Item	Qty.	Price (Rs.)
Tray-type Dehydrator	1	1,50,000
Steam-jacketted Kettle	1	85,000
Can Steamer	1	40,000
Blanching Equipment's	1	55,000
Straight-line Exhaust Box with electric motor, gear box etc.	1	80,000
Canning Retort with attachment	1	65,000
Stacking Trays	200	1,20,000
Baby Boiler	1	80,000
Laboratory Equipments	--	75,000
Total		**7,50,000**

The total cost of machinery is estimated to be Rs.7.50 lac

RAW & PACKING MATERIALS REQUIRED AT 100%

Materials like spawn, wheat or barley straw, formaline, insecticides etc. shall be required for cultivation whereas small quantity of salt and citric acid will be required for processing. Packing materials like cans for processed mushrooms and plastic bags for fresh mushrooms and corrugated boxes, lables, box strappings etc. shall be required.

SELLING EXPENSES

Selling prices are taken on lower side as it is envisaged that the promoters would directly cater to some bulk consumers like star hotels, restaurants, clubs, caterers etc. Retailing, to some extent, will be undertaken of canned mushrooms only. Hence, selling expenses are taken at **5%** of total sales value.

TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	1
Completion of civil work and placement of orders for machinery	2
Erection, installation and trial runs	1

QUALITY CONTROL AND STANDARDS

The specifications of Fruit Products Order, 1955 and Prevention of Food Adulteration Act, 1954 certification are mandatory. The canned mushrooms should conform to the specifications laid down in F.P.O 1955.

The ISO 9000-2000, HACCP, ISO-14000 Series and European norms series standards promise a frame work which may guide the entrepreneurs towards fulfilment of a commitment of quality of products.

ISO series standards are available with the Bureau of Indian Standards from their headquarters office 9 Bahadurshah Zafar Marg, N. Delhi -2

LABELLING AND STORAGE

The cooled cans are stored in a cool dry place and smeared with grease to remove any adhering moisture from the can body to avoid rusting. Cans are kept at ambient temperature for 8-10 days to check any swell, leakage, puffing and other disorders before labelling.

Before the cans are exposed for sale, proper labelling is done to meet statutory requirements of fruit products order, 1955 Prevention of Food Adulteration Act, 1954 and packed commodities (Regulation) Act 1975.

BASIS AND PRESUMPTIONS

1 – This project is based on single shift and 300 working days in a year.

2 – To run the unit viably throughout the year, the other fruits and vegetables can be canned with the same machinery and equipment's whenever mushroom is not available.

3 – The yield of canned mushroom has been considered as 60% based on fresh mushroom. The drain weight of canned mushroom has been taken as 440 gms. In each A-2-1/2 can.

4 – The cost of machinery and equipment's/materials indicated refers to a particular make and the prices are approximate to those prevailing at the time of preparation of this profile.

5 – The cost of packaging forwarding, tax, etc. is taken @ 10% of the cost of machinery and equipment's.

6 – Depreciation has been taken on Plant and machinery @ 15%.

7 – Interest on total capital investment has been taken @11.5% per annum.

8 – Minimum 10% of the total investment is required as margin money.

9 – Payback period of the project will be 5 years with yearly instalments.

10 – Break-even point has been calculated on the Average capacity utilization.

11 – For smooth functioning of the unit, it is suggested that unit should have own arrangements for cultivation of mushroom for consistency and regular availability of quality raw materials.

12 – Mushroom cuttings/stems can be utilized for preparation of mushroom pickles and sold in local markets to get additional profit.

