

Model Detailed Project Report

FROZEN FISH UNIT

Prepared by

National Institute of Food Technology Entrepreneurship and Management(NIFTEM)

Plot No. 97, Sector 56, HSIIDC, Industrial Estate, Kundli, Sonipat, Haryana 131028 Ministry of Food Processing Industries, Government of India

1. INTRODUCTION

FROZEN FISH



The word *fish* is commonly used to describe all forms of edible finfish, mollusks (e.g., clams and oysters), and crustaceans (e.g., crabs and lobsters) that inhabit an aquatic environment. Fish from the marine and freshwater bodies of the world have been a major source of food for humankind since before recorded history. Frozen fish is just as good as fresh fish, according to new research. While fresh fish can only last two or three days after catching, frozen fish can last four to six months in the freezer and still contain the same health benefits, according to a registered dietitian. Freezing is the method for preservation of fresh fish and other seafood products. However, this preservation technique is effective only if the product is handled in such a way that its quality is kept near its peak freshness.

2. MARKET POTENTIAL

The frozen fish and seafood market size has the potential to grow by USD 31.76 billion during 2020-2024, and the market's growth momentum will accelerate during the forecast period because of the steady increase in year-over-year growth. Among the freshwater carp fish species, Rohu, Catla, Mrigal are extremely decision. There fishes are normally told as whole fish in the market. India, with a production of around 10.8 million MT is the second largest fish

producer in the world. Processing levels of marine food in India are currently at 23%. The top five states for fisheries production in India are Andhra Pradesh, West Bengal, Gujarat, Karnataka and Kerala with a combined share of around 50% of the total fish production. The global Frozen Seafood Market is expected to register 5.34% CAGR from 2019 to 2024 and reach USD 17.29 billion by the end of 2024.

3. PRODUCT DESCRIPTION

3.1 Raw Material sources

A great variety of fish and shellfish suitable for canning are available in our country. Sardine, mackerel, tuna, seer fish and shellfish like shrimp, clam, oyster, mussel, crab etc. are suitable for canning/frozen packaging. In this project we have taken Rohu type of fish which is widely consumed in India. In addition to this ice and packaging material. Packaging material used for frozen fresh fish is mainly polyethylene, either as premade bags or wraps which are then packed into waxed duplex cartons. Frozen fish are also over wrapped in polystyrene trays for display. Individual fillets are packed in cellophane or PVC.

Average raw material (cost per Kg): Rs. 90-110

3.2 MANUFACTURING PROCESS

Step by Step process is mentioned below:



4. PROJECT COMPONENTS

4.1 **Land**

Land required 1200-1500square feet approx.

Approximate rent for the same is Rs.25000-30000 per month.

4.2 Plant & Machinery

S.N.	Item Description	Image
1	Gutting Machine	
2	Washmaster	
3	Scalemaster	
4	Vaccum Packaging Machine	
5	Chiller	

6	Blast Freezer	
7	Freezer	

Note: Cost of the machinery is approx. Rs. 21,00,000 excluding GST and other transportation cost.

4.3 Misc. Assets

S.N.	Item Description	Rate
		7 0.000
1	Electricity connection	50,000
2	Furniture & Fixtures	60,000
3	Material handling equipments	40,000

4.4 **Power Requirement**

The borrower shall require power load of 20 KW which shall be applied with Power Corporation. However, for standby power arrangement the borrower shall also purchase DG Set.

4.5 Manpower Requirement

10-11 Manpower are required for Frozen Fish unit.

Includes:

- 3 Skilled Labour
- 5 Unskilled Labour
- 2 Sales Personal
- 1 Accountant

5. FINANCIALS

5.1 Cost of Project

	COST OF PROJECT
	(in Lacs)
PARTICULARS	Amount
Land & Building	Owned/rented
Plant & Machinery	21.00
Miscellaneous Assets	1.40
Working capital	6.11
Total	28.51

5.2 **Means of Finance**

MEANS OF FINANCE				
PARTICULARS	AMOUNT			
Own Contribution (min 10%)	2.85			
Subsidy @35%(Max. Rs 10 Lac)	7.84			
Term Loan @ 55%	12.32			
Working Capital (bank Finance)	5.50			
Total	28.51			