PROJECT AT A GLANCE

1	Name of the Entreprenuer		XXXXXXX		
2	Constitution (legal Status)		XXXXXXX		
3	Father's/Spouce's Name		XXXXXXXX		
4	Unit Address	:	XXXXXXXX		
			Taluk/Block:		
			District :	XXXXX	
			Pin:	XXXXX	State:
			E-Mail :	XXXXX	
			Mobile	XXXXX	
5	Product and By Product	:	**Mushroom Cultivation and Processing**		
6	Name of the project / business activity propose		**Mushroom Cultivation and Processing**		
7	Cost of Project	:	Rs25lac		
8	Means of Finance				
	Term Loan		Rs.12.77 Lacs		
	KVIC Margin Money	-	As per Project Eligibility		
	Own Capital		Rs.2 Lacs		
	Working Capital		Rs.5.22 Lacs		
9	Debt Service Coverage Ratio	:	3.95		
10	Pay Back Period	:	5	Years	
11	Project Implementation Period	:	6	Months	
12	Break Even Point	:	30%		
13	Employment	:	11	Persons	
14	Power Requirement	:	5.00	HP	
15	Major Raw materials	:	**Spawn**		
16	Estimated Annual Sales Turnover	:	76.95	Lacs	
16	Detailed Cost of Project & Means of Finance				

COST OF PROJECT

(Rs. In Lacs)

Particulars	Amount
Land	Rented/Owned
Building & Civil Work (2000 Sq Ft)	5.00
Plant & Machinery	8.00
Furniture & Fixtures	0.69
Pre-operative Expenses	0.50
Working Capital Requirement	5.81
Total	**20.00**

MEANS OF FINANCE

Particulars	Amount
Own Contribution @10%	2.00
Term Loan	12.77
Workign Capital Finance	5.22
Total	**20.00**

	General	**Special**
Beneficiary's Margin Money (% of Project Cost)	10%	5%

PLANT & MACHINERY

PARTICULARS	QTY.	RATE	AMOUNT IN RS.
Tray-type Dehydrator	1	150,000	150,000
Steam-jacketted Kettle	1	85,000	85,000
Can Steamer	1	40,000	40,000
Blanching Equipments	1	55,000	55,000
Straight-line Exhaust Box with electric motor, gear box etc	1	80,000	80,000
Canning Retort with attachment	1	65,000	65,000
Stacking Trays	200	120,000	120,000
Baby Boiler	1	80,000	80,000
Laboratory Equipments	--	75,000	75,000
Misc. Toolsstorage racks, SS utensils, plastic tubs	1	50000	50000
Total			**800,000.00**

PROJECTED BALANCE SHEET

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
SOURCES OF FUND					
Capital Account	2.00	2.00	2.00	2.00	2.00
Retained Profit	8.90	19.09	30.70	44.74	61.09
Term Loan	12.77	9.58	6.39	3.19	0.50
Cash Credit	5.22	5.22	5.22	5.22	5.22
Sundry Creditors	2.69	3.14	3.59	4.04	4.49
Provisions & Other Liab	0.36	0.40	0.44	0.48	0.53
TOTAL :	**31.95**	**39.43**	**48.34**	**59.68**	**73.83**
APPLICATION OF FUND					
Fixed Assets (Gross)	13.69	13.69	13.69	13.69	13.69
Gross Dep.	1.73	3.27	4.60	5.76	6.76
Net Fixed Assets	11.96	10.42	9.09	7.93	6.93
Current Assets					
Sundry Debtors	2.57	3.13	3.58	4.03	4.48
Stock in Hand	5.93	6.92	7.91	8.90	9.89
Cash and Bank	8.99	16.21	24.73	35.49	48.87
Deposits & Advances	2.50	2.75	3.03	3.33	3.66
TOTAL :	**31.95**	**39.43**	**48.34**	**59.68**	**73.83**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
A) SALES					
Gross Sale	76.95	93.83	107.33	120.83	134.33
Total (A)	**76.95**	**93.83**	**107.33**	**120.83**	**134.33**
B) COST OF SALES					
Raw Mateiral Consumed	53.87	62.84	71.82	80.80	89.78
Elecricity Expenses	0.43	0.50	0.57	0.64	0.72
Repair & Maintenance	-	0.94	1.07	1.21	1.34
Labour & Wages	5.28	5.81	6.39	7.03	7.73
Depriciation	1.73	1.54	1.33	1.15	1.00
Consumables and Other Expense	1.54	1.88	2.15	2.42	2.69
Cost of Production	62.85	73.50	83.33	93.25	103.25
Add: Opening Stock /WIP	-	3.24	3.78	4.32	4.86
Less: Closing Stock /WIP	3.24	3.78	4.32	4.86	5.40
Cost of Sales (B)	59.61	72.96	82.79	92.71	102.71
C) GROSS PROFIT (A-B)	17.34	20.86	24.53	28.12	31.61
	23%	**22%**	**23%**	**23%**	**24%**
D) Bank Interest (Term Loan)	1.10	1.33	0.96	0.60	0.24
Bank Interest (C.C. Limit)	0.52	0.52	0.52	0.52	0.52
E) Salary to Staff	5.28	5.81	6.39	7.03	7.73
F) Selling & Adm Expenses Exp.	1.54	1.88	2.15	2.42	2.69
TOTAL (D+E)	**8.44**	**9.54**	**10.02**	**10.56**	**11.18**
H) NET PROFIT	8.90	11.32	14.51	17.55	20.44
I) Taxation	-	1.13	2.90	3.51	4.09
J) PROFIT (After Tax)	8.90	10.19	11.61	14.04	16.35