5.3 Projected Balance Sheet

PROJECTED BALANCE SHEET					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
opening balance		11.45	13.91	16.54	19.39
Add:- Own Capital	2.85				
Add:- Retained Profit	1.76	4.46	6.13	7.85	10.75
Less:- Drawings	1.00	2.00	3.50	5.00	7.00
Subsidy/grant	7.84				
Closing Balance	11.45	13.91	16.54	19.39	23.14
Term Loan	10.95	8.21	5.48	2.74	-
Working Capital Limit	5.50	5.50	5.50	5.50	5.50
Sundry Creditors	1.69	1.96	2.25	2.56	2.89
Provisions & Other Liab	0.40	0.50	0.60	0.72	0.86
TOTAL:	29.99	30.08	30.37	30.91	32.39
<u>Assets</u>					

Fixed Assets (Gross)	22.40	22.40	22.40	22.40	22.40
Gross Dep.	3.29	6.09	8.48	10.52	12.26
Net Fixed Assets	19.11	16.31	13.92	11.88	10.14
Current Assets					
Sundry Debtors	3.56	4.31	4.95	5.63	6.38
Stock in Hand	4.64	5.31	6.03	6.81	7.62
Cash and Bank	2.68	4.15	5.47	6.59	8.24
TOTAL:	29.99	30.08	30.37	30.91	32.39

5.4 **Projected Cash Flow**

PROJECTED CASH FLOW STAT	<u>EMENT</u>				(in Lacs)
	1st	2nd	3rd	4th	5th
PARTICULARS	year	year	year	year	year
SOURCES OF FUND					
Own Margin	2.85				
Net Profit	1.76	4.46	6.81	9.24	12.64
Depriciation & Exp. W/off	3.29	2.80	2.39	2.04	1.74
, ,					
Increase in Cash Credit	5.50	-	-	-	-
la success la Taura I sau	42.22				
Increase In Term Loan	12.32	-	-	-	-
Increase in Creditors	1.69	0.27	0.29	0.31	0.33
Increase in Provisions & Oth					
lib	0.40	0.10	0.10	0.12	0.14
Compile / many	7.04				
Sunsidy/grant	7.84				
TOTAL:	35.65	7.63	9.59	11.70	14.85

APPLICATION OF FUND					
Increase in Fixed Assets	22.40				
Increase in Stock	4.64	0.67	0.72	0.78	0.81
Increase in Debtors	3.56	0.75	0.64	0.68	0.75
Repayment of Term Loan	1.37	2.74	2.74	2.74	2.74
Drawings	1.00	2.00	3.50	5.00	7.00
Taxation	-	-	0.68	1.39	1.90
TOTAL:	32.97	6.16	8.28	10.58	13.20
Occasion Cook & Book					
Opening Cash & Bank Balance	-	2.68	4.15	5.47	6.59
Add : Surplus	2.68	1.47	1.31	1.12	1.65
Closing Cash & Bank Balance	2.68	4.15	5.47	6.59	8.24

5.5 **Projected Profitability**

PROJECTED PROFITABILITY STATEMENT					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	50%	55%	60%	65%	70%
SALES Gross Sale					
FROZEN FISH	71.25	86.23	99.04	112.67	127.64
Total	71.25	86.23	99.04	112.67	127.64

COST OF SALES Raw Material					
Consumed	33.75	39.19	45.00	51.19	57.75
Electricity Expenses	6.00	6.90	7.94	9.13	10.04
Depreciation	3.29	2.80	2.39	2.04	1.74
Wages & labour	11.04	12.14	13.36	14.69	16.16
Repair & maintenance	2.14	2.59	2.97	3.38	3.83
Packaging	2.85	3.45	3.96	4.51	5.11
Cost of Production Add: Opening Stock	59.07	67.07	75.62	84.93	94.62
/WIP Less: Closing Stock	-	2.95	3.35	3.78	4.25
/WIP	2.95	3.35	3.78	4.25	4.73
Cost of Sales	56.11	66.67	75.19	84.46	94.14
GROSS PROFIT	15.14	19.56	23.85	28.20	33.50
GROSS PROFIT GROSS PROFIT (%)	15.14 21.24%	19.56 22.68%	23.85 24.08%	28.20 25.03%	33.50 26.25%
GROSS PROFIT (%) Salary to Staff Interest on Term Loan	21.24%	22.68%	24.08%	25.03%	26.25%
GROSS PROFIT (%) Salary to Staff	21.24 % 6.96	22.68% 8.35	24.08 % 10.02	25.03 % 11.53	26.25 % 12.91
GROSS PROFIT (%) Salary to Staff Interest on Term Loan Interest on working	21.24 % 6.96 1.21	22.68% 8.35 1.07	24.08% 10.02 0.77	25.03 % 11.53 0.46	26.25% 12.91 0.16
GROSS PROFIT (%) Salary to Staff Interest on Term Loan Interest on working Capital	21.24% 6.96 1.21 0.61	22.68% 8.35 1.07 0.61	24.08% 10.02 0.77 0.61	25.03% 11.53 0.46 0.61	26.25% 12.91 0.16 0.61
GROSS PROFIT (%) Salary to Staff Interest on Term Loan Interest on working Capital Rent	21.24% 6.96 1.21 0.61 3.60	22.68% 8.35 1.07 0.61 3.96	24.08% 10.02 0.77 0.61 4.36	25.03% 11.53 0.46 0.61 4.79	26.25% 12.91 0.16 0.61 5.27
GROSS PROFIT (%) Salary to Staff Interest on Term Loan Interest on working Capital Rent selling & adm exp	21.24% 6.96 1.21 0.61 3.60 1.00	22.68% 8.35 1.07 0.61 3.96 1.12	24.08% 10.02 0.77 0.61 4.36 1.29	25.03% 11.53 0.46 0.61 4.79 1.58	26.25% 12.91 0.16 0.61 5.27 1.91
GROSS PROFIT (%) Salary to Staff Interest on Term Loan Interest on working Capital Rent selling & adm exp TOTAL	21.24% 6.96 1.21 0.61 3.60 1.00 13.37	22.68% 8.35 1.07 0.61 3.96 1.12 15.10	24.08% 10.02 0.77 0.61 4.36 1.29 17.04	25.03% 11.53 0.46 0.61 4.79 1.58 18.96	26.25% 12.91 0.16 0.61 5.27 1.91 20.86
GROSS PROFIT (%) Salary to Staff Interest on Term Loan Interest on working Capital Rent selling & adm exp TOTAL NET PROFIT	21.24% 6.96 1.21 0.61 3.60 1.00 13.37 1.76	22.68% 8.35 1.07 0.61 3.96 1.12 15.10 4.46	24.08% 10.02 0.77 0.61 4.36 1.29 17.04 6.81	25.03% 11.53 0.46 0.61 4.79 1.58 18.96	26.25% 12.91 0.16 0.61 5.27 1.91 20.86

5.6 **Production and Yield**

Production of FROZEN FISH					
Production	Capacity	KG			
1st year	50%	37,500			
2nd year	55%	41,250			
3rd year	60%	45,000			
4th year	65%	48,750			
5th year	70%	52,500			

Raw Material Cost			
Year	Capacity Utilisation	Rate (per KG)	Amount (Rs. in lacs)
1st year	50%	90.00	33.75
2nd year	55%	95.00	39.19
3rd year	60%	100.00	45.00
4th year	65%	105.00	51.19
5th year	70%	110.00	57.75

5.7 <u>Sales Revenue</u>

COMPUTATION OF SALE								
Particulars	1st year	2nd year	3rd year	4th year	5th year			
Op Stock	-	1,875	2,063	2,250	2,438			
Production Less : Closing	37,500	41,250	45,000	48,750	52,500			

Stock	1,875	2,063	2,250	2,438	2,625
Net Sale	35,625	41,063	44,813	48,563	52,313
sale price per KG	200.00	210.00	221.00	232.00	244.00
Sales (in Lacs)	71.25	86.23	99.04	112.67	127.64

5.8 Working Capital Assessment

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL (in Lacs)									
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year				
<u>Finished</u>									
<u>Goods</u>									
	2.95	3.35	3.78	4.25	4.73				
Raw									
<u>Material</u>	<u>Material</u>								
-	1.69	1.96	2.25	2.56	2.89				
Closing Stock	4.64	5.31	6.03	6.81	7.62				