PROJECTED CASH FLOW STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
SOURCES OF FUND					
Share Capital	2.00	-			
Reserve & Surplus	8.90	11.32	14.51	17.55	20.44
Depriciation & Exp. W/off	1.73	1.54	1.33	1.15	1.00
Increase in Cash Credit	5.22	-	-	-	-
Increase In Term Loan	12.77	-	-	-	-
Increase in Creditors	2.69	0.45	0.45	0.45	0.45
Increase in Provisions	0.36	0.04	0.04	0.04	0.05
TOTAL :	**33.68**	**13.35**	**16.33**	**19.20**	**21.93**
APPLICATION OF FUND					
Increase in Fixed Assets	13.69	-	-	-	-
Increase in Stock	5.93	0.99	0.99	0.99	0.99
Increase in Debtors	2.57	0.56	0.45	0.45	0.45
Increase in Deposits & Adv	2.50	0.25	0.28	0.30	0.33
Repayment of Term Loan	-	3.19	3.19	3.19	2.70
Taxation	-	1.13	2.90	3.51	4.09
TOTAL :	**24.69**	**6.13**	**7.81**	**8.44**	**8.56**
Opening Cash & Bank Balance	-	8.99	16.21	24.73	35.49
Add : Surplus	8.99	7.22	8.52	10.76	13.38
Closing Cash & Bank Balance	**8.99**	**16.21**	**24.73**	**35.49**	**48.87**

COMPUTATION OF MANUFACTURING OF MUSHROOM

Items to be Manufactured **Mushroom**

Manufacturing Capacity per day	-	0.30	MT
	-		
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		90.00	MT
Year		Capacity	MT
		Utilisation	
IST YEAR		60%	54
IIND YEAR		70%	63
IIIRD YEAR		80%	72
IVTH YEAR		90%	81
VTH YEAR		100%	90

COMPUTATION OF RAW MATERIAL

Item Name		Quantity of Raw Material MT	Recovery	Unit Rate of / MT	Total Cost Per Annum (100%)
Raw Material Average rates	100%	90.00	95%	100,000.00	89.78
Spawn					
Wheat/Barley Straw					
Formaline					
Insecticides			Total (Rounded off in lacs)		89.78
Cans					
Plastic Bags, Cartons, Lables, Box-strapping, etc.	(In Lacs)				89.78

Raw Material Consumed	Capacity Utilisation	Amount (Rs.)
IST YEAR	60%	53.87
IIND YEAR	70%	62.84
IIIRD YEAR	80%	71.82
IVTH YEAR	90%	80.80
VTH YEAR	100%	89.78

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Finished Goods					
(15 Days requirement)	3.24	3.78	4.32	4.86	5.40
Raw Material					
(15 Days requirement)	2.69	3.14	3.59	4.04	4.49
Closing Stock	**5.93**	**6.92**	**7.91**	**8.90**	**9.89**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars			Total
			Amount
Stock in Hand			5.93
Sundry Debtors			2.57
		Total	8.50
Sundry Creditors			2.69
Working Capital Requirement			**5.81**
Margin			0.58
Working Capital Finance			**5.22**