COMPUTATION OF WORKING CAPITAL REQUIREMENT							
TRADITIONAL METHOD			(in Lacs)				
Particulars	Amount	Own Margin	Bank Finance				
Finished Goods & Raw Material	4.64						
Less : Creditors	1.69						
Paid stock	2.95	10% 0.30	90% 2.66				
Sundry Debtors	3.56	10% 0.36	90% 3.21				
	6.52	0.65	5.86				
MPBF	MPBF 5.86						
WORKING CAPITAL LIMIT DEM	WORKING CAPITAL LIMIT DEMAND (from Bank)						
Working Capital Margin			0.61				

5.9 **Power, Salary & Wages Calculation**

Utility Charges (per month)							
Particulars	value	Description					
Power connection required	20	KWH					
consumption per day	200	units					
Consumption per month Rate per Unit	5,000 10	units Rs.					
power Bill per month	50,000	Rs.					

BREAK UP OF LABOUR CHARGES							
Particulars	Wages	No of	Total				
	Rs. per Month	Employees	Salary				
	WIOTICIT	Linployees	Salary				
Skilled (in thousand	14.000	2	42.000				
rupees) Unskilled (in thousand	14,000	3	42,000				
rupees)	10,000	5	50,000				
Total salary per month	10,000	J	92,000				
Total annual labour			32,000				
charges	(in lacs)	8	11.04				

BREAK UP OF Staff Salary CHARGES							
Particulars	Salary Rs. per	No of	Total				
	Month	Employees	Salary				
Sales Personal	18,000	2	36,000				
Accountant	22,000	1	22,000				
Total salary per							
month			58,000				
Total annual Staff							
charges	(in lacs)	3	6.96				

5.10 **Depreciation**

COMPUTATION OF DEPI	RECIATION		(in Lacs)
Description Description	Plant & Machinery	Miss. Assets	TOTAL
Rate of Depreciation	15.00%	10.00%	
Opening Balance	-	-	-
Addition	21.00	1.40	22.40
Total	21.00	1.40	22.40
Less: Depreciation	3.15	0.14	3.29
WDV at end of Year	17.85	1.26	19.11
Additions During The Year	-	-	-
Total	17.85	1.26	19.11
Less: Depreciation	2.68	0.13	2.80
WDV at end of Year	15.17	1.13	16.31
Additions During The Year	-	-	-
Total	15.17	1.13	16.31
Less : Depreciation	2.28	0.11	2.39
WDV at end of Year	12.90	1.02	13.92
Additions During The Year	-	-	-
Total	12.90	1.02	13.92
Less : Depreciation	1.93	0.10	2.04
WDV at end of Year	10.96	0.92	11.88
Additions During The Year	-	-	-
Total	10.96	0.92	11.88
Less : Depreciation	1.64	0.09	1.74
WDV at end of Year	9.32	0.83	10.14

5.11 Repayment schedule

REPAYMENT SCHEDULE OF TERM LOAN									
						Interest	11.00%		
							Closing		
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Balance		
ist	Opening Balance								
	1st month	-	12.32	12.32	-	-	12.32		
	2nd month	12.32	-	12.32	0.11	-	12.32		
	3rd month	12.32	-	12.32	0.11	-	12.32		
	4th month	12.32	-	12.32	0.11		12.32		
	5th month	12.32	-	12.32	0.11		12.32		
	6th month	12.32	-	12.32	0.11		12.32		
	7th month	12.32	-	12.32	0.11	0.23	12.09		
	8th month	12.09	-	12.09	0.11	0.23	11.86		
	9th month	11.86	-	11.86	0.11	0.23	11.64		
	10th month	11.64	-	11.64	0.11	0.23	11.41		
	11th month	11.41	-	11.41	0.10	0.23	11.18		
	12th month	11.18	-	11.18	0.10	0.23	10.95		
					1.21	1.37			
2nd	Opening Balance								
	1st month	10.95	-	10.95	0.10	0.23	10.72		
	2nd month	10.72	-	10.72	0.10	0.23	10.49		
	3rd month	10.49	-	10.49	0.10	0.23	10.27		
	4th month	10.27	-	10.27	0.09	0.23	10.04		
	5th month	10.04	-	10.04	0.09	0.23	9.81		
	6th month	9.81	-	9.81	0.09	0.23	9.58		

							1
	7th month	9.58	-	9.58	0.09	0.23	9.35
	8th month	9.35	-	9.35	0.09	0.23	9.13
	9th month	9.13	-	9.13	0.08	0.23	8.90
	10th month	8.90	-	8.90	0.08	0.23	8.67
	11th month	8.67	-	8.67	0.08	0.23	8.44
	12th month	8.44	-	8.44	0.08	0.23	8.21
					1.07	2.74	
3rd	Opening Balance						
	1st month	8.21	-	8.21	0.08	0.23	7.99
	2nd month	7.99	-	7.99	0.07	0.23	7.76
	3rd month	7.76	-	7.76	0.07	0.23	7.53
	4th month	7.53	-	7.53	0.07	0.23	7.30
	5th month	7.30	-	7.30	0.07	0.23	7.07
	6th month	7.07	-	7.07	0.06	0.23	6.84
	7th month	6.84	-	6.84	0.06	0.23	6.62
	8th month	6.62	-	6.62	0.06	0.23	6.39
	9th month	6.39	-	6.39	0.06	0.23	6.16
	10th month	6.16	-	6.16	0.06	0.23	5.93
	11th month	5.93	-	5.93	0.05	0.23	5.70
	12th month	5.70	-	5.70	0.05	0.23	5.48
					0.77	2.74	
4th	Opening Balance						
	1st month	5.48	-	5.48	0.05	0.23	5.25
	2nd month 3rd month	5.25 5.02	-	5.25	0.05 0.05	0.23 0.23	5.02 4.79
I	SIU IIIUIIUI	5.02	-		0.05	0.23	4.79

				5.02			
	4th month	4.79	-	4.79	0.04	0.23	4.56
	5th month	4.56	-	4.56	0.04	0.23	4.33
	6th month	4.33	-	4.33	0.04	0.23	4.11
	7th month	4.11	-	4.11	0.04	0.23	3.88
	8th month	3.88	-	3.88	0.04	0.23	3.65
	9th month	3.65	-	3.65	0.03	0.23	3.42
	10th month	3.42	-	3.42	0.03	0.23	3.19
	11th month	3.19	-	3.19	0.03	0.23	2.97
	12th month	2.97	-	2.97	0.03	0.23	2.74
					0.46	2.74	
5th	Opening Balance						
	1st month	2.74	-	2.74	0.03	0.23	2.51
	2nd month	2.51	-	2.51	0.02	0.23	2.28
	3rd month	2.28	-	2.28	0.02	0.23	2.05
	4th month	2.05	-	2.05	0.02	0.23	1.83
	5th month	1.83	-	1.83	0.02	0.23	1.60
	6th month	1.60	-	1.60	0.01	0.23	1.37
	7th month	1.37	-	1.37	0.01	0.23	1.14
	8th month	1.14	-	1.14	0.01	0.23	0.91
	9th month	0.91	-	0.91	0.01	0.23	0.68
	10th month	0.68	-	0.68	0.01	0.23	0.46
	11th month	0.46	-	0.46	0.00	0.23	0.23
	12th month	0.23	-	0.23	0.00	0.23	-

			0.16	2.74	
DOOR TO DOOR	60	MONTHS			
MORATORIUM PERIOD	6	MONTHS			
REPAYMENT PERIOD	54	MONTHS			

5.12 <u>DSCR</u>

CALCULATION OF D.S.C.R					
	1st	2nd	3rd	4th	5th
PARTICULARS	year	year	year	year	year
CASH ACCRUALS	5.05	7.26	8.52	9.89	12.48
Interest on Term Loan	1.21	1.07	0.77	0.46	0.16
Tatal	6.26	0.22	0.20	10.25	42.CF
Total	6.26	8.33	9.28	10.35	12.65
REPAYMENT					
Instalment of Term Loan	1.37	2.74	2.74	2.74	2.74
Interest on Term Loan	1.21	1.07	0.77	0.46	0.16
Total	2.58	3.80	3.50	3.20	2.90
DEBT SERVICE COVERAGE RATIO	2.43	2.19	2.65	3.23	4.36
AVERAGE D.S.C.R.	2.73	2.13	2.03	3.23	2.97