BREAK UP OF LABOUR

Particulars		Wages Per Month	No of Employees	Total Salary
Skilled Worker		8,000.00	2	16,000.00
Unskilled Worker		6,000.00	2	12,000.00
Helpers		4,000.00	3	12,000.00
				40,000.00
Add: 10% Fringe Benefit				4,000.00
Total Labour Cost Per Month				44,000.00
Total Labour Cost for the year (In Rs. Lakhs)			7	5.28

BREAK UP OF SALARY

Particulars		Salary Per Month	No of Employees	Total Salary
Manager		12,000.00	1	12,000.00
Accountant		8,000.00	1	8,000.00
Sales Agent		10,000.00	2	20,000.00
Total Salary Per Month				40,000.00
Add: 10% Fringe Benefit				4,000.00
Total Salary for the month				44,000.00
Total Salary for the year (In Rs. Lakhs)			4	5.28

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**10.00%**	**15.00%**	**10.00%**	
Opening Balance	Leased	-	-	-	-
Addition	-	5.00	8.00	0.69	13.69
	-	5.00	8.00	0.69	13.69
Less : Depreciation	-	0.50	1.20	0.03	1.73
WDV at end of Ist year	-	4.50	6.80	0.66	11.96
Additions During The Year	-	-	-	-	-
	-	4.50	6.80	0.66	11.96
Less : Depreciation	-	0.45	1.02	0.07	1.54
WDV at end of IInd Year	-	4.05	5.78	0.59	10.42
Additions During The Year	-	-	-	-	-
	-	4.05	5.78	0.59	10.42
Less : Depreciation	-	0.41	0.87	0.06	1.33
WDV at end of IIIrd year	-	3.65	4.91	0.53	9.09
Additions During The Year	-	-	-	-	-
	-	3.65	4.91	0.53	9.09
Less : Depreciation	-	0.36	0.74	0.05	1.15
WDV at end of IV year	-	3.28	4.18	0.48	7.93
Additions During The Year	-	-	-	-	-
	-	3.28	4.18	0.48	7.93
Less : Depreciation	-	0.33	0.63	0.05	1.00
WDV at end of Vth year	-	2.95	3.55	0.43	6.93

REPAYMENT SCHEDULE OF TERM LOAN 11.5%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
IST YEAR	Opening Balance						
	Ist Quarter	-	12.77	12.77	-	-	12.77
	Iind Quarter	12.77	-	12.77	0.37	-	12.77
	IIIrd Quarter	12.77	-	12.77	0.37	-	12.77
	Ivth Quarter	12.77	-	12.77	0.37	-	12.77
					1.10	-	
IIND YEAR	Opening Balance						
	Ist Quarter	12.77	-	12.77	0.37	0.80	11.97
	Iind Quarter	11.97	-	11.97	0.34	0.80	11.17
	IIIrd Quarter	11.17	-	11.17	0.32	0.80	10.38
	Ivth Quarter	10.38		10.38	0.30	0.80	9.58
					1.33	3.19	
IIIRD YEAR	Opening Balance						
	Ist Quarter	9.58	-	9.58	0.28	0.80	8.78
	Iind Quarter	8.78	-	8.78	0.25	0.80	7.98
	IIIrd Quarter	7.98	-	7.98	0.23	0.80	7.18
	Ivth Quarter	7.18		7.18	0.21	0.80	6.39
					0.96	3.19	
IVTH YEAR	Opening Balance						
	Ist Quarter	6.39	-	6.39	0.18	0.80	5.59
	Iind Quarter	5.59	-	5.59	0.16	0.80	4.79
	IIIrd Quarter	4.79	-	4.79	0.14	0.80	3.99
	Ivth Quarter	3.99		3.99	0.11	0.80	3.19
					0.60	3.19	
VTH YEAR	Opening Balance						
	Ist Quarter	3.19	-	3.19	0.09	0.80	2.39
	Iind Quarter	2.39	-	2.39	0.07	0.80	1.60
	IIIrd Quarter	1.60	-	1.60	0.05	0.55	1.05
	Ivth Quarter	1.05		1.05	0.03	0.55	0.50
					0.24	2.70	

CALCULATION OF D.S.C.R

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
CASH ACCRUALS	10.63	11.73	12.94	15.20	17.35
Interest on Term Loan	1.10	1.33	0.96	0.60	0.24
Total	11.73	13.06	13.90	15.79	17.59
REPAYMENT					
Instalment of Term Loan	3.19	3.19	3.19	2.70	2.70
Interest on Term Loan	1.10	1.33	0.96	0.60	0.24
Total	4.29	4.52	4.16	3.29	2.93
DEBT SERVICE COVERAGE R	**2.73**	**2.89**	**3.34**	**4.80**	**6.00**
AVERAGE D.S.C.R.			**3.95**		

COMPUTATION OF SALE

Particulars	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Op Stock	-	3	3	4	4
Production	54	63	72	81	90
	54	66	75	85	94
Less : Closing Stock	3	3	4	4	5
Net Sale	51	63	72	81	90
Sale Price per MT	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
Sale (in Lacs)	**76.95**	**93.83**	**107.33**	**120.83**	**134.33**
(Avarage rates for canned and fresh mushroom)					

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	5	
Load Factor			0.7460	
Electricity Charges		per unit	8.00	
Total Working Days			300	
Electricity Charges (8 Hrs Per day)				71,616.00
Add : Minimim Charges (@ 10%)				
(B) D.G. SET				
No. of Working Days			300	days
No of Working Hours			1	Hour per day
Total no of Hour			300	
Diesel Consumption per Hour			-	
Total Consumption of Diesel			-	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			-	
Add : Lube Cost @15%			-	
Total			-	
Total cost of Power & Fuel at 100%				0.72
Year		**Capacity**		**Amount**
				(in Lacs)
IST YEAR		60%		0.43
IIND YEAR		70%		0.50
IIIRD YEAR		80%		0.57
IVTH YEAR		90%		0.64
VTH YEAR		100%		0.72

BREAK EVEN POINT ANALYSIS

Year	I	II	III	IV	V
Net Sales & Other Income	76.95	93.83	107.33	120.83	134.33
Less : Op. WIP Goods	-	3.24	3.78	4.32	4.86
Add : Cl. WIP Goods	3.24	3.78	4.32	4.86	5.40
Total Sales	**80.19**	**94.37**	**107.87**	**121.37**	**134.87**
Variable & Semi Variable Exp.					
Raw Material & Tax	53.87	62.84	71.82	80.80	89.78
Electricity Exp/Coal Consumption at 85%	0.37	0.43	0.49	0.55	0.61
Manufacturing Expenses 80%	1.23	2.25	2.58	2.90	3.22
Wages & Salary at 60%	6.34	6.97	7.67	8.43	9.28
Selling & adminstrative Expenses 80%	1.23	1.50	1.72	1.93	2.15
Intt. On Working Capital Loan	0.52	0.52	0.52	0.52	0.52
Total Variable & Semi Variable Exp	**63.55**	**74.51**	**84.79**	**95.13**	**105.56**
Contribution	**16.64**	**19.85**	**23.08**	**26.23**	**29.31**
Fixed & Semi Fixed Expenses					
Manufacturing Expenses 20%	0.31	0.56	0.64	0.72	0.81
Electricity Exp/Coal Consumption at 15%	0.06	0.08	0.09	0.10	0.11
Wages & Salary at 40%	4.22	4.65	5.11	5.62	6.18
Interest on Term Loan	1.10	1.33	0.96	0.60	0.24
Depreciation	1.73	1.54	1.33	1.15	1.00
Selling & adminstrative Expenses 20%	0.31	0.38	0.43	0.48	0.54
Total Fixed Expenses	**7.74**	**8.53**	**8.57**	**8.68**	**8.87**
Capacity Utilization	**60%**	**70%**	**80%**	**90%**	**100%**
OPERATING PROFIT	**8.90**	**11.32**	**14.51**	**17.55**	**20.44**
BREAK EVEN POINT	**28%**	**30%**	**30%**	**30%**	**30%**
BREAK EVEN SALES	**37.30**	**40.53**	**40.04**	**40.15**	**40.83**

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