5.13 Break Even Point Analysis

BREAK EVEN POINT ANALYSIS					
Year	I	П	III	IV	V
Net Sales & Other Income	71.25	86.23	99.04	112.67	127.64
Less : Op. WIP Goods	-	2.95	3.35	3.78	4.25
Add : Cl. WIP Goods	2.95	3.35	3.78	4.25	4.73
Total Sales	74.20	86.63	99.46	113.13	128.13
Variable & Semi Variable Exp.	T				
Raw Material Consumed	33.75	39.19	45.00	51.19	57.75
Electricity Exp/Coal Consumption at 85%	5.10	5.87	6.74	7.76	8.53
Wages & Salary at 60%	10.80	12.30	14.03	15.73	17.44
Selling & adminstrative Expenses 80%	0.80	0.90	1.03	1.26	1.53
Interest on working Capital	0.605	0.605	0.605	0.605	0.605
Repair & maintenance	2.14	2.59	2.97	3.38	3.83
Packaging	2.85	3.45	3.96	4.51	5.11
Total Variable & Semi Variable Exp	56.04	64.89	74.34	84.43	94.80
Contribution	18.16	21.74	25.12	28.70	33.33
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	0.90	1.04	1.19	1.37	1.51
Wages & Salary at 40%	7.20	8.20	9.35	10.49	11.63
Interest on Term Loan	1.21	1.07	0.77	0.46	0.16
Depreciation	3.29	2.80	2.39	2.04	1.74
Selling & adminstrative Expenses 20%	0.20	0.22	0.26	0.32	0.38
Rent	3.60	3.96	4.36	4.79	5.27
Total Fixed Expenses	16.40	17.29	18.31	19.46	20.69
Capacity Utilization	50%	55%	60%	65%	70%
OPERATING PROFIT	1.76	4.46	6.81	9.24	12.64
BREAK EVEN POINT	45%	44%	44%	44%	43%
BREAK EVEN SALES	67.00	68.88	72.50	76.72	79.53

6. <u>LICENSE & APPROVALS</u>

- Obtain the GST registration.
- Additionally, obtain the Udyog Aadhar registration Number.
- Fire/pollution license as required.
- FSSAI License
- Choice of a Brand Name of the product and secure the name with Trademark if required.

7. ASSUMPTIONS

- 1. Production Capacity of Frozen Fish is 250 Kgs per day. First year, Capacity has been taken @ 50%.
- 2. Working shift of 10 hours per day has been considered.
- 3. Raw Material stock is for 15 days and finished goods Closing Stock has been taken for 15 days.
- 4. Credit period to Sundry Debtors has been given for 15 days.
- 5. Credit period by the Sundry Creditors has been provided for 15 days.
- 6. Depreciation and Income tax has been taken as per the Income tax Act, 1961.
- 7. Interest on working Capital Loan and Term loan has been taken at 11%.
- 8. Salary and wages rates are taken as per the Current Market Scenario.
- 9. Power Consumption has been taken at 20 KW.
- 10. Selling Prices & Raw material costing has been increased by 5% respectively in the subsequent years.

Limitations of the Model DPR and Guidelines for Entrepreneurs

Limitations of the Model DPR

- i. This model DPR has provided only the basic standard components and methodology to be adopted by an entrepreneur while submitting a proposal under the Formalization of Micro Food Processing Enterprises Scheme of MoFPI.
- ii. This is a model DPR made to provide general methodological structure not for specific entrepreneur/crops/location. Therefore, information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of his business, details of proposed DPR, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, rationale of the project for specific location, community advantage/benefit from the project, employment generation and many more detailed aspects not included.
- iii. The present DPR is based on certain assumptions on cost, prices, interest, capacity utilization, output recovery rate and so on. However, these assumptions in reality may vary across places, markets and situations; thus the resultant calculations will also change accordingly.